GAVIN NEWSOM
GOVERNOR

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FINAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

Title 19: Division 2, Chapter 4.5

New Article 6.5 of the California Accidental Release Prevention (CalARP) Program

Program 4 for Petroleum Refineries

Process and Timeline

Notice of Publication Received by Office of Administrative Law: July 5, 2016

Publication Date: July 15, 2016

Initial Public Comment Period: July 15, 2016 – September 15, 2016 (Extended from original published deadline of August 29, 2016)

Public Hearing Date: August 31, 2016

Location: Banning's Landing Community Center
100 East Water Street
Wilimgton, CA 90744

Notice of Modification to Text of Proposed Regulation: February 14, 2017

Modified Proposed Regulation Comment Period: February 14, 2017-March 3, 2017

Update to Initial Statement of Reasons

Pursuant to Government Code Section 11346.9(d), the California Governor's Office of Emergency Services (Cal OES) incorporates the Initial Statement of Reasons prepared in this rulemaking.

Updated Informative Digest

On September 28, 2016, S.B. 693 was filed with the Secretary of State. This bill amended Section 25536.7 of the Health and Safety Code pertaining to contractors and subcontractors use of a skilled and trained workforce at a stationary source. The law was effective January 1, 2017. The proposed regulatory language was amended to clarify that owners and operators are to utilize contractors who conform to the standards prescribed therein. There have been no other changes in applicable laws. Further changes to the proposed regulatory language since the Notice of Proposed Action are detailed below.

Modifications to the Regulatory Text Resulting From the 45-Day Public Comment Period and Public Hearing

Since the Notice of Proposed Rulemaking was submitted, Cal OES has made revisions to the proposed regulations based on oral and written comments on the initial proposed text. Cal OES worked collaboratively with various stakeholder groups. The changes are summarized below:

MODIFICATIONS FROM THE INITIAL PROPOSED TEXT

Section	Initial Proposed Text	Final Proposed Text	Justification
2735.3(t)	"Employee representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.	"Employee representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union that is on-site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.	This is necessary to clarify the definition. Employees are entitled to select representatives of their choosing where a union exists. In the absence of a union, employee-designated representatives must be onsite and qualified for the task. Employees and employee representatives must meet the qualifications provided for under the various subsections of the proposal. The proposed modification does not limit an owner or operator's rights and remedies to protect trade secrets.
2735.3(x)		Add to definition section: "Hierarchy of Hazard Control" means 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.	This definition is necessary to ensure that refineries evaluate and implement the most effective approaches to preventing or mitigating process safety hazards. This definition clarifies the prioritization of inherent safety measures over passive, active, and procedural safeguards. It is necessary to clarify the term since it is used throughout the regulation.

Section	Initial Proposed Text	Final Proposed Text	Justification
2735.3(hh)	"Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.	"Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in any operational change outside of established ~~in~~ safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.	This is necessary to clarify the type of change outside of safe operating limits that may constitute a "Major Change." Major Changes are key triggers for certain analyses under the regulation. Major Change specifically triggers requirements in Damage Mechanism Review, Hierarchy of Hazard Controls, Management of Change and Human Factors. As a performance based regulation, the owner or operator is given flexibility to evaluate and implement the most effective approaches to preventing or mitigating process safety hazards. The criteria listed in the definition can impact existing processes and must be evaluated to ensure safe operation.
2735.3(ii)	"Major Incident" means 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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public	"Major Incident" means 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 (as defined in Labor Code Section 6432(e)), or ~~which~~ results in an officially declared public shelter-in-place, or evacuation order.	Non-substantive edit.

Section	Initial Proposed Text	Final Proposed Text	Justification
	shelter-in-place, or evacuation order.		
2735.3(ii)	"Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident.	"Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident. <u>This definition includes processes under partial or unplanned shutdowns. Ancillary administrative and support functions, including office buildings, laboratories, warehouses, maintenance shops, and change rooms are not considered processes</u>	This modification is necessary to clarify that partial or unplanned shutdowns in petroleum refineries are covered if they involve a highly hazardous material. It also clarifies that ancillary administrative and support functions are not considered processes.

Section	Initial Proposed Text	Final Proposed Text	Justification
		under this definition.	
2735.3(zz)	"Process Equipment" for purposes of Article 6.5, means any equipment, instrumentation, control, safeguard, except procedural safeguards, or appurtenance related to a process.	"Process Equipment" for purposes of Article 6.5, means ~~any~~ equipment, including but not limited to: pressure vessels, rotating equipment, piping, instrumentation, process control, safeguard, except procedural safeguards, or appurtenance related to a process.	This is necessary to specify what constitutes process equipment. The definition covers all equipment in service and equipment that may be used in the future that could affect a process.
2735.3(bbb)	"Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize safety over competing goals in order to ensure protection of people and the environment.	"Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize process safety over competing goals in order to ensure protection of people and the environment.	This is necessary to clarify the emphasis is on process safety over competing goals. Process safety culture is aligned with the prevention strategies outlined in the Governor's Task Force Report.
2735.3(bbb)	"Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by the American National Standards Institute (ANSI), American Petroleum Institute	"Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" for purposes of Article 6.5 means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by the American National Standards Institute (ANSI), American Petroleum Institute (API), American Society	The change is necessary to clarify that this definition is specific to Article 6.5.

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	(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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator.	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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator.	
2735.3(sss)	"Temporary piping or equipment repair" means a repair of an active or potential leak to hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident.	"Temporary ~~piping~~ pipe or equipment repair" means a repair of an active or potential leak ~~to~~ from process piping or equipment. ~~to hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident.~~ This definition includes active or potential leaks in utility piping or utility equipment that could affect a process and that could result in a major incident.	The definition is necessary to clarify the types of repair to utility piping and equipment that affect a process and could result in a major incident.

Section	Initial Proposed Text	Final Proposed Text	Justification
2745.7.5(f)-(i)	(f) The date of the most recent review or revision of operating procedures. (g) The date of the most recent review or revision of training programs. (1) The type of training provided--classroom, classroom plus on the job, on the job; and, (2) The type of competency testing used. (h) The date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested. (i) The date of the most recent change that triggered management of change procedures and the date of the most recent review or revision of	~~(f) The date of the most recent review or revision of operating procedures.~~ ~~(g) The date of the most recent review or revision of training programs.~~ ~~(1) The type of training provided--classroom, classroom plus on the job, on the job; and,~~ ~~(2) The type of competency testing used.~~ ~~(h) The date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested.~~ ~~(i) The date of the most recent change that triggered management of change procedures and t~~The date of the most recent review or revision of management of change procedures.	The proposed modification is necessary to narrow and focus the information required and to conform to other components of the regulation, ensuring consistency.

Section	Initial Proposed Text	Final Proposed Text	Justification
	management of change procedures.		
2762.0.1(b)	All portions of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory.	All ~~portions~~ processes of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory.	The proposed modification is necessary to clarify that although all processes in the refinery are covered by Program 4 requirements, all portions of the refinery may not be covered by the requirements.
2762.1(a)	The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating	The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand	The proposed modification is intended to give owners and operators flexibility in providing relevant PSI to affected employees of contractors, whose duties at the refinery may be unique or limited in scope and duration. Because employees of contractors may not be part of the operation of the refinery, their need for PSI may differ from employees given the nature of their work at a refinery.

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	or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees.	the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all ~~refinery and contractor~~ employees and relevant process safety information shall be made available to affected employees of contractors. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees.	
2762.1(e)	The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other equally or more protective internal standards that	The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other ~~equally or~~ more protective internal ~~standards~~ practices that ensure safe operation. If	The purpose of limiting the definition to more protective internal practices is to establish RAGAGEP as a baseline. Internal practices by definition are not "generally accepted." However, in some cases a refinery's internal practices may be more appropriate than RAGAGEP where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. As a result, the CalARP program permits and

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	ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.	the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.	encourages refineries to utilize internal practices that are more stringent than published RAGAGEP in these instances.
2762.2(c)(2)	Previous major incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;	Previous ~~major~~ publically document incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;	This is necessary to clarify the types of information that should be included in the PHA and appropriately limit the obligation to outcomes of previous incidents and external events that are publicly documented.
2762.2(f)	For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct a Hierarchy of Hazard Control Analysis pursuant to section 2762.13.	For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct in a timely manner a Hierarchy of Hazard Control Analysis pursuant to section 2762.13.	This proposed modification is necessary to clarify the expectation that an HCA be completed quickly to permit time for corrective action.
2762.5(b)(2)	The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations or RAGAGEP, or other equally or more protective internal standards. Inspections and tests shall be	The frequency of inspections and tests of process equipment shall be consistent with (1) the applicable manufacturers' recommendations, (2) RAGAGEP, or (3) ~~other equally or more protective~~ internal ~~standards~~ practices that are more protective than	The purpose of limiting the definition to more protective internal practices is to establish RAGAGEP as a baseline. Internal practices by definition are not “generally accepted.” However, in some cases a refinery’s internal practices may be more appropriate than RAGAGEP where the unique characteristics of the refinery’s process implicate a hazard not

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	conducted more frequently if necessary, based on the operating experience with the process equipment.	(1) or (2). Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment.	contemplated or shared by RAGAGEP. As a result, the CalARP program permits and encourages refineries to utilize internal practices that are more stringent than published RAGAGEP in these instances.
2762.5(c)	Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with RAGAGEP or other equally or more protective internal standards.	Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with RAGAGEP or ~~other equally or~~ more protective internal ~~standards~~ practices.	The purpose of limiting the definition to more protective internal practices is to establish RAGAGEP as a baseline. Internal practices by definition are not "generally accepted." However, in some cases a refinery's internal practices may be more appropriate than RAGAGEP where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. As a result, the CalARP program permits and encourages refineries to utilize internal practices that are more stringent than published RAGAGEP in these instances.
2762.5(e)(2)	A DMR shall be revalidated at least once every five (5) years.	A DMR shall be ~~revalidated~~ updated at least once every five (5) years.	This change is necessary because the term "revalidated" is defined for other CalARP Programs and that the definition is not the same as the requirements in Program 4.
2762.5(e)(3)	A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce	A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change ~~will~~ may introduce a damage	This requirement is necessary to prevent accidental releases. Confining the DMR requirement to instances where the major change "will" introduce a new damage mechanism would allow the regulated entity to evade the requirement by asserting

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	a damage mechanism, a DMR shall be conducted, prior to approval of the change.”	mechanism, a DMR shall be conducted, prior to approval of the change.”	that they did not believe the change introduced a new damage mechanism.
2762.6 (f)	Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change.	Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in the change ~~prior to its start-up~~ in a timely manner, prior to implementation of the change. ~~The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors.~~ For contractors and employees of contractors who are operating the process and whose job tasks are affected by a change, the owner or operator shall make the MOC documentation available to and require effective training in the change prior to implementation of the change, pursuant to section 2762.12.	This change was necessary to clarify the training and notification requirements for employees and contractors prior to implementing a major change.
2762.6 (b)(3)	Modifications to or development of new operating and maintenance procedures	Modifications to operating and maintenance procedures or development of new operating and maintenance procedures;	This modification is necessary to clarify when MOC procedures are required in the development of new and modified operating and maintenance procedures.

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2762.6 (j)	The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.	The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities <u>at or above 15%</u>. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.	The modification is necessary to clarify and quantify the level at which changes in employee responsibilities trigger a MOOC assessment. The 15% threshold is a recognized industry standard and is used here to provide consistency.
2762.6(k)(4)	The petroleum refinery manager, or his or her designee, shall certify that the assessment is accurate and that the proposed organizational change(s) meet the requirements of this section.	The ~~petroleum refinery~~ <u>stationary source</u> manager, or his or her designee, shall certify <u>based on information and belief formed after reasonable inquiry</u> that the <u>MOOC</u> assessment is accurate and that the proposed organizational change(s) meet<u>s</u> the requirements of this section.	This is necessary to provide a standard by which a refinery manager or their designee is required to certify the MOOC assessment. The modification is necessary to ensure accountability and transparency.

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2762.7(a)	The owner or operator shall perform a pre-startup safety review (PSSR) for new processes and for modified processes if the modification necessitates a change in the Process Safety Information. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process.	The owner or operator shall perform a pre-startup safety review (PSSR) for new processes, ~~and~~ for modified processes if the modification necessitates a change in the Process Safety Information, and for partial and unplanned shutdowns. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process.	This change is necessary to clarify that a Pre-Startup Safety Review is also required after partial or unplanned shutdowns. This was always the intent of the regulation as these are a subset of "turnaround," however comments received indicated that this requirement was not sufficiently clear.
2762.7(b)(5)	Training of each operating employee and maintenance employee has been completed.	Training of each operating employee and maintenance employee affected by the change has been completed.	This change is necessary to clarify which operating and maintenance employees receive training pursuant to the PSSR prior to the introduction of highly hazardous materials to a process. This limits the training to employees who are impacted by the change.
2762.8(c)	The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with answers and findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report	The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with ~~answers and~~ findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report available to employees and employee	This change is necessary to provide clarity to the compliance audit report requirements. The term "answers" was unclear and redundant.

Section	Initial Proposed Text	Final Proposed Text	Justification
	available to employees and employee representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any employee or employee representative comments on the written audit report.	representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any written employee or employee representative comments on the written audit report.	
2762.9(i)(3)	A detailed description of the incident;	A detailed description of the incident, including all of the data required under 27050.9(b);	This change is necessary to make Program 4 requirements consistent with Program 3 requirements.
2762.9(n)	If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis.	If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. ~~The owner or operator shall pay the costs of the independent analysis.~~	This change is necessary to clarify obligations regarding independent assessments. Cal OES determined that assessment of the costs pursuant to these regulations was inappropriate.

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2762.10(a)(1)	Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;	Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases ~~at the earliest possible point~~, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;	The modification ensures meaningful participation and decision making for affected operating and maintenance employees and employee representatives in all program teams for all analyses required in the section. The mandate for participation is outlined in the Governor's Task Force report.
2762.10(a)(2)	Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.	Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases ~~at the earliest possible point~~, in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.	The modification ensures meaningful participation and decision making for affected operating and maintenance employees and employee representatives in all program teams for all analyses required in the section. The mandate for participation is outlined in the Governor's Task Force report.
2762.10(b)	In accordance with the collective bargaining agreement in effect with the stationary source, an authorized collective bargaining agent may select representative(s) to participate in overall Accidental Release Prevention program development and implementation planning and for person(s) to	~~In accordance with the collective bargaining agreement in effect with the stationary source, an~~ An authorized collective bargaining agent may select ~~representative~~ employee(s) to participate in overall Accidental Release Prevention program development and implementation planning and for ~~person~~ employee(s) to	This is necessary to clarify that participation in the overall CalARP program development and implementation planning is from employees and not from representatives who may or may not be employees of the refinery.

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	participate in each team-based activity pursuant to this Article.	participate in each team-based activity pursuant to this Article.	
2762.12(b)(1)	The owner or operator, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs.	The owner or operator, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs and shall require that its contractors and any subcontractors use a skilled and trained workforce pursuant to Health and Safety Code Section 25536.7.	The provision ensures that contractors and contractor employees are informed of the process safety hazards in the refinery and applicable safety procedures, including what actions to take in the event of an emergency. This requirement is necessary to ensure the safety performance of contractor employees, throughout the time when the contractor is performing work at the refinery.
2762.12(b)(2)	The owner or operator shall inform the contract owner or operator of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.	The owner or operator shall inform the contract owner or operator and shall ensure that the contract owner or operator has informed each of its employees of the work practices necessary to safely perform his or her jobs, including but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan. ~~of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of~~	The revision is necessary to promote safety and accountability. The provision ensures that contractors and contractor employees are informed of the process safety hazards in the refinery and applicable safety procedures, including what actions to take in the event of an emergency.

Section	Initial Proposed Text	Final Proposed Text	Justification
		~~containment, highly hazardous materials and high temperatures and pressures.~~	
2762.12(c)	(1) The contract owner or operator shall ensure that each contract employee is trained in the work practices necessary to safely perform his or her job, including in the applicable provisions of the stationary source's emergency action plan. (2)The contract owner or operator shall ensure that each contract employee is instructed in the potential hazards related to his or her job and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures. (3) The contract owner or operator shall document that each contract employee has successfully completed the training required by this section by maintaining a record identifying: (A) each employee	(1) The contract owner or operator shall ensure that each contract employee is trained in the work practices necessary to safely perform his or her job<u>s</u>, including <u>but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and</u> in the applicable provisions of the stationary source's emergency action plan, <u>and shall meet the requirements of Health and Safety Code Section 25536.7</u>. ~~(2)The contract owner or operator shall ensure that each contract employee is instructed in the potential hazards related to his or her job and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.~~ (<u>2</u>~~3~~) The contract owner or operator shall document that each contract employee has successfully completed the training required by	This change is necessary to align the CalARP regulation with the PSM regulation.

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	who has received training; (B) the date(s) and subject(s) of training each employee has received; (C) and the means used to verify that the employee understood the training received. (4) The contract owner or operator shall ensure that each contract employee follows the safety and health procedures of the stationary source. (5) The contract owner or operator shall advise the owner or operator of any specific hazards presented by the contract owner or operator's work, or of any hazards found by the contract owner or operator while performing work for the stationary source.	this section by maintaining a record identifying: (A) each employee who has received training; (B) the date(s) and subject(s) of training each employee has received; (C) and the means used to verify that the employee understood the training received. (3~~4~~) The contract owner or operator shall ensure that each contract employee follows the safety and health procedures of the stationary source. (4~~5~~) The contract owner or operator shall advise the owner or operator of any specific hazards presented by the contract owner or operator's work, or of any hazards found by the contract owner or operator while performing work for the stationary source. (5) Nothing in this subsection shall preclude the stationary source owner or operator from requiring a contractor or an employee of a contractor to whom information is made available under this section to enter into a confidentiality agreement prohibiting him or her from	

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		disclosing such information, as set forth in CCR Title 8, Section 5194(i).	
2762.13(c)	All HCAs shall be updated and revalidated at least every five years, in conjunction with the PHA schedule.	All HCAs shall be updated consistent with the requirements of this section ~~and revalidated~~ at least every five years, in conjunction with the PHA schedule.	This change is necessary because the term "revalidated" is defined for other CalARP Programs and that the definition is not the same as the requirements in Program 4.
2762.13(d)	An HCA shall be performed, updated, revalidated, and documented by a team with expertise in engineering and process operations and the team shall include at least one operating employee who currently works on the process and has experience and knowledge specific to the process being evaluated. The team shall also include one member knowledgeable in the HCA method being used. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10. As necessary, the team shall consult with individuals with expertise in damage mechanisms, process	An HCA shall be performed, updated, ~~revalidated,~~ and documented by a team with expertise in engineering and process operations and the team shall include at least one operating employee who currently works on the process and has experience and knowledge specific to the process being evaluated. The team shall also include one member knowledgeable in the HCA method being used. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10. As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry, and control systems.	This change is necessary because the term "revalidated" is defined for other CalARP Programs and that the definition is not the same as the requirements in Program 4.

Section	Initial Proposed Text	Final Proposed Text	Justification
	chemistry, and control systems.		
2762.13(e)(3)	Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local	Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. Identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards. ~~The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team.~~ This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining	This modification is necessary to better specify the Hierarchy of Hazard Control Analysis (HCA) team's obligations with regard to publically available information on inherent safety measures.

Section	Initial Proposed Text	Final Proposed Text	Justification
	California agency, in a regulation or report.	industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report.	
2762.14(b)	The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter. The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership	The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter. <u>If the owner or operator has conducted and documented a PSCA up to eighteen (18) months prior to the effective date of this section, and that PSCA includes the elements identified in this subsection, that PSCA may be used to satisfy the owner or operator's obligation to complete an initial PSCA under this subsection.</u> The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:	This grandfathering provision gives the owner or operator flexibility to use previously conducted PSCA that meet the requirements of this proposal. Refineries that currently conduct PSCAs should receive credit for being proactive.
2762.14(f)	The PSCA team shall conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three (3)	The PSCA team shall conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three (3) years	The modification gives the owner or operator flexibility to address corrective actions within the provided timeframe. If the corrective actions are ineffective, they should be addressed as soon as reasonably possible, within 6

Section	Initial Proposed Text	Final Proposed Text	Justification
	years following the completion of the PSCA report. If a corrective action is found to be ineffective, the PSCA team shall implement changes necessary to ensure effectiveness.	following the completion of the PSCA report. If a corrective action is found to be ineffective, the owner or operator ~~PSCA team~~ shall implement changes necessary to ensure effectiveness in a timely manner not to exceed six months.	months.
2762.14(h)	The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within 30 calendar days of the completion of the report.	The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within 60~~30~~ calendar days of the completion of the report.	This change is necessary to allow greater flexibility for the owner or operator to communicate and make available PSCA reports, corrective action plans, and Interim Assessments to employees, their representatives, and participating contractors. This ensures transparency and accountability.
2762.15(d)	The owner or operator shall include an assessment of human factors in new operating and maintenance procedures.	The owner or operator shall include an assessment of human factors in new and revised operating and maintenance procedures.	This is necessary to ensure the owner or operator includes a Human Factors Assessment in revised operating and maintenance procedures. Effective procedures are necessary for both employee and process safety.
2762.16(a)	The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The stationary source manager shall be	The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The owner or operator shall designate the stationary source manager as the person	The modification is necessary to clarify that the owner or operator is required to designate the refinery manager as the person with authority and responsibility for all aspects of CalARP, which ensures accountability and transparency.

Section	Initial Proposed Text	Final Proposed Text	Justification
	responsible for compliance with this Article, and shall maintain process safety goals that support continuous improvement.	with authority and responsibility for compliance with this section ~~stationary source manager shall be responsible for compliance with this Article~~, and shall maintain process safety goals that support continuous improvement.	
2762.16(e)(4)	The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.	The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. Each recommendation that is changed or rejected by the owner or operator shall be communicated to onsite team members for comment and made available to offsite team members for comment. ~~If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.~~	The proposed modification is intended to give the owner or operator flexibility in communicating changes to recommendations. This ensures that each team member is aware of, and able to comment on, any recommendation that the owner or operator has elected to change or reject. This ensures transparency and accountability in addressing team recommendations.
2762.16(e)(5) &(6)	(5) The owner or operator shall document the comments from all team members on any rejected or changed findings and	(5)The owner or operator shall document any written ~~the~~ comments from all team members on any rejected or changed findings and	The proposed modification is intended to give the owner or operator flexibility in communicating changes to recommendations and appropriately limit when an owner or operator must

Section	Initial Proposed Text	Final Proposed Text	Justification
	recommendations. (6) The owner or operator shall document a final decision for each recommendation and shall make it available to all team members.	recommendations. (6) The owner or operator shall document a final decision for each recommendation and shall communicate it to onsite team members and make it available to offsite ~~all~~ team members.	document comments and communicate the decision to act on or reject the comment or recommendation. This ensures transparency and accountability in addressing team recommendations.
2762.16(e)(12)	Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation.	Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation unless the owner or operator demonstrates in writing that it is infeasible to do so.	This is necessary to allow the owner or operator limited flexibility to demonstrate in writing the circumstances and rationale that make it infeasible to meet the prescribed time limits for completion of corrective actions resulting from an incident investigation.
2762.16(f)(2)	Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives,	Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees	This change is necessary to clarify that owners or operators are required to correct hazards rather than merely respond to reports of hazards.

Section	Initial Proposed Text	Final Proposed Text	Justification
	contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to reports of hazards that present the potential for death or serious physical harm.	of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to and correct ~~reports of~~ hazards that present the potential for death or serious physical harm.	
2775.7	(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4. (b) Each inspector will be required to take every two years, at	~~(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4.~~ ~~(b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal~~	This section was deleted from Title 19 because all other CUPA training requirements are located in Title 27. This section is being forwarded to Cal EPA for inclusion in California Code of Regulations, Title 27, Division 1, Subdivision 4, Part II, Article 5, section 15260. The CUPA Forum Board is currently developing a certification and registration process.

Section	Initial Proposed Text	Final Proposed Text	Justification
	least 24 hours of refresher training, curriculum to be determined by Cal OES.	~~OES.~~	

Modifications to the Regulatory Text Without Regulatory Effect

Subsequent to the 15-day comment period, Cal OES has made the following modifications without regulatory effect to the proposed regulation:

- Section 2735.3(y) was changed to correct typographical errors improperly referencing CCR Title 9, § 5194 rather than CCR Title 8, § 5194.
- Section 2735.3 (mm) was changed to correct the reference to "major change" from (gg) to (hh).
- Section 2745.8(d) was changed to add a missing comma.
- The "Note" to Section 2760.1(b) was changed to delete the word "Material" from "Material Safety Data Sheets" for consistency.
- Section 2762.1(c) was changed to correct missing parenthesis in the phrase "paragraphs (c)1."
- Punctuation in section 2762.15(c) was changed to add clarity.
- Section 2735.4(a)(2) was revised to remove "or (e)" which was erroneously included.
- Section 2765.2(b) was deleted. This subsection referenced Health and Safety Code § 25503.4, which no longer exists. The subsequent subsections were renumbered.
- Section 2780.6(a) was changed to add a possessive apostrophe.

Except as set forth above, there are no other changes in applicable laws or to the effect of the proposed regulations from the laws and effects described in the Notice of Proposed Action.

Local Mandate Determination

The proposed regulations do not impose any mandate on local agencies or school districts.

Alternatives Determination

Cal OES invited interested persons to present statements or arguments regarding alternatives to the proposed standards. No alternative considered by Cal OES would be more effective in carrying out the purpose for which the action is proposed or would be as effective as and less burdensome to affected private persons than the adopted action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law. Cal OES staff were unable to determine any alternatives and no alternatives were proposed by the public that would have the same desired regulatory effect.

DISCUSSION AND EXPLANATION OF ALTERNATIVES CONSIDERED

Alternative 1: Maintain status quo. One alternative considered was continued regulation of petroleum refineries under the existing PSM and CalARP regulations without revising the requirements. In the past four years, there have been two major petroleum refinery incidents (Chevron in 2012 and Exxon in 2015). Per the Governor's Task Force Report, existing laws, regulations, and levels of staffing were unable to forestall the Chevron incident and more needs to be done to prevent future incidents with similar or worse consequences. Since 2012, Cal/OSHA has increased enforcement staffing from 4 to 10 safety inspectors dedicated to refineries. The additional level of safety achieved through the increased enforcement efforts will be maintained under the current PSM and CalARP requirements. The costs associated with the maintaining the status quo under the existing regulation reflect an unknown but anticipated number of future incidents that may happen in the absence of the requirements and tools provided in the proposed new PSM and CalARP regulations. These consequences are largely untenable, given the levels of incidents experienced in the recent years.

Alternative 2: Safety Case Model California's existing model of work safety regulation in process safety management emphasizes investigating serious accidents that have occurred. As examined by the RAND Center for Health and Safety in the Workplace, over the last 25 years, a perspective has developed that argues that the models currently used—nationwide and in California—are inadequate to ensure safety at very complex facilities, especially those characterized by risks that have low frequency but very high disaster potential. This perspective emerged first in Europe, triggered by disasters in the North Sea and at Seveso (RAND 2013). The former led the United Kingdom and Norway to develop a "safety case" approach to regulating off-shore oil platforms in the 1990s, an approach that later expanded to other high-hazard process industries.

The "safety case" approach involves considerably more resources in terms of time and agency inspectors. The Hazardous Facilities Unit, which oversees the United Kingdom with safety cases, typically conducts several audits each year at refineries to assess their safety case activities. The safety case model requires facilities to explain what they will do in order to try to ensure their safety. The regulatory authority is charged with determining whether a facilities' explanation or effort is acceptable or effective. Most regulatory scrutiny goes to auditing the facility to determine whether it has been carrying out the activities called for in the safety case document. Although some contend that the safety case process leads to initial gains in hazard recognition and abatement, however, it must remain "a living document" in order to fulfill its objectives.

A concern with the safety case approach is that describing and documenting how a refinery will manage risks is not equivalent with actually managing risks. Further, augmenting oversight from the existing regulations to a level prescribed by the "safety case" approach would be largely infeasible given the related requisite resource demands for regulatory authorities. This approach is estimated to require a fourteen fold increase in staff for Cal/OSHA – from 10 inspectors statewide to 10 inspectors for each of California's 14 refineries. Additional costs for refineries would also be anticipated, given the significant changes this would necessitate in regulatory

dynamics. For these reasons, the “safety case” model is not considered a reasonable alternative to the proposal.

In accordance with Government Code Section 11346.9(a)(5), Cal OES determines that no reasonable alternative it considered to the regulation or that has otherwise been identified and brought to its attention would either be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons or small businesses than the proposed action or would be more cost-effective to affected private persons or small businesses and equally effective in implementing the statutory policy or other provision of law than the proposal.

Standardized Regulatory Impact Assessment (SRIA)

The State of California has proposed revised Process Safety Management (PSM) and California Accidental Release Prevention Program (CalARP) regulations for oil and gas refineries that operate in California. The proposed regulations are more stringent than current federal regulations and are intended to improve refinery worker and public safety, and reduce air pollution.

The RAND Corporation assessed the costs and benefits of the proposed PSM and CalARP regulations. RAND estimated these costs and benefits in four categories: the costs to industry (to implement the regulation), the costs to society (pass through of certain industry costs), benefits to industry, and benefits to society. The results of the analysis are detailed below, respective to the SRIA requirements.

Background

The federal Clean Air Act Amendments of 1990 [42 U.S.C. Section 7412(r)] directed the federal Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (EPA) to develop regulations to prevent accidental chemical releases. These became known as the PSM and Risk Management Plan (RMP) regulations, respectively. On February 24, 1992, OSHA published a Final Rule for Process Safety Management of Highly Hazardous Chemicals (57, Fed. Reg., 6356, February 24, 1992), codified as 29 CFR Section 1910.119.

The Department of Industrial Relations (DIR) subsequently adopted a PSM standard (CCR Title 8, Section 5189) pursuant to its mandate to adopt standards that are at least as effective as federal standards. Section 5189 is substantially the same as the federal counterpart, in that it addresses the prevention of catastrophic releases of toxic, reactive, flammable, and explosive chemicals and applies to employers who use a process involving a particular chemical (or chemicals) at or above certain threshold quantities (listed in Appendix A) or a flammable liquid or gas as defined in subsection (c) of the regulation.

Since 1992, California's PSM standard has covered approximately 1,500 facilities in the state that handle or process certain hazardous chemicals including its 15 active oil refineries, which process approximately two million barrels of crude oil per day into gasoline, diesel fuel, jet fuel, and chemical feedstocks.

Following a chemical release and fire at the Chevron refinery in Richmond, California, on August 6, 2012, the Governor's Interagency Working Group on Refinery Safety prepared a report raising concerns and recommendations about the safety of California's oil refineries. The report recommended the establishment of an Interagency Refinery Task Force to: (1) coordinate revisions to the state's PSM regulations and CalARP regulations; (2) strengthen regulatory enforcement; and (3) improve emergency preparedness and response procedures.

In accordance with the recommendations of the report, Cal/OSHA, a division of DIR, is promulgating a new PSM regulatory proposal for oil refineries, GISO Section 5189.1. CalARP, within Cal OES, is also promulgating proposed CalARP regulations that are in alignment. The regulatory proposal is consistent and compatible with existing state regulations. The proposal implements the recommendations of the report and other elements that safety experts have learned over the past two decades are essential to the safe operation of a refinery and include: applying a hierarchy of controls to implement first- and second-order inherent safety measures; conducting damage mechanism reviews; applying rigorous safeguard protection analyses; integrating human factors and safety culture assessments into safety planning; involving front-line employees in decision-making; conducting root-cause analysis following significant incidents; and performing comprehensive process hazard analyses.

The refineries operating in California have adopted many of these practices over the past decade, with significant improvements in safety performance; however, the industry continues to experience significant upset events.

The regulatory proposal sets safety performance standards for refinery employers and ensures that those standards are met through improvements in transparency, accountability, worker participation, and enforcement.

The creation or elimination of jobs in the state.

The proposed PSM and CalARP regulations will create an estimated 158 jobs in the state's petroleum refining sector (between 57 and 325 jobs), based on an estimated total compensation (generated by macroeconomic analysis software) in the California refinery sector of $334,000 per employee and a total increase in labor costs of $58 million.

The creation of new businesses or the elimination of existing businesses in the state.

There is no anticipated creation or elimination of businesses in California.

The competitive advantages or disadvantages for businesses currently doing business in the state.

Based on the economic modeling, refiners in California complying with the proposed PSM and CalARP regulations will experience the advantage of cost avoidance due to the reduced likelihood and severity of a major refinery incident, such as the ExxonMobil incident in Torrance in 2015. This will reduce the cost associated with lost output, which in the ExxonMobil incident had an estimated value of $323 million (not including the additional equipment repair costs, which could not be estimated).

The increase or decrease of investment in the state.

Multiple stakeholder and advisory meetings with labor, industry, advocacy groups, and other agencies have contributed to the development of the proposed regulations. All input has been considered, and the current proposed regulations reflect a balanced, enforceable, and prevention-focused approach to reducing risks in this industry. There is no indication that the regulations will affect investment in California.

Given the expected annual loss of $800 million to the California economy due to a costly major refinery incident, the proposed regulations will have to reduce the risk of a costly major incident by 7.3% to be economically justified. Additional sensitivity analysis was conducted to assess how varying expected amounts of annual loss affect the critical risk reduction values.

The incentives for innovation in products, materials, or processes.

The proposed regulations require the establishment of several programs that drive refiners to analyze and implement processes and select materials that offer the highest levels of risk reduction. The inherent safety requirements promote an approach to safety that focuses on eliminating or reducing the hazards associated with certain conditions. A process is inherently safer if it eliminates or reduces the hazards associated with materials or operations used in the process, and this elimination or reduction is permanent and inseparable from the material or operation. A process with eliminated or reduced hazards is described as inherently safer than a process with only passive, active, or procedural safeguards. The process of identifying and implementing inherent safety in a specific context is known as "inherently safer design." Examples of how innovation is incentivized are described in the prioritized approaches to safety:

• First-Order Inherent Safety Measure—a measure that eliminates a hazard. Changes in the chemistry of a process that eliminate the hazards of a chemical are usually considered first-order inherent safety measures—for example, by substituting a toxic chemical with an alternative chemical that can serve the same function but is nontoxic.

• Second-Order Inherent Safety Measure—a measure that effectively reduces risk by reducing the severity of a hazard or the likelihood of a release, without the use of additional safety devices. Changes in process variables to minimize, moderate, and simplify a process are usually considered second-order inherent safety measures—for example, by redesigning a high-pressure, high-temperature system to operate at ambient temperatures and levels of pressure.

BENEFITS OF THE PROPOSED ACTION

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, environment and quality of life, and any other benefits identified by the agency.

The proposed regulations will improve safety at California refineries, which will in turn result in fewer major process incidents and fewer releases of hazardous materials from refineries. Because the number of major refinery incidents may be reduced under the proposed regulation, it could provide safety and health benefits to workers and the public in nearby communities as well as other economic benefits for businesses. The proposed regulations will also increase the openness and transparency of business and government.

Methodologies

Assessing and determining the benefits and costs of the proposed regulation, expressed in monetary terms to the extent feasible and appropriate.

Costs to Industry

The total implementation costs were estimated for all the refineries in California by aggregating estimates. The quality of data reported for one-time, upfront costs was much lower than that reported for ongoing costs. The majority of refiners indicated upfront costs that were relatively minor compared to ongoing costs—about 20% to 80% of a single year's cost. One refiner reported anticipating extremely significant start-up costs in a single PSM category—this estimate is discussed separately. Because ongoing costs made up the bulk of the reported costs and were reported more consistently by refiners, the following analysis focuses on these ongoing costs.

Types of Costs Considered for Implementation of the Proposed Regulations

The additional costs that would be incurred by industry to comply with the proposed regulations were also considered and calculated. Costs were calculated in ten major areas covered by the regulations: Safety Training, Damage Mechanism Review, Root Cause Analysis, Hierarchy of Hazard Controls Analysis, Process Safety Culture Assessment, Program Management, Performance Indicators, Human Factors, Safeguard Protection Analysis/Layers of Protection Analysis (LOPA), Process Hazard Analysis, and Other Costs (or undifferentiated costs). Refiners' estimates were taken essentially at face value as good-faith estimates of cost from those in the best position to understand them.

Only costs attributed to the proposed regulations were aggregated. In some cases, refiners reported the total cost of programs that are already in place and that the new regulations might make more expensive. In these cases, only the additional expense was included in the aggregate expense. Similarly, safety-related initiatives already underway that are not directly mandated by the regulations were excluded from the tabulation of costs of the proposed regulations.

Methods Used to Obtain Average, High, and Low-Cost Estimates

Variation between these estimates was used as the basis for estimating the range of actual costs—assuming that some refiners might miss the mark at either the low or high end. To produce the range of possible costs, each refiner's cost was first normalized by the size of the refinery, measured in barrels per day (BPD) of capacity. Refiners were then ranked in terms of cost by their cost per unit of capacity. The 10th and 90th percentiles of cost were estimated—corresponding to the second-lowest and second-highest cost estimates—and applied to all refiners according to their capacity measured in BPD.

Refiner-reported cost estimates were between $9 and $37 per unit of production capacity. Two refiners produced higher estimates, one at $90 per unit and one at $187 per unit. All reported estimates were assumed to be good-faith estimates of refiner cost. Although some refiners might face different costs because they have to make a greater or lesser effort in order to meet the proposed requirements, a close reading of the survey responses indicates that this is not the major source of variation in estimates. Rather, it appears that much of the variation stems from different understandings of how the regulations should be interpreted and enforced; some

refiners anticipate comparatively minor changes relative to current industry practice, while others anticipate major changes.

The variation in refiner estimates is thus treated as a measure of the uncertainty of this final refiner cost. From this perspective, the estimates reported by the refiners can be thought of as a "best" or average cost estimate. We take the 10th percentile (second lowest) and 90th percentile (second highest) estimates as the likely lower and upper bounds of this cost. Most estimates cluster at the lower end of this range, with much of the probability falling near the best estimate, from $20 to $35 per unit.

Results

Summing costs from all refiners produces a best estimate of $58 million per year (M/y) for refiners to maintain compliance with the proposed regulations, from a low of $20 M/y to a high of $183 M/y.

The largest cost categories are Hierarchy of Controls Analysis at $12.7 M/y, Damage Mechanism Review at $12.3 M/y, and Root Cause Analysis at $9.2 M/y. Safeguard Protection Analysis/LOPA at $6.7 M/y, Safety Training at $3.2 M/y, Process Safety Culture Assessment at $2.9 M/y, and Human Factors at $2.9 M/y make up a second tier of cost in the range of $3 M/y to $7 M/y. Process Hazard Analysis at $1 M/y, Program Management at $845,000 per year, and Performance Indicators at $400,000 per year comprise a third tier of cost at or below $1 M/y industry-wide. The Other cost category ($5.3 M/y) reflects primarily data that were reported in an aggregated form and cannot be broken into the stated categories without making unwarranted inferences, rather than actual costs that do not fall into the above-stated categories.

Estimates of Start-up Costs

Although the estimates of most refiners were reasonably consistent with one another, several refiners anticipated costs that were much higher in certain categories. In some cases, it was possible to determine that the anomalous numbers were the result of a misunderstanding of the question being asked—for instance, a report of the total cost of a program, rather than the increase in that program's cost that could be attributed to the regulations. Problems of this sort were minimal, however, because of the extensive meetings to clarify the intent of the questions that were conducted before the refiners prepared their responses. In other cases, these answers, though anomalous, were within the bounds of the study: they did not seem to represent any kind of misunderstanding of the question; instead, they seem to represent either a legitimate difference in the costs faced by certain refiners or a legitimate difference in judgment with regard to how the regulations will be implemented and how much it might cost to comply with them. All answers regarding the ongoing cost of compliance have been incorporated into the estimates presented here. Differences in opinion along these lines have been taken as a healthy part of the estimation process to estimate a range of possible implementation costs.

Most refiners did not view start-up costs as a major component of the costs of the proposed regulations, with most of the cost being the ongoing costs of operating facilities as required by the new regulations. Under most refiners' estimates, the first one to five years may cost more than subsequent years by a factor of 1.2 to 2 (with estimates tending to fall at the lower end of that range).

The SRIA process surfaced many instances of confusion regarding the intent of the regulations and their related requirements. Subsequent revision of the proposed regulations helped refine the intent, which was viewed as a very productive and useful benefit of the SRIA process.

Costs to Society

Assuming that additional regulatory costs will be passed on to consumers through higher gasoline prices and that the demand for gasoline is perfectly inelastic, the price impact of the proposed regulations can be estimated. In recent years, gasoline consumption in California has averaged about 14.5 billion gallons per year.

California requires a unique reformulated gasoline blend to meet the state's pollution control requirements. Gasoline made in other states to meet other state and federal pollution requirements does not meet California standards. Consequently, all gasoline consumed in California is typically refined in the state. Therefore, California refiners' cost of implementing the proposed regulations can be distributed over the cost to consumers of purchasing 14.5 billion gallons of California gasoline.

Spreading the $58 million estimated cost of the regulations across this volume of sales indicates an increase in price of about $0.004, or slightly less than half a cent per gallon. The lower estimate of $20 million reduces this impact to $0.0014 or about 1/7 of a cent, while the upper estimate of $183 million increases the impact to $0.013, or 1.3 cents per gallon. Aggregating this to calculate the impact on the average adult Californian yields an estimated cost per person of about $2 per year, with a low estimate of $0.68 and a high estimate of $6.20 per person per year.

The larger economic impacts of this cost on the California economy are mixed. After applying these costs to a standard input-output model for the state, we observe that this cost is more than offset by the additional refiner spending on labor that drives the higher costs. The net stimulatory effect of the additional spending by refiners would be slightly greater than the inhibiting effect of higher gas prices.

Benefits to Industry: Safety Improvements

Safety improvements may result from implementing the proposed regulation. These safety improvements could reduce the number of major refinery incidents at California refineries. The Contra Costa County Industrial Safety Ordinance (ISO) was used as a proxy for the purpose of estimating the proposed regulations (although the proposed regulations go further than the current ISO in terms of risk reduction requirements, rendering this a very conservative estimate). It is not unreasonable to assume that California refinery incident rates under the proposed regulation will be similar to or lower than those of ISO refineries. When analyzed, the incident rate for major incidents was significantly less (about three times lower) for ISO refineries when compared to the incident rate for non-ISO refineries operating in the state of California.

The analysis of the proposed regulations indicated no reduction in the long-term operating costs of California refineries.

Benefits to Industry: Costs Avoided

Safety improvements may result from implementing the proposed regulation. These safety improvements could reduce the number of major incidents at California refineries. Thus the proposed regulation benefits industry by reducing the costs of major incidents in the future. At least three refinery incidents with macroeconomic impact of greater than $1.5 billion on the California economy have occurred since 1999. The average cost of such an incident to the refiner that suffers the incident is at least $220 million. Using ExxonMobil incident in 2015 as an example, the cost to ExxonMobil for a six-month period is estimated at $323 million, not including other likely costs, such as equipment repair or damage to its reputation.

Benefits to Society: Costs Avoided

In quantitative terms, the largest potential benefit of the proposed regulations is the avoided cost of supply disruption related to a future major refinery incident. Gasoline prices in California, because of the ExxonMobil 2015 incident, cost California drivers nearly $2.4 billion, in the form of a prolonged $0.40 increase per gallon at the pump. Macroeconomic analysis indicated that lost supply associated with this one incident cost the California economy $6.9 billion. If the ExxonMobil event continues beyond six months, such as up to the predicted 12 months, the costs could double in the absence of the availability of alternate reserves in California.

Assessing the value of nonmonetary benefits, such as the protection of public health and safety, worker safety, or the environment, the prevention of discrimination, the promotion of fairness or social equity, an increase in the openness and transparency of business and government and other nonmonetary benefits is consistent with the statutory policy or other provisions of law.

The nonmonetary benefits from these regulations and their ability to reduce the risk of refinery incidents include the protection of health and safety for workers and the public, as well as the environment. Non-economic benefits for residents would also accrue, as they are less likely to be injured or die in refinery incidents. The same is true for the injury and illness rates, as well as fatalities, of the refinery workers. Analysis suggests that the proposed regulations could lead to a refinery worker death rate over three times lower, assuming that the ISO rate is a conservative proxy for the proposed regulations. Several other anticipated costs are avoided for industry that could not be reliably estimated, such as refinery equipment repair and damage to the company's reputation, which can be considerable depending on the incident. Costs avoided also include those from overseas production of reformulated California gasoline, as well as related transportation costs to make these reserves available. Californians would benefit by avoiding costs incurred by residents who live near refineries affected by incidents, such as emergency services, health care, reduction in property values, and reduction in tax revenue to local governments.

Comparing the proposed regulatory alternatives with an established baseline so that agencies can make analytical decisions regarding the adoption, amendment, or repeal of regulations necessary to determine that the proposed action is the most effective, or equally effective and less burdensome, alternative in carrying out the purpose for which the action is proposed, or the most cost-effective alternative to the economy and to affected private persons that would be equally effective in implementing the statutory policy or other provision of law.

Although data limitations precluded estimation of an established baseline, a breakeven analysis was conducted to compare the costs and benefits. The estimated breakeven point for effectiveness was 7.3%. This indicates that if the regulations reduced the risk of a costly major incident by 7.3% (noting the expected annual loss of $800 million to the California economy due to a costly major refinery incident), the proposed regulations would be economically justified.

An alternative to the proposed regulations, known as the Safety Case Model, was considered. This approach emerged first in Europe, triggered by disasters in the North Sea and at Seveso. The former led the United Kingdom and Norway to develop a "safety case" model to regulating offshore oil platforms in the 1990s, an approach that later expanded to other high-hazard industries. The European Union's Seveso Directives ordered similar measures for all member states.

California's existing model of work safety regulation in process safety management emphasizes investigating serious accidents that have occurred. As examined by the RAND Center for Health and Safety in the Workplace, over the past 25 years, a perspective has developed that argues that the models currently used—nationwide and in California—are inadequate for ensuring safety at very complex facilities, especially those characterized by risks that have low frequency but very high disaster potential.

The "safety case" model involves considerably more resources in terms of time and agency inspectors. The Hazardous Facilities Unit, which oversees the UK safety cases, typically conducts several audits each year at refineries to assess their safety case activities. The safety case model calls on facilities to explain what they will do to ensure their safety. The regulatory authority is charged with determining whether a facilities' explanation or effort is acceptable or effective. Most regulatory scrutiny goes to auditing the facility to see whether it has been carrying out the activities called for in the safety case document. Some have argued that the safety case process often leads to initial gains in hazard recognition and abatement. However, it must remain "a living document" in order to fulfill its objectives.

A concern with the safety case model is that describing and documenting how a refinery will manage risks is not the same as actually managing risks. Further, augmenting oversight from the existing regulations to a level prescribed by the safety case approach is largely infeasible given the related requisite resource demands for regulatory authorities. For these reasons, the safety case model is not considered the optimal solution for California at this time.

Determining the impact of a regulatory proposal on the state economy, businesses, and the public welfare, as described in subdivision (c) of Section 11346.3.

The IMPLAN model was used to assess the secondary, macroeconomic impacts on the California economy of both the cost of the proposed regulations and the cost (to be avoided) of a

major refinery incident. These estimated costs of the proposed regulations, while substantial in absolute terms, are small relative to the size of the industry ($131 billion per year and the fourth-largest industry by output in the state). The best estimate of $58 million is only four-tenths of 1 percent of industry revenue not devoted to inputs and about one-twentieth of 1 percent of industry revenue overall. IMPLAN estimates total compensation in the California refinery sector at about $334,000 per employee. The best estimate of $58 million in additional labor costs therefore implies the creation of about 158 jobs in the petroleum refining sector if the major source of costs is additional labor.

Assessing the effects of a regulatory proposal on the General Fund and special funds of the state and affected local government agencies attributable to the proposed regulation.

The PSM regulations are user funded based on a formula that considers barrels of crude oil in terms of inputs and partially processed receipts as a percentage of the state's total. This new assessment on California's oil refineries was implemented by Governor Brown in 2013 and is independent of the state's General Fund.

The proposed regulations and their effect of reducing refinery incidents would confer benefits on local residents and communities in the form of cost avoidance associated with incidents, such as a reduction in property values and a reduction in tax revenue to local governments.

Determining the cost to the agency and affected business enterprises and individuals of enforcement and compliance.

The cost of compliance for industry, as detailed previously, is estimated at $58 million per year. This estimate was arrived at using refinery-provided data, and a range reflecting the 10th and 90th percentiles produced the likely lower ($20 million) and upper ($183 million) bounds for annual compliance costs. Assuming that these costs will be passed on to consumers, the cost of compliance is estimated at $2 per year per Californian adult.

Making the estimation described in Government Code Section 11342.548.

In broad terms, the cost of major incidents at refineries is widely known as a result of the 2012 Chevron and 2015 ExxonMobil incidents. Because of these immense costs, the ability to avoid such incidents would have immense benefits, well above the $50 million threshold for conducting an SRIA.

Summary of and Response to Comments Received During the Notice Period of July 15, 2016 and September 15, 2016

On July 15, 2016, Cal OES and Cal EPA published a Notice of Proposed Rulemaking and Initial Statement of Reasons for this rulemaking action. The original comment period ended on August 29, 2016. At the request of interested parties, Cal OES extended the public comment period until September 15, 2016. Cal OES received comments from 4,873 commenters during the comment period. Of the 4,873 commenters, 4,834 were members of the public who submitted a comment through "KnowWho Services."[1] These comments were substantively identical. The remaining 39 commenters submitted approximately 430 comments. These written comments and OES's responses are attached hereto as Attachment A.

The following organizations submitted comments on the proposed regulations to Cal OES during the initial public comment period:

Greenpeace

United Steel Workers

Torrance Refinery Action Alliance

CUPA Forum Board

Valero

Western States Petroleum Association

Chemical Industry Council of California

Phillips 66

Chevron U.S.A. Inc.

California Kids IAQ

Apostolic Faith Center

American Veterans

San Pedro & Peninsula Homeowners Coalition

California Communities Against Toxics

Society For Positive Action

Action Now

American Fuel & Petrochemical Manufacturers

Chevron Richmond Blending & Shipping

Contra Costa Hazardous Materials Programs

Communities for a Better Environment

BlueGreen Alliance

Tesoro Companies, Inc.

Kern Oil & Refining Co.

Torrance Refining Company, LLC

American Petroleum Institute

Coalition For A Safe Environment

Community Dreams

EMERGE

Wilmington Improvement Network

NAACP- Branch # 1069

California Safe Schools

Del Amo Action Committee

Resource Compliance, Inc.

[1] A sample comment is submitted in hard copy format for ease of review. The remaining comments submitted through "KnowWho Services are on the enclosed disk.

UCLA Labor Occupational Safety and Health Program

Summary of and Response to Comments Received During Public Hearing on August 31, 2016

Twelve individuals provided comment at the public hearing. A summary of the Public Hearing comments and OES's responses are attached hereto as Attachment B.

Summary of and Response to Comments Received During the Notice Period of February 14, 2017 and March 3, 2017

On February 14, 2015, Cal OES and Cal EPA distributed the Notice of Proposed Modification Text of Proposed Regulation and the complete text of the Proposed Regulation with clearly marked revisions to each individual who submitted a written comment or attended the public hearing. During the period of February 14, 2017 and March 3, 2017, Cal OES received 134 comments from six commenters. These written comments and OES's responses are attached hereto as Attachment C.

The following organizations submitted comments on the proposed regulations to Cal OES during the initial public comment period:

American Petroleum Institute

Chemical Industry Council of California

Torrance Refining Company, LLC

Western States Petroleum Association

Tesoro Companies, Inc.

Contra Costa Hazardous Materials Programs

Attachment A

Summary of and Response to Comments Received During the Notice Period of July 15, 2016 and September 15, 2016

A	Peter Thomas, P.E. LEED AP, Resource Compliance, Inc.
B	Elaine Wilson, Member of Public
C	Dr. Genghmun Eng, Member of Public
D	"KnowWho Services" Comments
E	Rick Hind, Greenpeace
F	Randy Barisof, Chevron Richmond Blending & Shipping
G	Mike Lee, United Steel Workers
H	Catherine Luciano, Member of Public
I	Marwin Reyes, Member of Public
J	Michael Dossey, Contra Costa Hazardous Materials Programs
K	Sally Hayati, Ph.D., Torrance Refinery Action Alliance (TRAA)
L	Gerald V. Poje, Ph.D., Member of Public
M	Greg Karras, Communities for a Better Environment (CBE)
N	Randall L. Sawyer, CUPA Forum Board
O	Charlotte Brody, RN, BlueGreen Alliance
P	Christopher Lish, Member of Public
Q	Christopher Howe, Valero
R	Joseph Bookout, Tesoro Companies, Inc.
S	Catherine Reheis-Boyd, Western States Petroleum Association
T	Melinda Hicks, Kern Oil & Refining Co.
U	Tom Jacob, Chemical Industry Council of California
V	David L. Ingram, Torrance Refining Company, LLC
W	Stephanie Williams, Phillips 66
X	Ron Chittim, American Petroleum Institute
Y	Michael Jerrett, Ph.D., UCLA Labor Occupational Safety and Health Program (UCLA-LOSH)
Z	Michael E. Coyle, Chevron U.S.A. Inc.
AA	Jesse N Marquez, Coalition For A Safe Environment (CFASE)

Note: Cal OES incorporates into each and every response herein the following: Cal OES believes that the proposed regulatory language and related rulemaking documents comply with statutory and regulatory requirements.

COMMENTER A
Peter Thomas, P.E. LEED AP – Resource Compliance, Inc.
Emailed dated August 26, 2016

A-1 Comment

Section 2735.3(fff) defines use Section 2762.4 in the definition of a "Qualified Operator." 2762.4 is the Program 4 training requirement, yet the term "qualified operator" also shows up in Program 3 §2760.3(a)(1)(D). A Program 3 qualified operator should not have to comply with the Program 4 training requirements.

A-1 Response

The regulatory language is amended to clarify that the definition applies only to Article 6.5.

A-2 Comment

Section 2735.3(iii) lists several different code/standard writing bodies. I request that the International Institute of Ammonia Refrigeration (IIAR) be included in the definition as ammonia refrigeration is a primary CalARP industry and IIAR is the recognized standard writing organization for ammonia refrigeration (ASHRAE is not).

A-2 Response

Ammonia Refrigeration is not commonly implicated within petroleum refineries and this definition is only applicable to Article 6.5. The regulation authorizes the employer to develop internal practices that more protective than RAGAGEP definition set forth in section 2753.3(iii). Accordingly, should an employer desire to implement IIAR, it may do so. Cal OES will take no action on this comment.

COMMENTER B
Elaine Wilson – Member of The Public
Emailed dated September 1, 2016

B-1 Comment

I know that in the writing of the 'Proposed Changes to Improve Refinery Safety' there are HUGE HURDLES and Pressures to overcome (Political and Legislative.)

Community members present at last nights' meeting were ACTUTELY aware that the need for Accountability and Consequences for refineries is Essential and that there are huge loopholes in the proposed "regulations." Unfortunately, it seems that the fox is still in charge of protecting the henhouse!

Perhaps the ultimate solution is the demise of a dying industry. In the past couple of days, Exxon just sold (unloaded) one more refinery in Colorado and is investing in "new, sustainable" energy (to control this too???)

B-1 Response

These are general comments and do not apply directly to the proposed amendments. We thank the commenter for her interest. Cal OES will take no action on these comments.

COMMENTER C
Dr. Genghmun Eng– Member of the Public
Emailed dated September 1, 2016

C-1 Comment

Sect. 2735.3(a) and Section 2735.3(qqq):

Draft: "extremely hazardous"

Final: "highly or extremely hazardous"

Rationale: Both categories are part of CaIARP, and accidental release of both types need to be controlled by these regulations.

C-1 Response

The regulatory language includes "highly hazardous" by way of reference to "regulated substance." Highly hazardous material is defined in subsection (x) of section 2735.3 which includes, in relevant part, regulated substances. Cal OES will take no action on this comment.

C-2 Comment

Page 106, Table 3 (Continued):

Draft: List has "Hydrocyanic Acid, Hydrogen Chloride (gas only), Hydrogen Fluoride"

Final: List needs additions: "Anthracene, Asbestos (dust), Benzene, Hydrogen Cyanide, Hydrofluoric Acid, Hydrofluoric Acid Modifed, Erionite (dust), Faujasite dust, Faujasite Modified, FCCU Fresh Catalyst (dust), FCCU Fresh Catalyst (PM-b), FCCU Fresh Catalyst (PM-2.5), FCCU Equilibrium Catalyst (dust), FCCU
Equilibrium Catalyst (PM-10), FCCU Equilibrium Catalyst (PM-2.5), FCCU Spent Catalyst (dust), FCCU Spent Catalyst (PM-10), FCCU Spent Catalyst (PM-2.5)

Rationale: These important additions are needed, as they represent potentially highly or extremely hazardous materials associated with present-day California Refinery processes. They need to be included in order for CaIARP to be properly protective of the Public Health. Anthracene, Benzene, Asbestos (dust), and Erionite (dust) are known human carcinogens. Additional justification regarding the need to add FCCU [Fluid Catalytic Cracking Unit] Catalyst materials to the CaIARP, is enclosed as Part II herein, entitled 'Why Breathing 'Catalyst Dust' Qualifies as Hazardous Material Inhalation" by G. Eng.

C-2 Response

The procedure to petition Cal OES for the addition or deletion of a material on the regulated substance list is governed by section 25543.1 of the Health and Safety Code and is outside the

scope of the current rulemaking. The commenter may submit a petition in accordance with the aforementioned statute. Nonetheless, the substances mentioned in the comment would fall under the definition of "highly hazardous material" as defined in sectioned 2735.3(x) and are therefore covered by the proposed regulatory language. Cal OES will take no action on this comment.

C-3 Comment

Section 2735.3(x):

Draft: "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance as those terms are defined: (1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5 194, Appendix B, (2) flammable liquid, as defined in CCR Title 9, §5 194, Appendix B, (3) toxic substances as acute toxicity is defined in CCR Title 9, §5194, Appendix A, and (4) reactive substance as self-reactive chemical, as defined in CCR Title 9, §5194, Appendix B. Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 of this Chapter.

Final: "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance, or hazardous dust, as those terms are defined: (1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5194, Appendix B; (2) flammable liquid, as defined in CCR Title 9, §5194, Appendix B; (3) toxic substances as acute toxicity is defined in CCR Title 9, §5194, Appendix A; (4) reactive substance as self-reactive chemical, as defined in CCR Title 9, §5194, Appendix 3; (5) hazardous dust as normally solid material at standard temperature and pressure (STP), when in a finely divided and airborne state allowing human inhalation, where such inhaled materials are known or likely carcinogens. Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 of this Chapter.

C-3 Response

The procedure to petition Cal OES for the addition or deletion of a material of the regulated substance list is governed by section 25543.1 of the Health and Safety Code and is outside the scope of the current rulemaking. The commenter may submit a petition in accordance with the aforementioned statute. Nonetheless, the substances mentioned in the comment would fall under the definition of "highly hazardous material" as defined in sectioned 2735.3(x) and are therefore covered by the proposed regulatory language. Cal OES will take no action on this comment.

C-4 Comment

Section 2735.3(gg):

Draft: "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

Final: “Major change” means: (1) introduction of a new process; or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry, or any alteration in the definition of safe operating limits that introduces a new hazard or increases an existing hazard;

C-4 Response

The proposed regulatory language was revised and now reflects the proposed change.

C-5 Comment

Sections 2735.3(hh), (xx) and (zz):

Draft: “highly hazardous”

Final: “highly or extremely hazardous”.

C-5 Response

Please see response to Comment C-1.

C-6 Comment

Pages 29, 63, 77, 82 (2 instances):

Draft: “highly hazardous”

Final: “highly or extremely hazardous”.

C-6 Response

Please see response to Comment C-1.

C-7 Comment

Section 2735.3(ggg):

Draft: “Qualified person” means a person who is qualified to attest, at a minimum to: (1) the validity and appropriateness of the process hazard analyses (PHA) performed pursuant to Section 2760.2; (2) the completeness of a risk management plan; and (3) the relationship between the corrective steps taken by the owner or operator following the PHAs and those hazards which were identified in the analyses.

Final: Add: “Any member of the Public shall be able to question (1) the validity and appropriateness of a Process Hazard Analyses (PHA), or (2) the completeness of a Risk Management Plan by submitting their concerns in writing to the appropriate Cal-OES personnel.

If Cal-OES personnel determine that these Public concerns are valid, those Cal-OES personnel shall be deemed as a "Qualified Person" or "Qualified Persons" for the purposes of effecting improvements in the PHA and/or RMP, to ensure that CaIARP is properly protective of the Public Health"

C-7 Response

This comment is outside the scope of the current rulemaking as changes to this subsection were limited to the renumbering of the definition of "Qualified person." Cal OES will take no action on this comment.

C-8 Comment

Section 2735.3(mmm):

Draft: "Revalidation" means a critical review of a hazard review or a process hazard analysis (PHA) with qualified team members of the most recent hazard review or PHA studies to verify that past studies remain valid and that changes made to the covered process are properly assessed. This critical review is to ensure that hazards are well understood, and existing safeguards are properly identified, past recommendations have been addressed, the overall risk ranking of each scenario is accurate, and relevant incidents and near misses at the stationary source and industry are evaluated. For situations when past studies cannot be readily revalidated, a new complete hazard review or PHA may be warranted.

Final: Add: "Cal-OES personnel or their designees shall be allowed to participate in the critical review, along with other qualified team members."

C-8 Response

This comment is outside the scope of the current rulemaking as changes to this subsection were limited to the renumbering of the definition of "Revalidation." Cal OES will take no action on this comment.

C-9 Comment

Section 2735.5(a):

Draft: Coordination. The owner or operator of a stationary source shall closely coordinate with the AAUPA to implement the requirements of this chapter and to determine the appropriate level of documentation required for an RMP to comply with Sections 2745.3 through 2745.9 of this chapter. This requirement shall not preclude public access to RMP information. Classified information need not be included in the RMP but shall be made available to the AAUPA to the extent allowable by law. Trade secrets are protected pursuant to Section 25538 of HSC.

Final: Coordination. The owner or operator of a stationary source shall closely coordinate with the AAUPA to implement the requirements of this chapter and to determine the appropriate level

of documentation required for an RMP and PHA to comply with Sections 2745.3 through 2745.9 of this chapter. This requirement shall not preclude public access to RMP and PHA information. Classified information need not be included in the RMP but shall be made available to the AAUPA to the extent allowable by law. Trade secrets are protected pursuant to Section 25538 of HSC.

C-9 Response

This comment is outside the scope of the current rulemaking as changes to this subsection were limited to clean-up language pertaining to UPA. Cal OES will take no action on this comment.

C-10 Comment

Section 2745.1(i):

Draft: Upon request, the UPA shall submit to Cal OES copies of the RMP and the federal registration.

Final: The UPA shall submit to Cal OES copies of the RMP and PHA and the federal registration. Deletion of the phrase "Upon request" is necessary to enable Section 2745.2(g), which states that: "Public access. Subject to the requirements of section 2775.5(b), the public shall have access to the RMP, including any electronic data developed as part of the USEPA reporting requirements. Classified information need not be included. Trade secrets are protected pursuant to Section 25538 of HSC." PHA is added to Section 2745(i) to be consistent with the above proposed revision to Section 2735.5(a).

C-10 Response

The suggested regulatory language change is unnecessary as the public may gain access to the RMP through the UPA pursuant to section 2775.5 of Title 19, California Code of Regulations. Further, this comment is outside the scope of the current rulemaking as changes to this subsection were limited to clean-up language pertaining to UPA. Cal OES will take no action on this comment.

C-11 Comment

Section 2745.10.5:

Draft: Required RMP Corrections.

Final: Required RMP and PHA Corrections.

C-11 Response

This comment is outside the scope of the current rulemaking. Cal OES will take no action on this comment.

C-12 Comment

Section 2745.10.5:

Draft: The owner or operator of a stationary source for which a RMP was submitted shall correct the RMP as follows: [Subsection (a) and (b) follows].

Final: Add: "(c) Any modifications determined by Cal OES personnel, or as a result of Cal OES review or process revalidation."

C-12 Response

This comment is outside the scope of the current rulemaking. Cal OES will take no action on this comment.

The remainder of Dr. Eng's comment packet consisted of scientific studies unrelated to the rulemaking.

COMMENTER D
Catherine Wright and 4833 others – Members of The Public
Email comments submitted via "KnowWho Services" bulk emailing company, dated September 1, 2016 through September 15, 2016

I encourage you to make the following changes and finalize the strongest rules possible, as quickly as possible:

D-1 Comment

- Implement the changes to the Process Safety Management (PSM) and Accidental Release Program (Cal/ARP) proposals that the United Steelworkers, BlueGreen Alliance, and California Labor Federation submitted to the Standards Board on September 3.

D-1 Response
To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. To that end, Cal OES is a separate entity from the Standards Board and does not possess the proposals submitted on September 3, 2016, to the Standards Board by the above referenced agencies. Cal OES will take no action on this comment.

D-2 Comment

- Implement the recommendation of Communities for a Better Environment regarding public disclosure and the California Environmental Quality Act.

D-2 Response

To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. Cal OES will take no action on this comment.

D-3 Comment
Please do not allow the proposals to be weakened in any way, as they already represent a compromise. It's also critical that these proposals move ahead for adoption as quickly as possible.

D-3 Response

This is a general comment that warrants no substantive response.

COMMENTER E
Rick Hind – Greenpeace
Emailed dated September 12, 2016

E-1 Comment

We are writing in support of the September 3, 2016 recommendations that were submitted in a joint letter to the Board by the BlueGreen Alliance, United Steelworkers and the California Federation of Labor. We urge the Board to:

(A) Implement the changes to the PSM proposal that the USW, BlueGreen Alliance and California Labor Federation submitted to the Standards Board on September 3;
(B) Make these same changes to the Cal/ARP proposal;
(C) Implement the recommendation of Communities for a Better Environment (CBE) regarding public disclosure and the California Environmental Quality Act;
(D) Do not allow the proposals to be weakened in any way-they already represent a compromise; and
(E) Please move the proposals ahead for adoption as quickly as possible.

Many of the changes called for in the joint letter re-invoke language that appeared in previous drafts of the PSM proposal. The Board should move quickly to implement these changes. We are particularly concerned about the finding noted in the letter that, after a three-year open process, the Department of Industrial Relations (DIR) appears to have introduced changes to the proposal that, for the most part, weaken the proposal's regulatory requirements or introduce ambiguities that will undermine both enforcement and the prevention of future disasters.

There is wide recognition that the PSM proposal is long overdue. The Chevron fire endangered the lives of 19 workers and caused some 15,000 people to seek medical attention. The 2015 explosion at the ExxonMobil refinery also narrowly avoided worker fatalities and dispersed tons of spent catalyst dust into the community up to a mile from the facility. These incidents are completely preventable with standard engineering practices. It is the job of the Standards Board to ensure that effective regulations requiring those practices are properly promulgated.

The proposed PSM regulations can also serve as a template for efforts at the Federal level to improve the EPA Risk Management Plan (RMP) regulations and the OSHA Process Safety Management standard, pursuant to the requirements of Executive Order 13650, issued by President Obama to improve chemical facility safety and security. Actions taken in California will have national implications.

As a member of the Coalition to Prevent Chemical Disasters, Greenpeace joined the May 13, 2016 comments 1 on the U.S. Environmental Protection Agency 's (EPA) proposed RMP rule2 . Most promising in EPA's proposed rule is the requirement that certain facilities conduct a Safer Technology and Alternatives Analysis (STAA). Unfortunately the requirement to conduct a STAA is limited to 12 percent of 12,500 RMP facilities and would require none of them to implement safer alternatives even if they are determined to be feasible. Although cost effective

safer alternatives are widely available ,3 voluntary measures have not been adopted at hundreds of high risk facilities. 4

In its May 10, 2016 comments t to the U.S. EPA t he U.S. Chemical Safety and Hazard Investigation Board5 urged the EPA to "adopt more robust requirements regarding the use ofinherently safer systems analysis and the hierarchy of controls . . ." and to "promulgate regulations 'to provide, to the greatest extent practicable, for the prevention and detection of accidental releases of regulated substances ..." The CSB further urged the EPA to require the submission of STAAs to the EPA and to expand the scope of this requirement to include facilities that "could have the largest impact should a release occur .... " Together more than 1,200 Program Level 2 treatment facilities, chemical and petroleum facilities put millions of Americans at risk in the event of a catastrophic release. In addition to workers , low income communities of color are disproportionately at risk.

Refinery safety is at a critical juncture in the U.S. The Standards Board has a once-in-a-generation opportunity to put in place new regulations that could deliver genuinely safer conditions for refinery workers and nearby residents. Please adopt the changes called for in the joint letter and move the proposal forward for adoption as soon as possible.

E-1 Response

See response to Comment D-1 and D-2.

COMMENTER F
Randy Barisof – Member of the Public
Emailed dated September 13, 2016

F-1 Comment

Proposals that need to be enacted.

(A) Implement the changes to the PSM proposal that the USW, BlueGreen Alliance and California Labor Federation submitted jointly to the Standards Boardon September 2;
(B) Make these same changes to the Cal/ARP proposal;
(C) Do not allow the proposals to be weakened in any way—they already represent a compromise; and
(D) Please move the proposals ahead for

F-1 Response

See response to Comments D-1 and D-2.

COMMENTER G
Mike Lee – Member of the Public
Emailed dated September 13, 2016

G-1 Comment

To members of the Cal/OSHA standard board,

My name is Mike Lee, I am the USW Process Safety Representative currently employed at Tesoro Martinez refinery. I am a thirty-five year employee at this location and feel compelled by the events that have taken place in my career within this refinery as well as events in our sister refineries to urge you to implement the changes to the PSM proposal that the USW, BlueGreen Alliance, and the California Labor Federation submitted jointly to the Standards Board on September 2nd. Please do not allow the proposals to be weakened by language that is difficult to enforce or easily manipulated. Please ensure that these same changes are applied to the Cal/ARP proposal; and with these changes move for adoption as quickly as possible.

There are very few times in our careers or lives that we are afforded the opportunity to evoke change and make resolute our commitment each other as humans. What lies before you is such an opportunity; and although the companies effected may not understand or like it's intent, it will save lives. It will save the companies from having to have those terrible conversations with the loved ones of those who have died on the job; it will save the companies millions of dollars in lost revenue due to units not going down because of accidents or incidents; and just as important, it will reconfirm our commitment to each other as humans.

G-1 Response

See response to Comment D-1 and D-2.

COMMENTER H
Catherine Luciano – Member of the Public
Emailed dated September 13, 2016

H-1 Comment

I am writing to address the issues with the CalEPA regulations.

Much time and effort has been put in by many to put together these rules and regulations for refineries. Why waste your time and ours putting them together and then nothing changes? Why put in all this effort without being able to achieve real RESULTS.????

It is clear from the meeting in Wilmington that everyone is concerned with the enforcement of these regulations.

In the past Exxon, now Torrance Refinery (aka PBF) has thumbed their noses up on any attempt to force them to comply with ANYTHING . They rather just pay fines or just totally ignore regulations knowing that nothing and no one can or will make them.

Exxon has been known for poor maintenance at the facility. The tanks have far out lived their suggested life span. PBF has bought it "as is" after only having repairs from the explosion. Clearly it is a ticking time bomb.

In addition, they continue to exceed acceptable emissions of PM 2.5 and PM 10.

Exxon was asked in 1990's to remove the HF and did essentially NOTHING even though their is a safer alternative, sulfuric acid (They just implemented 10% MHF wrongly claiming it is safe. As you are aware, there is little evidence that the supposedly modified HF is any safer than unmodified HF.) And NO ONE did anything to make them remove it.

From an LA TIMES article in the past "The investigation found multiple safety-management problems that led to the incident and endangered the lives of “many community members.” The oversight agency also said that Exxon Mobil has **ignored** or given incomplete responses to **49%** of its subpoena requests." REALLY!!!????

Let's be clear, fines do nothing to make the oil companies comply. Even millions of dollars in fines have no effect on them. Those fines are just a drop in the bucket to them, having no real impact on the company.

The truth is the oil companies are given millions of dollars in tax exemption and incentives from the Federal government, yet when any regulations are enacted they do not like or do not wish to follow, they just DON'T. They know they are pretty much untouchable in any meaningful way.

So, even though they get these perks, they continue to pollute the air and endanger the health of those living miles around their refinery, disregarding regulation at will. WHAT IS WRONG WITH THIS PICTURE????

The CalEPA is supposedly a watchdogs of our health regarding emission and refinery safety. They are funded by public money, BUT, they are wasting their time and the time of concerned citizens putting together this "book" of rules with NO power to shut them down if they do not comply within a reasonable time.

YES, SHUT IT DOWN UNTIL THEY COMPLY. That is what will get results for the better. Specifically, the City of Torrance has to issue them a license or permit to function in our city. So clearly, the easiest recourse is to suspend their license or revoke it until all issues are remedied in the specified time. How simple is that!!! Fines don't work, exposing them doesn't work.
Do your job to protect our well being and do what is necessary to hit them hard.

Yes, gas prices will go up, some workers may be temporarily out of work. But what a small price to pay for our safety and well being.

So, what is worse. higher gas prices and some temporary laid off workers or tens of thousand of residents killed or PERMANENTLY harmed from the MHF. The answer is clearly evident. Who is kidding who with a Shelter in Place Program.? How many people will be in places unable to do that when an accident occurs?? How many lives will CalEPA be responsible for if an accident occurs. The explosion last year at the Torrance location was that" tap on the shoulder" WAKE UP CALL. Next time we may not be so lucky.

What about the aftermath of an earthquake that may fracture the MHF tank or the pipes at the refinery that transport it and release MFH?

What about the safety concerns of the tankers that are delivering the MHF to the facility? Those could be a terrorist target?

What about the possibility of terrorist using the MFH tank at the facility as a target?

What about the possibility that a drone could drop a bomb on the tank and release the MHF,?

What about the possibility of a disgruntled refinery worker sabotaging the facility and purposefully compromising the MHF tank??

The picture should be excruciatingly clear. We have a ticking time BOMB and too many possibilities for release of the MHF.
Do NOT wait until there is a tragedy. Do Not wait until the lives of people harmed are forever on your consciences and lives and families are ruined FOREVER!!!!

H-1 Response

Cal OES thanks the commenter for her concerns, but these comments are general in nature or outside the scope of the Cal ARP program. Cal OES will take no action on these comments.

COMMENTER I
Marwin Reyes – Member of the Public
Emailed dated September 13, 2016

I-1 Comment

My name is Marwin Reyes, I have been employed at Tesoro Martinez for 11 years since 2005. I began working at Tesoro as OHT at the Alkylation Unit . On January 24, 2006 I was involved in an accident at propane tank 618 when an antiquated sewer drain over pressured and relieved to the atmosphere while also erupting backwards through the drain covering me with propane, caustic and acid while I was draining the tank at the water boot.

I was taken to a saftey shower by fast responding co-workers since I was no longer able to see and the closest saftey shower was too far for me to make it to and it was over a pipe way.

I was covered from head to toe which resulted me in being sent to the ICU at Doctor's Medical Center in the Burn Unit in San Pablo.

They attempt to airlift me but the plan was changed to an ambulance due to poor visibilty do to fog. Which in turn resulted to more severe chemical burns to my face, chest, eyes, and scalp. While in the ambulance enroute to the emergency room my eyes were flushed with multiple gallons of saline solution to halt the chemicals from eating at my eyes and reversing the blindness in both eyes. The burns were cleaned to prevent infection which is one of the biggest dangers of burn victims. My scalp hair, eyelashes, eyebrows were burned off immediatley. I recieved second degree chemical burns to my face, nose, chin, eyes and chest. Although I had my ppe on, the area was not a goggle area which would have aided when the accident occured.

I was treated in ICU by being put inside a hyperbaric chamber unit so pure oxygen could get pumped inside my body and cells to accelerate the healing process. After a week long stay in ICU was was treated by 4 different doctors which were at the burn center, a neurologist, medicine and psycologist for the next year and a half. I was able to return to work with the help of these fine doctors after about 16 months. There was also post traumatic stress caused by nightmares of me catching fire and burning alive after being covered in propane and it being ignited.

I had lazer surgey on both eyes optic nerves due to the chemical burns causing the nerves to branch out and this cauing me to be extremely sensitive to light even at night causing me to eat in the dark or with sunglasses on.

When the accident was reviewed, it was noted that there was no procedure to drain tank 618 of water but it was a routine duty.
The open sewer systems used to drain the tank was being fazed out because of saftey concerns of previous backward splashes and in its place was closed system to blowdown or foul water unit but no steps were taken to reduce the hazard.

The area was not deemed a goggle area.

There were no nearby saftey showers or eye wash stations despite the regular draining of acid and caustic to the sewer.

The drain off the tank itself was a 1/4 inch tubing that was not adequate and needed a larger drain to prevent pressure from forming for the amount of water being drained.

There were no alarms on the vessel to indicate water boot levels.

Water levels were being drained for unusual and extended periods of time which indicated a process abnormality and warnings about drain time and water levels to personell that were incharge of the project were ignored.

I believe that if the warning were not over looked, this would have had a different outcome, this is why I am for the implementation of the proposal submitted by the USW, Blue Green Alliance and the Ca Labor federation on September 2nd 2016 to bring about a more comprehensive Process Safety Management System which in turn will create a higher functioning safety culture in the Refining Industry in CA it is needed to avoid something like this from happening in the future.

If one worker can be saved from an event like this, then it is worth doing.

I-1 Response

To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. With respect to the balance of the comments, Cal OES thanks the commenter for his concerns and comments. However, these comments are general in nature or outside the scope of the Cal ARP program. Cal OES will take no action on these comments.

COMMENTER J
Michael Dossey – Contra Costa County
Emailed dated September 14, 2016

J-1 Comment

Section 2735.3(aa)

IPL definition is focused on being independent, which is a necessity, although it is missing another equally important emphasis that an IPL must be designed and maintained as an IPL. If "designed and maintained" is not part of the definition, some facilities may elect to call a safeguard an IPL even though it was not designed as one or maintained. Various industry books include the "designed and maintained" wording as part of the definition of an IPL (*Guidelines for Initiating Events and Independent Protection Layers in Layer of Protection Analysis*, CCPS, 2015; *Risk Based Process Safety*, CCPS, 2007a)

J-1 Response

Cal OES agrees that an IPL must be appropriately designed and maintained in order to be effective as a safeguard. However, we believe that requirements to appropriately design and maintain IPLs are present in other sections of the regulation, including those on Safeguard Protection Analysis and Mechanical Integrity. The addition of "designed and maintained" to the proposed definition would not ascribe a more precise or more stringent meaning. Cal OES will take no action on this comment.

J-2 Comment

Section 2735.3(kk)

"Mitigation or mitigation system" means specific activities, technologies, or equipment designed or deployed to capture or control substances upon loss of containment to minimize exposure ~~of~~ to the public or the environment.

J-2 Response

This comment is outside the scope of the current rulemaking as changes to this subsection were limited only to the renumbering of the definition of "Mitigation or mitigation system." Cal OES will take no action on this comment.

J-3 Comment

Section 2735.3(ww)

Starting here in this "process" definition, the draft regulations point out that Programs 1, 2 and 3 apply to a covered process; whereas Program 4 applies to the entire stationary source. The entire regulation was built around covered processes and not around the stationary source. This nuance might not be fully recognized.

J-3 Response

Regulatory changes have been made to address this comment. The term "process" is specifically defined for the purposes of Program 4 in Section 2735.3(yy).

J-4 Comment

Section 2735.3(fff)

The wording "qualified operator" also appears in Section 2760.3 (Program 3). This Program 3 operator should not be subject to the Program 4 training program of Section 2762.4.

J-4 Response

Regulatory changes have been made to address this comment. The proposed regulatory language is amended to clarify that the definition applies only to Article 6.5.

J-5 Comment

Section 2735.3(iii)

Limiting the definition of RAGAGEP to only public sources of information is misguided. By defining RAGAGEP here, it impacts all program levels, including Program 3 PSI [e.g., 2760.1(d)(2)] and MI [e.g., 2760.5(d)(2)]. So for those Program 3 stationary sources that are not petroleum refineries, they can no longer use their own standards to satisfy RAGAGEP. For smaller facilities this may have merit, but not for many large companies. Many large companies, and even some small, strive to develop world-class safety programs that develop their own standards that are required to be used internally and are not shared. In some cases, these internal standards greatly exceed conformance standards or other more publically available sources. Limiting RAGAGEP wording to what is publically available begs the question, would a regulator tell a facility to stop using their own potentially superior internal standards and potentially lower their bar to use something that is publically available? How would a regulator know which standard or RAGAGEP is superior? Another viewpoint is since the typical regulator is not an expert in RAGAGEP for any process much less all the processes subject to the CalARP Rule, what relevance does the regulator have in saying which RAGAGEP must be followed?

J-5 Response

The proposed regulatory language is amended to clarify that the definition of "RAGAGEP" applies only to Article 6.5. Further, the regulation authorizes the owner or operator to develop internal practices that more protective than RAGAGEP definition set forth in section 2753.3(jjj). Accordingly, should an owner or operator desire to implement more protective measures, it may do so. A regulator who is not an expert in RAGAGEP should ask the owner or operator for evidence to support a conclusion that the internal standards are, in fact, superior to RAGAGEP.

J-6 Comment

Section 2735.3(rrr)

Unclear of the intent of this definition in terms of temporary piping. Does it cover "temporary piping" or "temporary piping repair"? Temporary piping can be used associated with MOCs for Program 3 processes to install new equipment on a line without shutting down the existing process. In this case, there is no repair involved with the existing piping and no repair of an active leak. Even though the work involves temporary piping, it conflicts with this definition. If the regulation wants to specifically address piping

repair or equipment repair associated with an actual or potential leak, the definition should specifically state piping repair and/or equipment repair.

J-6 Response

Section 2735.3(rrr) has been amended. The revised regulation contains a more clear and precise definition of "Temporary pipe or equipment repair." This term only appears in Article 6.5 and therefore only applies to Program 4 repairs.

J-7 Comment

Section 2745.7(a)

Poor wording used. The regulation should refer to PHA or PHA revalidation. There should be no use of PHA update. Revalidation is defined, whereas, update is not.

J-7 Response

This comment is outside the scope of the current rulemaking. Cal OES will take no action on this comment.

J-8 Comment

Section 2745.7.5(a)

Program 4 has been defined not to be at the process level [§2735.3(ww)] although the second sentence here says it is. If Program 4 applies to the stationary source, then it is inaccurate to state "more than one Program 4 process".

J-8 Response

Regulatory changes have been made to address this comment. The term "process" for the purposes of Article 6.5 has been defined in subsection (xx) of section 2735.3.

J-9 Comment

Section 2745.7.5(a)

Why only sections (b) through (v)? What about (w)?

J-9 Response

Regulatory changes have been made to address this comment.

J-10 Comment

Section 2745.7.5(e)

Poor wording used. The regulation should refer to PHA or PHA revalidation. There should be no use of PHA update. Revalidation is defined, whereas, update is not.

J-10 Response

Regulatory changes have been made to address this comment.

J-11 Comment

Section 2745.7.5(i)

Some refineries perform hundreds of MOCs per year. Asking for the date of the most recent MOC in the RMP is absolutely worthless. Suggest that be deleted. Asking for the date when the MOC procedures were reviewed has merit.

J-11 Response

Regulatory changes have been made to address this comment.

J-12 Comment

Section 2745.7.5(j)

Refineries perform hundreds of PSSRs per year. Asking for the date of the most recent PSSR in the RMP is absolutely worthless and should be deleted. Asking for the date when the PSSR program was reviewed has merit.

J-12 Response

Cal OES believes the current regulatory language is appropriate. Cal OES will take no action on this comment.

J-13 Comment

Section 2745.7.5(v)(2)

DMRs need to be performed at the process level to fully understand the issues for that process. Each damage mechanism identified is equally important for the reliability of each process. The word “major” should be deleted as it implies a lack of knowledge of DMR and incorrectly implies that the only important damage mechanisms are those that garner newspaper headlines or CSB investigations.

J-13 Response

The intent of this section is to require the refineries to identify the most potentially significant damage mechanisms relevant to each process as part of their DMR. While the owner or operator should evaluate all damage mechanisms, listing all conceivable damage mechanisms in the report would be unnecessarily burdensome. Cal OES will take no action on this comment.

J-14 Comment

Section 2745.7.5(w)(1)

Wrong citation listed. Program 4 PHA external event section is 2762.2(c)(10).

J-14 Response

Regulatory changes have been made to address this comment.

J-15 Comment

Section 2745.8(d)

"Regulated Sources"? The regulation should consistently use "Program 4 stationary sources"

J-15 Response

Regulatory changes have been made to address this comment.

J-16 Comment

Section 2750.1

The last sentence in this paragraph is written improperly: "The owner or operator of a Program 2 or 3 process or Program 4 stationary source shall comply with all sections in this article for these processes." The wording "for these processes" should be deleted or modified to reflect Programs 2 & 3 relate to processes and Program 4 relates to the stationary source.

J-16 Response

Regulatory changes have been made to address this comment. There is a particularized definition of "process" for the purposes of Article 6.5 in section 2735.3(xx).

J-17 Comment

Section 2762.1(c)(6)

Clarification might be necessary on the wording "operating limits." Refineries use a variety of operating limits although for this section of the regulation, it may be best to ask for "safe" operating limits – these are typically the not to exceed limits that should be tied into PHA and DMR conditions.

J-17 Response

The object of subdivision (d) (in the modified proposed regulations) is to specify the information that should be gathered regarding process equipment. There are different operating limits for different purposes. For instance, there are reliability operating limits, safe operating limits, and environmental operating limits. Adding the term "safe" to the proposed regulatory language would restrict the type of information collected. Cal OES will take no action on this comment.

J-18 Comment

Section 2762.1(c)(9)

Electrical supply is only one aspect of utility systems (e.g., power, steam, air, nitrogen). It would be more comprehensive to simply list "Utility Systems".

J-18 Response

The electrical supply and distribution system proposed language is narrowly drafted to gather information pertaining to ignition sources. Cal OES will take no action on this comment.

J-19 Comment

Section 2762.2(a)

This section attempts to correct an error missing from Program 2 and 3 requirements by requiring that a PHA be performed for all modes of operation of a process. The draft regulations reference the types of operating procedures as the source for all of these modes although is missing one dominant mode, and that is on-line maintenance. It is suggested the sentence be restructured to say something like: "Each PHA shall cover all modes of operation, including on-line maintenance as well as operational phases set forth in subsection 2762.3(a)(1)."

J-19 Response

The phrase "including on-line maintenance" is unnecessary to effectuate the purpose of the proposed regulatory language. Section 2762.2(a) requires "All modes of operation as set forth in subsection 2762.3(a)(1) shall be covered by the PHA." Section 2762.3(a)(1)(C) includes "temporary operations as the need arises." Consequently, the regulatory language encompasses "on-line maintenance." Cal OES will take no action on this comment.

J-20 Comment

Section 2762.2(c)

This section should be made more clear that both PHA and PHA revalidations need to address all items listed in the subsection.

J-20 Response

In order to completely conduct a PHA revalidation, the underlying PHA must have met the requirements listed in subsection (c) of section 2762.2. Cal OES will take no action on this comment.

J-21 Comment

Section 2762.2(c)(3)

Last word "units" should be singular "unit".

J-21 Response

There is no distinction between the terms "unit" and "units" for purposes of this subsection. Cal OES will take no action on this comment.

J-22 Comment

Section 2762.2(c)(4)

Last part of the sentence should read "…that are applicable to the process units;"

J-22 Response

Regulatory changes have been made to address this comment.

J-23 Comment

Section 2762.2.1(d)

Suggest the following clarification, "The owner or operator shall complete all SPAs for a process within six (6) months of completion of the PHA for the process."

J-23 Response

Regulatory changes have been made to address the concerns raised by this comment. While the revisions do not explicitly conform to the commenter's suggestion, Cal OES believes they address the concerns of the commenter.

J-24 Comment

Section 2762.2.1(e)

Team requirements are too vague and similar to those for PHA teams. Team members performing SPAs should be considered "subject matter experts" to effectively verify the adequacy of the safeguards evaluated.

J-24 Response

Section 2762.2.1(e) presently requires that the team members possess expertise in engineering and process operations and instructs that the team members consult with individuals with expertise in damage mechanisms, process chemistry, or an engineer specializing in controls systems and instrumentation. The requirements are similar to those for PHA team members and in some cases the stationary source may choose to use essentially the same team for the PHA and the SPA, with the addition of an SPA expert for the SPA component of the work. Cal OES will take no action on this comment.

J-25 Comment

Section 2762.3(a)(3)(B)

Including passive, active and procedural safeguards within the operating procedures is redundant with asking for safety systems.

J-25 Response

Cal OES believes that including passive, active and procedural safeguards in the regulatory language is appropriate. The proposed regulatory language clearly illustrates the safety and health considerations to

be considered when developing and implementing effective operating procedures. Cal OES will take no action on this comment.

J-26 Comment

Section 2762.4(c)

By requiring "signature(s) of the person administering the training", the regulation is essentially restricting the use of computer based training (CBT). While for some types of training CBTs are not the best method, there are activities where the method can be effectively used (e.g., safe work practices, simulators for board operators) and should still be allowed.

J-26 Response

By including the requirement that the training certification record include the "signature(s) of the person administering the training," Cal OES does not intend to restrict the use of restricting the use of appropriate computer based training (CBT). Where applicable, the CBT completion certificate, or an electronic signature, shall satisfy this requirement. Cal OES will take no action on this comment.

J-27 Comment

Section 2762.4(e)

The paragraph is centered on training affected employees on Program 4 elements. Typically, this is assumed to be front line personnel and not engineers or levels of management. Program 4 training should be required for all.

J-27 Response

The proposed regulatory language mandates that *all affected employees* receive training on Program 4 elements. This language is intended to encompass engineers and most supervisors. Cal OES will take no action on this comment.

J-28 Comment

Section 2762.5(b)(1)

RAGAGEP again. This statement and the definition of RAGAGEP implies that the regulator, who is not an expert on the subject matter, may be involved with deciding what is and what is not RAGAGEP if a facility uses their own internal standards instead of those that are publically available. This could result in inconsistent RAGAGEP interpretation.

J-28 Response

Section 2762.5 ensures that owners or operator conduct internal inspections that conform to RAGAGEP or are more protective than RAGAGEP as it is defined in subsection (iii) of section 2735.3. If the owner or operator chooses to use their own internal standards, (s)he must retain records that demonstrate that their internal inspections exceed external standards. This section does not pertain to inspections conducted by outside regulators. Cal OES will take no action on this comment.

J-29 Comment

Section 2762.5(d)(1)

Quality assurance is only applicable for new equipment not yet placed in service although that is not stated. Suggest the word “new” be inserted in the first and second sentences before the phrase “process equipment”.

J-29 Response

Adding the word “new” would alter the intended meaning of the regulatory language as this subsection is intended to apply to all process equipment. Cal OES will take no action on this comment.

J-30 Comment

Section 2762.5(e)(2)

The term “revalidation” is defined in §2735.2(mmm), which only describes it in terms of PHA or hazard review terms. A DMR revalidation looks at different items than specified in §2735.2(mmm) and should be performed by different personnel than a typical PHA/HR. Suggest §2762.5(e)(2) be revised to, “At least every five (5) years a DMR shall be reviewed and updated to adhere with this subsection.”

J-30 Response

Regulatory changes have been made to address this comment.

J-31 Comment

Section 2762.5(e)(3)

Second sentence should be clarified in the following ways: 1) the word “will” should be changed to “may”; 2) should clarify the change could introduce a “new” damage mechanism; 3), remove the end quotes at the end of the sentence.

There should be a new paragraph starting with the “(3) As part of an incident …” after the second sentence. This new paragraph should be listed as §2762.5(e)(4) and the remaining DMR subsections renumbered.

J-31 Response

Regulatory changes have been made to address this comment.

J-32 Comment

Section 2762.5(e)(6)(B)

Wrong citation “(f)(7)”. Likely should be “(e)(7)”.

J-32 Response

Regulatory changes have been made to address this comment.

J-33 Comment

Section 2762.5(e)(9)(C)

Wrong citation "(f)(7)". Likely should be "(e)(7)".

J-33 Response

Regulatory changes have been made to address this comment.

J-34 Comment

Section 2762.6(a)

End of the first sentence used the word "or", which should be replaced by "and". The MOC process needs to be used for all of these types of changes and sometimes more than one of them apply.

J-34 Response

Regulatory changes have been made to address this comment.

J-35 Comment

Section 2762.6(c)

Second sentence. It makes no sense to include the "findings from the DMR" and "recommendations from the HCA". The same wording should be used for both. Suggest the "The findings and recommendations from the DMR and HCA shall be included in the MOC documentation."

J-35 Response

The proposed regulatory language purposely distinguishes between "findings from the DMR" and "recommendations from the HCA." The DMR contains findings but not recommendations. The HCA contains recommendations but not findings. Cal OES will take no action on this comment.

J-36 Comment

Section 2762.6(b)(3)

If the PSSR is required to verify that "safety, operating, maintenance, and emergency procedures are in place", why is it that the MOC does not list "safety" and "emergency" procedures? Since no work on these procedures is to be done during the PSSR phase, changes to any of these types of procedures must then be done in the MOC process. This section of the MOC should then list all four types of procedures.

J-36 Response

It is unnecessary to include all four types of procedures in this subsection. Safety and emergency procedures are integral parts of the operating and maintenance procedures and are therefore encompassed by the current language. Cal OES will take no action on this comment.

J-37 Comment

Section 2762.6(f)

First sentence does not stipulate employees involved in the "operation" of the process. If "operation" is not added, MOC training would apply to all employees at the facility that are involved with the process (e.g., process engineers, unit engineers, layers of management).

J-37 Response

The proposed regulatory language requires employees "involved in the process" to be trained in the change. This language reflects the regulatory intent. Cal OES will take no action on this comment.

J-38 Comment

Section 2762.6(i)

This is almost a repeat of what is stated in §2762.6(a), and if so why is it listed twice?

J-38 Response

Section 2762.6(a) is an overview of the section. Cal OES will take no action on this comment.

J-39 Comment

Section 2762.6(k)

Typo "includea".

J-39 Response

Regulatory changes have been made that render this comment moot.

J-40 Comment

Section 2762.6(k)(1)

Missing. Subsections incorrectly start at (2).

J-40 Response

Regulatory changes have been made that render this comment moot.

J-41 Comment

Section 2762.7(b)(5)

This section specifically requires that operating and maintenance employees be trained; whereas, MOC Section 2762.6(f) does not include the phrase "operating employee". As commented previously under MOC, perhaps this was an oversight. If not, the PSSR wording needs to be consistent.

J-41 Response

Regulatory changes have been made that render this comment moot.

J-42 Comment

Section 2762.8(a)

The last portion of the sentence changes the meaning from what is currently required under Program 3. The phrase “are in compliance with the provisions of this Article” is materially different than saying “are adequate”. The proposed wording lowers the bar to only look at whether they meet the regulatory requirements. The previous Program 3 wording allows facilities as well as regulators to review compliance audits as a tool to verify the facility is following all of their programs as well as do they comply with the regulations. Some of the facilities in Contra Costa County have CalARP/Industrial Safety Programs that exceed select portions of the regulatory requirements. Their past compliance audits are performed to verify their programs are adequate in addition to whether they meet regulatory requirements. For a facility to have good process safety means they must have continuous improvement in all areas. This proposed Program 4 language backpedals on continuous improvement and should be revised.

J-42 Response

The proposed regulatory language requiring that procedures and practices are “in compliance with the provisions of this article” ensures that the requirements pertaining to compliance audits are followed. It provides an objective standard for both the local regulator and person designated in 2762.8(b) to conduct the audit. Cal OES will take no action on this comment.

J-43 Comment

Section 2762.8(c)

Excellent wording choices. Do not change a thing.

J-43 Response

This is a general comment requiring no response.

J-44 Comment

Section 2762.9(i)(3)

Additional information should be included within investigation reports. There is no reason why an investigation report from a Program 3 process should contain more information than a Program 4. As listed in Program 3, §2760.9(d)(2), the following should be added, “including all of the data required under 2750.9(b)”.

J-44 Response

Regulatory changes have been made to address this comment.

J-45 Comment

Section 2762.10(a)(1)

Need to add "Human Factors Program" to this list (referenced in §2762.15(g)).

J-45 Response

Section 2762.10 ensures employees are permitted to participate in the various safety assessments and analyses. The Human Factors Program assessments are performed in conjunction with PHAs, HCAs, and MOOCs, which are listed in 2762.10(a)(1). Separately listing the Human Factors Program would be redundant. Cal OES will take no action on this comment.

J-46 Comment

Section 2762.13(b)(4)

HCA reports should be retained onsite only and made available for review by the UPA. Over the last 16 years I have seen a variety of similar reports and can confirm that humans have the tendency for Monday night quarterbacking. Providing these reports to the public could result in a number of people criticizing why a certain option was used or not used or mentioned. There are a number of factors that are discussed in one of these analyses and no report, regardless of how detailed, will document all of these and the risks being discussed. This is especially true for a report that will be shared with the public as this type of report will likely not include many of the design criteria they are using since some would most likely be business sensitive. Also, just because one facility determined that option A was the safer option, there can be no guarantee that another facility will use that option because the criteria they are working with will be different, and in some cases that option would be absolute wrong and less safe than another option. The criteria and risks that need to be evaluated during a HCA is complicated and unique for the equipment or process being evaluated and the choices are not black and white. Consider an example of a house on a flood plain being raised up on stilts to minimize the impacts from being flooded. That may be safer to minimize damage to the house from flooding, but what if the occupants are very elderly and cannot do stairs well. Is this design now safer for the occupants? There is nothing wrong with facilities selecting different designs because the methods used to get to the final design is equally, if not more so, important. If a facility has a strong HCA process, the end design will likely be sound.

J-46 Response

The authorizing statute mandates a transparent process for the RMP procedure and each of its components, including the HCA. Cal OES understands that the HCAs are likely to be numerous, voluminous, and highly technical in nature; they are likely to require extensive redaction to preserve confidential business information making them difficult for the public to understand and interpret. In addition, there is some potential that the knowledge that these documents will become public could constrain the full range of options considered by the HCA team as they perform their analysis. Consequently, the proposed regulatory language limits public posting of HCAs to reports prepared during the design and review of new processes, new process units, and new facilities, and their related process equipment and contains appropriate protections for trade secret information. This approach balances the need for transparency with the concerns raised by the commenter. Cal OES will take no action on this comment.

J-47 Comment

Section 2762.13(c)

This line needs a qualifier. What you want is HCAs for all "existing" processes to be revalidated every 5 years. If a MOC or Incident Investigation or PHA item triggered an HCA, either the equipment will be installed or it won't. If it wasn't installed, there is no need for another HCA. If it was installed, it is now part of the existing processes that will have an HCA every 5 years.

J-47 Response

Section 2762.13(c) mandates that HCAs are updated when performing a PHA. The PHA schedule already assumes that this is an existing process. The addition of the qualifier "existing" to this subsection would be redundant. Cal OES will take no action on this comment.

J-48 Comment

Section 2762.13(d)

This is roughly the same wording as a PHA team, which is inappropriate to perform an HCA. During an HCA, team members are asked to provide design options that could be safer and then to fully evaluate each. Most PHAs are performed with a process engineer with a minimum of 3 to 5 years of experience. Although these individuals may produce great results in an HCA, they are more likely to miss certain key items simply because they do not yet have that exposure or experience with new technology and the like. For HCAs, all parties (engineering and operators) should be subject matter experts in their field. Consider this as a poor analogy, one could eat fast food or three-star Michelin Star cuisine or anywhere in between. All should satisfy your nutritional needs. What type of quality would you prefer in an HCA for the safety of employees, public and environment?

J-48 Response

The comment does not suggest how to improve the regulatory language to ensure that the team possesses the "subject matter" expertise needed to adequately perform the HCA. The proposed regulatory language ensures that HCAs are performed by a team possessing the requisite knowledge to adequately perform the HCA and mandates that, as necessary, the team consults with individuals with specialized knowledge in damage mechanisms, process chemistry, and control systems. Cal OES expects that, in order to fulfill the regulatory requirement to perform an effective HCA, the owner or operator will put appropriate effort into selecting a highly qualified team. Cal OES will take no action on this comment.

J-49 Comment

Section 2762.13(e)(3)

Need a qualifier since no HCA can evaluate "all" inherent safety measures. Suggest "all relevant" or similar be used.

J-49 Response

The second portion of Subsection (e)(3) of section 2762.13 specifically defines the information that shall be identified and analyzed in the final sentence of the subsection. "This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining

industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report." The qualifier "all relevant" is, therefore, unnecessary. Cal OES will take no action on this comment.

J-50 Comment

Section 2762.14

Why is this called "Process Safety Culture Assessment"? I can understand that some people may believe that by adding the word "process" in front of SCA that all will be clear and focus everyone's attention on improving process safety. I believe this will only make it more confusing for facilities and regulators alike. Improving the culture at a facility will improve many aspects of the organization, including process safety. The proposed PSC definition [§2735.3(aaa)] is the same definition used for safety culture. If the literature calls it safety culture, why is the regulation calling it process safety culture? Companies that offer their services at performing safety culture assessments call it just that; they do not call it process safety culture assessments. So a refinery in California that hires a third-party to assist them with this requirement will pay for a SCA and tell the regulators they performed a PSCA. Makes no sense.

J-50 Response

This is a general statement requiring no response.

J-51 Comment

Section 2762.14(b)

Limiting a PSCA to only the items listed 1-5 in this section misses many aspects of a safety culture assessment. Safety culture is a complicated area to explore and understand. Obvious areas that are missing from this list include: accountability for all levels of the workforce – includes management, staff, engineers, operators, maintenance, contractors, etc.; following procedures; reporting and repairing of equipment; safety concerns communicated and resolved; trust; communication.

J-51 Response

Cal OES agrees that all the issues listed by the commenter are important and appropriate to include in a PSCA. The requirement in (5) to evaluate "Management commitment and leadership" is intended to incorporate many of the issues raised in this comment, including assessment of accountability, trust, and communication between employees and management. Subsections (1) and (2) require assessment of issues related to reporting and addressing equipment and safety concerns. The owner or operator must assemble a team to conduct the PSCA, and that team may include additional areas of assessment as appropriate to the stationary source. Cal OES will take no action on this comment.

J-52 Comment

Section 2762.14(e)

While some recommendations may truly take 24 months to implement, some would not and some facilities may take the maximum amount of time anyway. It is suggested that facilities be required to implement the corrective actions as soon as practicable and no later than 12 months after the report. Suggest language also be added that the facility can work with the UPA to develop an alternate time table

similar to the PHA wording. In addition, §2762.14(f) requires they take a look at how their recommendations are working at the 3-yr mark, or only 1-yr after implementing these recommendations. Some recommendations that result from a SCA take years to achieve results so assessing them only after 12 months may not be enough time to see any measurable difference.

J-52 Response

Cal OES weighed enforcement considerations with industry practicalities and determined that a twenty-four (24) month corrective action completion deadline and a three (3) year interim assessment were appropriate timeframes. Cal OES will take no action on this comment.

J-53 Comment

Section 2762.14(f)

Last sentence needs a time frame for implementation. Suggest implement changes within 6 months unless an alternate time table is agreed upon with the UPA.

J-53 Response

Regulatory changes have been made to address this comment.

J-54 Comment

Section 2762.14(h)

Should add any additional recommendations and changes associated with the interim assessment.

J-54 Response

Cal OES is unsure what the commenter is suggesting. To the extent the commenter is suggesting that recommendations and changes associated with the interim assessment are communicated to employees, Cal OES believes the current regulatory language achieves that result. Cal OES will take no action on this comment.

J-55 Comment

Section 2762.15(c)

Suggest semi-colons be used to separate appropriate items. The following phrase seems to want to remain linked together, “employee fatigue, including contractor employees, and other effects of shiftwork and overtime”. Various interpretations will result if these items are not grouped appropriately and commas cannot do that.

J-55 Response

Cal OES believes the current grammatical layout of the regulatory language is appropriate. Cal OES will take no action on this comment.

J-56 Comment

Section 2762.15(d)

Both new and "revised" operating and maintenance procedures need to have HF evaluation.

J-56 Response

Regulatory changes have been made to address this comment.

J-57 Comment

Section 2762.15(f)

Managers (including senior management), supervisors, engineers, trainers, inspectors should all be trained in human factors. Might be easier to say "all employees".

J-57 Response

The proposed regulatory language reflects the commenter's intent. The proposed revision would create unnecessary training requirements for employees without process and process equipment responsibilities such as clerical and janitorial employees. Cal OES will take no action on this comment.

J-58 Comment

Section 2762.16(e)(8)

Similar to a comment made above. Revalidation is defined in the CalARP regulations as something for PHAs, not for all of the studies listed here.

J-58 Response

Regulatory changes have been made to address this comment.

J-59 Comment

Section 2762.16(e)(9)

Seems odd to require a MOC to revise a due date. If this is an issue, perhaps it should be included as a Process Safety Performance Indicator and posted online for the public.

J-59 Response

The regulatory language requires an owner or operator to conduct a MOC in order to revise a completion date to ensure completion of all corrective actions. This also provides UPAs the discretion and flexibility to grant these extensions where justified. Cal OES will take no action on this comment.

J-60 Comment

Section 2762.16(g)

Should be modified to include: “enable employees, including employees of contractors”.

J-60 Response

Section 2762.16(g) merely prescribes a deadline for the development of the system described in Section 2762.16(f). Subsections 2762.16(f)(1) and (2) explicitly include employees of contractors in the stop work procedures and reporting procedures. Including “employees of contractors” in this provision is unnecessary. Cal OES will take no action on this comment.

J-61 Comment

Section 2762.16(h)(1)(A)(i)

Relief devices should be included.

J-61 Response

The process safety indicators are not intended to include a comprehensive list of devices. Instead, they are intended to capture a consistent metric that will be reported annually by all Program 4 stationary sources across California for the purpose of evaluating process safety performance. Although relief devices could be included in such a metric, the inclusion or exclusion of any particular category of devices from the indicator does not in any way imply that the stationary source is relieved of the obligation to appropriately inspect and maintain these devices. Cal OES will take no action on this comment.

J-62 Comment

Section 2762.16(h)(1)(A)(ii)

CML is commonly referred to in literature as “condition monitoring location”.

J-62 Response

Regulatory changes have been made to address this comment.

J-63 Comment

Section 2762.16(h)(1)(E)

The phrase, “that are past their date of replacement with a permanent repair” is not likely to give the results you want. Refineries place clamps on pipes to stop leaks so they can continue operating until they reach a point where they can remove them. Facilities typically do not keep a date for when that removal must take place, just that it needs to be addressed when an opportunity comes up. You are likely not going to get much out of this unless you require that every clamp or repair seal placed on equipment includes a permanent removal date.

J-63 Response

The concerns illustrated by this comment are addressed by definitional revisions to "temporary piping and equipment repair" in Section 2735.3(rrr). Further, the MOC procedures explicitly require documentation of "the time period required for the change." See Section 2762.6(b)(4). Cal OES will take no action on this comment.

J-64 Comment

Section 2762.16(h)(1)(F)

Disagree that an additional 30 days is allowed for all action item due dates. Depending on the issues at hand, a month beyond the target date may be fine or completely out of line. For example, would your tax returns be held in good standing if you paid them at the end of April of each year? So what you are essentially suggesting is that facilities list their target due dates at the beginning of the month with the expectation that it gets completed by the end of the month. That is sloppy management. So based on §2762.16(e)(9), facilities don't need to worry about doing any MOCs unless they are over a month off their target date. Now, if a facility plans for this, and shortens their due date to account for this sloppy practice then that could work. For example, if a relief valve is coming due for its 5-year replacement and the facility targets that replacement with a due date that corresponds to 4 years 11 months, then I am fine with this requirement. Otherwise, if the relief valve is replaced beyond the five year mark, I would consider that unacceptable and writhe them up regardless if their performance indicator does not say it is overdue.

J-64 Response

The process safety performance indicators are not collected for purposes of compliance with regulatory requirements under other sections of Article 6.5. Instead, the indicators in this section are collected for purposes of tracking performance of all Program 4 stationary sources in California. For this reason, a clear and consistent definition of "past due" is necessary. This performance indicator definition of "past due" emphatically does not relieve the stationary source of their obligations under other sections to complete all actions promptly either prior to or on their due date. In the example above, if the relief valve were replaced several weeks beyond the five year mark, it would potentially be a violation of other sections of Article 6.5 even if it is not reported in the performance indicator as a past due item. Cal OES will take no action on this comment.

J-65 Comment

Section 2775.2.5

In case a contractor is hired to perform these, suggest the wording change to "may perform or cause to be performed".

J-65 Response

The proposed change is redundant because contracting is implied where the UPA has contracting authority under state law. Cal OES will take no action on this comment.

J-66 Comment

Section 2775.7

Such a training program could be problematic for rural areas of California with facilities subject to CalARP requirements. There are no dates for compliance listed in section §2775.7(a). This is probably because the training criteria has not been developed yet nor is there clear understanding of how long it will take to develop the criteria and then do the training. While I am fine with that, one would have to interpret that the two year period specified in §2775.7(b) would start the day the regulation becomes effective. As such, there is likely little hope all regulators in the state would be in compliance with this section. Therefore, additional language should be added to identify that refresher training needs to occur within two years of completion of initial or refresher training.

J-66 Response

Regulatory changes have been made that render this comment moot.

COMMENTER K
Sally Hayati, Ph.D – Torrance Refinery Action Alliance (TRAA)
Emailed dated September 14, 2016

K-1 Comment

Inherently Safer Technology Should be Mandated not Simply Encouraged

CalARP's Program 4 program emphasizes the need for inherently safer design. Modified hydrofluoric acid (MHF) is the poster child for that cause. Out of all California refinery risks, MHF poses the greatest disaster potential for a single accident. Mass casualties and property and business losses of hundreds of millions of dollars could occur. Program 4 regulations should be amended to require the elimination of MHF/HF within 3 years or less, to be replaced with an alternate catalyst of the refineries' choice. Acceptable alternatives include sulfuric acid and solid acid catalyst. Inherently safer alkylation catalyst technology must be mandated for existing refineries, not simply recommended or required only if significant upgrades are performed. This is an unnecessary risk. Eighty-five percent of California alkylation units use sulfuric acid instead; only the Torrance and Valero, Wilmington refineries use MHF or HF.

There is no mention of MHF in the new regulations, and during the last community workshop by Cal EPA workshop on the new regulations, TRAA was told that MHF could not be discussed. This is a systemic problem in government's industrial oversight. As the RAND Corporation pointed out in 2013, California's model of work safety regulation puts more "emphasis on investigating serious accidents that have occurred and less on planned inspections… this model is poorly suited to ensure safety at very complex facilities… characterized by risks that have low frequency but very high disaster potential."[1] This was not changed by the new regulations.

The community has been lied to, misled by refinery and government into believing HF dangers were eliminated at the Torrance refinery in 1997. In reality, MHF is 90% HF and, according to the internationally renowned HF expert Dr. Ron Koopman, is nearly identical in tendency to form a toxic cloud capable of drifting for miles into the surrounding community. Inherently safer catalyst technology must be required and MHF must be eliminated. This is the feedback we and other groups gave Cal EPA in 2015, but our voices were not heard. Are we to wait until an accident happens and people die before government will agree to ban this proprietary fraud?

According to the Chemical Safety Board, the February 18, 2015 explosion at the Torrance refinery was a near miss on a tank with 50,000 lb. of MHF at a temperature of ~105ºF. MHF's boiling point is 73ºF. The HF cloud that would have formed from that release would be large enough to cause death and serious and irreversible injuries up to 10 miles from the refinery. Refinery accidents are not the only threat. The South Bay could experience magnitude 6.5 or greater earthquakes from several local thrust faults in addition to strike-slip faults connected to the San Andreas. The Wilmington-Torrance fault alone might be capable of causing MHF releases at both refineries simultaneously. MHF is a Department of Homeland Security designated Chemical of Interest for terrorist use. Nearly 1,000,000 lb. of MHF is now nestled in the federally designated high-threat, high-density urban area of LA-Long Beach. DHS has

identified our area as one of the seven highest risk urban areas in the country for a terrorist attack.

"The proposed regulations require the establishment of several programs that *drive* refiners to analyze and implement processes and select materials that offer the highest levels of risk reduction. …innovation is incentivized"[2] What does "drive" mean in this context? Apparently it does not mean "require." Without mandates, inherently safer materials and processes will not be adopted. This should not solely be triggered by upgrades or new developments, but by the need for enhanced safety.

Implementation and Enforcement of CalARP Programs Needs Improvement

The CalARP program goals are prevention of accidental releases that can cause serious harm to the public and the environment, minimizing the damage if releases do occur, and satisfying community right-to-know laws. These are implemented at the local level by Unified Program Agencies (UPAs). The City of Torrance Fire Department (TFD) acts in this capacity for the CalARP program in Torrance. Local UPA's like the City of Los Angeles Fire Department and participatory agencies like TFD are not equipped to manage the CalARP program and review the RMP for a proprietary compound such as modified hydrofluoric acid (MHF). The Torrance refinery has 250,000 lb. and the Valero in Wilmington has more than twice that much MHF onsite.

The unified command approach between TFD and the refinery has increased TFD deference to the refinery and respect for its authority. As a UC Berkeley study done for Cal EPA's Interagency Working Group on Refinery Safety pointed out, "there is an inherent conflict between refinery personnel, who are accountable to the corporation, and public fire officials, who are accountable to the public." This distinction has been blurred in favor of the refinery and to the detriment of public safety. Since ground-hugging HF clouds can travel 10 miles or more at very toxic levels, this is a regional problem, not just a Torrance problem. Cal ARP should give immediate state level attention to the MHF problem.
Local UPA's like TFD are not equipped to understand, manage, and review the RMP of a proprietary compound with a questionable history like MHF. Meanwhile, the public cannot act in its own interest because the government blocks access to data and misinforms the public. An accidental MHF release could cause far more harm than local emergency responders realize. Emergency responders and the community lack HF-specific knowledge and are unprepared to minimize damage from a release. Public safety is not being protected.

False safety claims for MHF compared to pure HF and its far safer alternative, sulfuric acid, continue to be made. The refinery has been allowed to hide a simple truth: being 90% HF, MHF dangers are virtually identical to the use of HF. False safety claims have led to complacency regarding emergency preparation. The desire not to alarm local residents has led to a complete lack of community preparation for a MHF release. The refinery and City of Torrance/TFD consistently mischaracterize MHF hazards, informing residents that MHF "falls to the ground" harmlessly,[3] "remains on ground,"[4] and "forms no aerosol or dense vapor cloud."[5] Most recently the city posted a Torrance Refining Company PR ad full of misinformation on MHF on its community eNewsletter, without comment or labeling it as an advertisement.[6] TFD is not

prepared to respond to an accident and neither are the communities within seven miles of the refinery.

Based on the fiction of complete safety, TFD has publicly denied the need to devise emergency plans for a significant MHF release large enough to impact the community, to educate residents or other community members about the nature of the danger, or to practice emergency response and drills in the community.[7] Our malls, residential neighborhoods, business districts, movie theatres, sports fields, and gold courses have no idea that MHF exists and no emergency plans for a release. When a TRAA member active at the local YMCA informed them of the danger, the "Y" realized it would need to shut off air conditioning in an emergency but didn't know how to. In the city's Shelter in Place brochure, residents are not told of the need to tape windows and other openings. They are told to place a wet towel at the base of doors upon hearing the refinery siren only if "odor is present."[8] That would be too late for MHF. Another symptom of MHF misinformation is the inadequacy of the siren system, designed to be audible for 1.2 miles. The SCAQMD may soon fund projects to improve the siren system. But it has never acknowledged the actual risk posed by MHF and has not specified design parameters for an upgraded system. This means money will be wasted.

The government should exercise far greater caution in the case of MHF, a proprietary compound whose sole benefit is public safety but which interferes with production. Facilities wishing to claim trade secrets should be required to submit a substantiation to justify the claim. There is no justification to continue granting proprietary rights to MHF. Its so-called trade secrets are available online. TFD refuses to provide the MHF Safety Data Sheet in answer to a Public Records Request, while Honeywell has posted it online. There are no competitors that would benefit from the revelation of MHF trade secrets; Honeywell has a monopoly. The real motivation for concealing MHF data is not competitive advantage. It is to conceal the fact that MHF is 90% HF and that safety claims are bogus.

Budget and Penalties for the New Program

Cal OES and Cal EPA state, "We will implement the proposed regulations using currently approved resources and staffing levels." This is concerning. According to the RAND Corporation, "Cal-OSHA inspections of refineries typically find so few hazards that they contribute relatively little to refinery safety."[9] This can partly be attributed to having too few inspectors with too little time and possibly too little knowledge along with too few inspection opportunities. The safety case model was rejected largely because increased regulatory budgets would be needed. Maybe that is our problem; low budgets take priority over effective safety regulation. Better implementation requires a sufficient number of well-trained inspectors and additional staff. Far higher penalties plus criminal prosecution of middle to upper level managers are also necessary to enforce compliance. Although CalARP cannot mandate its own budget, it could make a strong case to the public and government that a higher budget is essential, instead of acquiescing.

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[1] RAND Corporation, Refinery Process Safety Performance and Models of Government-Industry Relations," California Department of Industrial Relations and the Governor's Task

Force on Refinery Safety, June 11, 2013.
<http://www.rand.org/content/dam/rand/pubs/testimonies/CT300/CT392/RAND_CT392.pdf>.
[2] CalARP 2016-07-15 Program 4 for Refineries-Notice of proposed rule making CA Code of Regs,
<http://www.caloes.ca.gov/FireRescueSite/Documents/CalARP%20Program%204%20Notice%20and%20Informative%20Digest%20Version%202016.pdf>.
[3] North Torrance Homeowner's Association Meeting, 2015-05-08, Torrance Fire Department Chief William Racowschi.
[4] City of Torrance Report, ExxonMobil Event of February 18, 2015, City of Torrance, Chart on page 35.
<http://www.torranceca.gov/PDF/CITY_REPORT_ExxonMobil_FINAL_PRINT.pdf>.
[5] Workshop regarding ExxonMobil's use of MHF catalyst, October 13, 2015, City of Torrance History of the Consent Decree and MHF.
[6] 2016-07-28, City of Torrance eNewsletter, Facts About Modified Hydrofluoric Acid From The Torrance Refining Company,
<http://archive.constantcontact.com/fs140/1107630230054/archive/1125382944742.html>. Upon protest from citizens, the ad was subsequently removed without providing an explanation in the newsletter and without providing facts on MHF to correct the misinformation. Here is the ad itself: <http://bit.ly/2boBbKi>. Here is TRAA's fact check on the ad: <http://bit.ly/2aKa4XM>.
[7] North Torrance Homeowner's Association Meeting, 2015-05-08, Torrance Fire Department Chief William Racowschi.
[8] City of Torrance Shelter in Place Brochure.
<http://www.torranceca.gov/TPD/Documents/ShelterInPlacePDF_(2).pdf>.
[9] RAND Corporation, Refinery Process Safety Performance and Models of Government-Industry Relations," California Department of Industrial Relations and the Governor's Task Force on Refinery Safety, June 11, 2013.
<http://www.rand.org/content/dam/rand/pubs/testimonies/CT300/CT392/RAND_CT392.pdf>.

K-1 Response

This is a general comment to which no response is required. The requested actions are outside the scope of the current rulemaking. We thank the commenter for her interest and concern. Cal OES will take no action on this comment.

COMMENTER L
Gerald V. Poje, Ph.D – Member of the Public
Emailed dated September 14, 2016

L-1 Comment

After careful review of the proposal and many responses, I am writing in support of the September 3, 2016 recommendations that were submitted in a joint letter to the Board by the BlueGreen Alliance, United Steelworkers and the California Federation of Labor.

My comments are informed by my long history of study and experience seeking to reshape safety policies associated with managing catastrophic risks from high hazard chemicals and processes. My efforts began in 1984 when the American multinational chemical corporation Union Carbide (now DOW) so egregiously mismanaged their Bhopal facility that 8000 Indian citizens died immediately and more than 300,000 others were seriously injured after toxic releases from a methyl isocyanate storage vessel. Many injured people still await just restitution from that disaster.

In the late 1980s on behalf of the National Clean Air Coalition I advocated before Congress for better controls of toxic chemical hazards that ultimately resulted in the 1990 Clean Air Act provisions that precipitated federal OSHA Process Safety Management regulations in1992 and complementary Risk Managment Planning regulations by the federal EPA in 1994.

As a two term founding board member of the U.S. Chemical Safety and Hazards Investigation Board (CSB) I've extensively examined the strength and weaknesses of the current regulations in light of many tragic management failures. Furthermore, I helped develop and advocate for CSB recommendations designed to improve upon the current regulations.

Ever since the April 2013 ammonium nitrate catastrophe in West TX inspired President Obama's Executive Order 13650, I've worked with a broad coalition of business, labor, environmental and national security experts to engage federal OSHA, EPA, Homeland Security and many Presidential Executive Offices towards updating antiquated and insufficient federal polices designed to prevent chemical disasters.

I commend the people and government of California for your due diligence in attempting to improve your policies on process safety management in light of monumental management failures at highly capitalized refineries in your state. Maintaining the status quo is woefully insufficient for businesses, workers and impacted communities.

In particular I urge the Board to:
(A) Implement the changes to the PSM proposal that the USW, BlueGreen Alliance and California Labor Federation submitted to the Standards Board on September 3;
(B) Make these same changes to the Cal/ARP proposal;
(C) Implement the recommendation of Communities for a Better Environment (CBE) regarding public disclosure and the California Environmental Quality Act;

(D) Do not allow the proposals to be weakened in any way—they already represent a compromise;
and
(E) Please advance the proposals towards adoption as quickly as possible.
(F) Set in motion a better iterative process to further strengthen regulatory scope and reach after being informed by experience and practice in implementing the new regulations.

Changes called for in the joint letter re-invoke the need to return to language that appeared in previous drafts of the PSM proposal. Please move quickly to implement these changes. Particularly troubling is the realization that after a three-year open process, the Department of Industrial Relations (DIR) appears to have introduced changes to the proposal that weaken the proposal's regulatory requirements in several ways and introduce ambiguities that will undermine both enforcement and your state's ability to prevent future disasters.

After nearly a quarter century, PSM improvements are long overdue. The Chevron fire endangered the lives of 19 workers and caused some 15,000 people to seek medical attention. The 2015 explosion at the ExxonMobil refinery also narrowly avoided worker fatalities and dispersed tons of spent catalyst dust into the community up to a mile from the facility. These incidents were completely preventable. With new mandates for updated standard engineering practices, strict regulations and more thorough compliance enforcement, similar tragedies will be far less likely. The Standards Board should ensure that more effective regulations requiring those practices are properly promulgated.

The proposed PSM regulations can also serve as a template for efforts at the federal level to improve the EPA Risk Management Plan (RMP) regulations and the OSHA Process Safety Management standard, pursuant to the requirements of Executive Order 13650, issued by President Obama to improve chemical facility safety and security. Actions taken in California will
have national implications.

As a member of the Coalition to Prevent Chemical Disasters, Greenpeace joined the May 13, 2016 comments on the U.S. Environmental Protection Agency's 1 (EPA) proposed RMP rule2. Most promising in EPA's proposed rule is the requirement that certain facilities conduct a Safer Technology and Alternatives Analysis (STAA). Unfortunately the requirement to conduct a STAA is limited to 12 percent of 12,500 RMP facilities and would require none of them to implement safer alternatives even if they are determined to be feasible. Although cost effective safer alternatives are widely available,3 voluntary measures have not been adopted at hundreds of high risk facilities.4

In its May 10, 2016 comments to the U.S. EPA the U.S. Chemical Safety Board urged the EPA to *"adopt more robust requirements regarding the use of inherently safer systems analysis and the hierarchy of controls…"* and to *"promulgate regulations 'to provide, to the greatest extent practicable, for the prevention and detection of accidental releases of regulated substances…" 5* The CSB further urged the EPA to require the submission of STAAs to the EPA and to expand the scope of this requirement to include facilities that *"could have the largest impact should a release occur…."* Together more than 1,200 Program Level 2 treatment facilities, chemical and

petroleum facilities put millions of Americans at risk in the event of a catastrophic release. In addition to workers, low income communities of color are disproportionately6 at risk.

Refinery safety is at a critical juncture in the U.S. The Standards Board has a once-in-a-generation opportunity to put in place new regulations that could deliver genuinely safer conditions for refinery workers and nearby residents. Please adopt the changes called for in the joint letter and move the proposal forward for adoption as soon as possible.

Your favorable actions will enhance the safety and sustainability of California refineries inspiring
long overdue improvements in other states with refineries and ultimately at the federal level.

L-1 Comment

(A) Implement the changes to the PSM proposal that the USW, BlueGreen Alliance and California Labor Federation submitted to the Standards Board on September 3;

L-1 Response

To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. To that end, Cal OES is a separate entity from the Standards Board and does not possess the proposals submitted on September 3, 2016, to the Standards Board by the above referenced agencies. Cal OES will take no action on this comment.

L-2 Comment

(B) Make these same changes to the Cal/ARP proposal;

L-2 Response

Cal OES is a separate entity from the Standards Board and does not possess the proposals submitted on September 3, 2016, to the Standards Board by the above referenced agencies. To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. Cal OES will take no action on this comment.

L-3 Comment

(C) Implement the recommendation of Communities for a Better Environment (CBE) regarding public disclosure and the California Environmental Quality Act;

L-3 Response

To the extent the above referenced organizations submitted comments to Cal OES during the noticed comment period, Cal OES will address these comments separately. Cal OES will take no action on this comment.

L-4 Comment

(D) Do not allow the proposals to be weakened in any way—they already represent a compromise;

L-4 Response

This is a general comment that warrants no substantive response. Cal OES will take no action on this comment.

L-5 Comment

(E) Please advance the proposals towards adoption as quickly as possible.

L-5 Response

This is a general comment that warrants no substantive response. Cal OES will take no action on this comment.

L-6 Comment

(F) Set in motion a better iterative process to further strengthen regulatory scope and reach after being informed by experience and practice in implementing the new regulations.

L-6 Response

This is a general comment that warrants no substantive response. Cal OES will take no action on this comment.

COMMENTER M
Greg Karras – Communities for a Better Environment (CBE)
Emailed dated September 14, 2016

M-1 Comment

General Comment

Communities for a Better Environment (CBE) joins in and supports the comments and specific text changes submitted to the Standards Board and CalEPA by the BlueGreen Alliance (BGA), United Steelworkers (USW), and the California Labor Federation. By this letter, we describe our communities' vital interest in the proposed rules and our joint development of these specific recommendations with refinery workers in our communities, and highlight the rationale, from our perspective, for two of these recommendations:

• Require Inherently Safer Systems Analysis (ISSA) for new projects before they are fully designed, permitted and built (in other words, before it is too late); and
• Expand public participation provisions to ensure that information needed for public participation in refinery safety decisions will be available to the public.

CBE has sought refinery safety for decades. Among other things, we joined workers to spearhead the creation of the Industrial Safety ordinances in Richmond and Contra Costa County, as well as the landmark policies for flaring incident prevention adopted by the Bay Area and South Coast air districts, presented invited expert testimony before the Chemical Safety Board, and cofounded the worker-community partnership known as the Refinery Action Collaborative of Northern California. CBE collaborated actively with USW and BGA in the development of the subject proposal and the specific recommendations we jointly support, and commented previously in this matter. Our communities have too often been devastated by preventable refinery spills, fires, and explosions. Low income people of color are disproportionately concentrated near oil refineries, the incidents cause disparately severe harm to the health and safety of people who live and work nearby, and we stand with refinery workers to demand environmental justice for all who live and work in our communities.

We call on the Standards Board and CalEPA to adopt a strong refinery safety standard that meets the recommendations of Governor Brown's 2014 Interagency Working Group on Refinery Safety. We strongly support the reinstatement of a six-month time limit for refiners to evaluate inherent safety solutions as recommended specifically by USW, BGA, and the Labor Federation. The proposal includes language that *intends to* implement the Governor's Working Group recommendation for refineries to implement inherently safer systems "to the greatest extent feasible" but it no longer includes a time-line by which this action is required.

Without a deadline, as the CSB investigation at Richmond documents, refiners can simply defer inherently safer systems until it is too late to prevent the next disaster. We support a standard that provides for meaningful worker and public participation throughout the process safety management program, requiring best engineering practices developed by authoritative bodies, and much greater accountability and transparency. Each of these provisions was weakened in the

July 2016 PSM draft. CBE stands with the USW, BGA, and Labor Federation in calling on the Standards Board and CalEPA to correct these weaknesses that the Department of Industrial Relations introduced into the July PSM proposal.

Analyses of the 2012 fire at the Richmond refinery and the 2015 explosion at the Torrance refinery show that preventable catastrophic incidents, caused by known hazards that were correctable but were not corrected when that correction was not required, have continued to recur in California refineries. The state's economy was damaged by the incidents, the RAND Corp. analysis shows. The Department of Industrial Relations (DIR) itself finds "the status quo" is "largely untenable." And, as DIR admits, *effective* implementation of the proposal's intent will create needed jobs. This, presumably, is DIR's perspective. From where we live and work, workers narrowly escaped serious injury and death while many thousands of us were harmed by pollution fallout from the incidents. For low income communities of color, including residents and workers who are hurt first and worst by these needlessly recurring disasters, the ongoing failure to allow for public participation in choices between hazardous and safer refining technology is an environmental injustice and violation of human rights.

Deadlines for review of completed Inherently Safer Systems Analysis (ISSA) are especially crucial for refinery infrastructure projects that pose catastrophic hazards. As the Chemical Safety Board found in its investigation of Chevron's 2012 catastrophic failure and fire at the Richmond refinery:
"It is simpler, less expensive, and more effective to introduce inherently safer features during the design process of a facility rather than after the process is already operating. Process upgrades, rebuilds, and repairs are additional opportunities to implement inherently safer concepts."
Finding 54, Interim Investigation Report, Chevron fire (www.csb.gov).

Because it is "more effective to introduce inherently safer features" during a project's design, permitting and building refinery projects *before* ISSA is done is demonstrably *less* effective. Thus, failure to close the loophole that allows projects to be approved and built before ISSAis complete would fail to ensure the intent of the proposal to implement all feasible refinery safety measures. Moreover, informed public decisionmaking about these largely irreversible capital commitments that affect public health and safety is paramount, and these environmental review and permit decisions rely on exactly this type of information about hazards and less hazardous alternatives. Therefore, it is essential to the effectiveness of this proposed standard that ISSAs for projects with identified serious hazards be completed for public review before such projects are permitted.

Converging lines of evidence demonstrate that failures to require public ISSAs before the permitting and construction of new projects, upgrades, rebuilds, and repairs remains a key part of the "untenable status quo" that contributes to serious refining hazards in California:

• First, catastrophic hazard conditions are not corrected despite opportunities to implement inherently safer alternatives because communities too often are not informed of those opportunities before process rebuilds and repairs are permitted and constructed.

Recent examples include the rebuild of the Torrance refinery fluid catalytic cracker electrostatic precipitator (ESP). This was permitted without public disclosure or meaningful consideration of the fact that the ESP could have been replaced with a wet scrubber—which would have eliminated the startup/shutdown hazard involved in the explosion that destroyed the ESP in that refinery's disastrous 2015 incident while affording better air quality control. Another example: Opportunities to replace deadly HF at two Southern California plants during major rebuild or repair "turnarounds" have not been disclosed transparently and specifically during the decades, through the present, when alkylation processes that do not use HF were proved in practice to be feasible at other refineries.

• Second, new catastrophic hazards are still being permitted for construction instead of safer alternatives, even when those hazards and alternatives are known, because refiners are allowed to withhold meaningful information about their rationale for rejecting those inherently safer alternatives.

A recent example involves the Phillips 66 San Francisco Refinery (SFR) propane recovery project at Rodeo. The SFR proposed new pressurized LPG storage. Contra Costa County, CBE, and others identified cooled storage as an inherently safer alternative that would eliminate a specific catastrophic hazard—boiling liquid expanding vapor explosion, also known as (BLEVE). (*See* EIR SCH #2012072046.) The refiner rejected that inherently safer solution, and rejected public requests to disclose the ISSA for its proposal. (Id.) The effect of allowing this nondisclosure hid safety information that the public and public officials who decided on that permit might have used to adopt permit conditions that could have eliminated the proposed new catastrophic hazard. The new hazard, pressurized LPG storage, was permitted for construction without any such public review. Finally, hazards that were clearly preventable by specific inherently safer solutions but were hidden from the public and public officials during environmental hazard permit reviews have manifest in real harm to many thousands of Californians because of these disclosure problems that would be cured by requiring timely public ISSAs.

For example, we now know that Chevron repeatedly declined worker recommendations to replace corrosion-vulnerable and corroding piping with inherently safer materials for as much as a decade, even as it shifted to more corrosive higher-sulfur crude feeds, until this sulfidic corrosion hazard manifest on 6 August 2012. (CSB IRR cited above.) Further, some five years before that catastrophic 2012 fire, the same hazard, sulfidic corrosion, led to a major 2007 fire in the same Richmond refinery crude unit. (Id.) Chevron reported publicly in 2007 that it had replaced the piping involved in the 2007 incident, along with all "similar" piping in the unit, with more corrosion-resistant metallurgy as an inherently safer solution, but it had not done so. (Id.) In particular, the vulnerable and corroding #4 sidecut piping that later ruptured catastrophically in 2012 was not replaced. (Id.)

The point, here, is that none of this was disclosed before 2012, with disastrous results. Concurrent with the 2007 incident, Chevron sought permits for a Richmond refinery project that involved even higher sulfur crude feeds. (*See CBE v. City of Richmond* 184 Cal_Ap. 4th.) The community, and some elected officials who would decide on those permits, sought full review of safety hazards and other impacts of the project. (Id.) CBE, worker, and State Attorney General experts discussed corrosion from processing of higher-sulfur oil as a hazard to be reviewed

specifically. In 2008 the project was approved (improperly) without an adequate review of hazard and other impacts associated with the crude switch, and consequently, without adequate analysis of impact mitigation. (Id.)

No ISSA for the proposed more corrosive new feedstock was reported publicly during this project review, when the community and local officials were seeking hazard mitigation for the proposed crude switch specifically. Had a complete ISSA been reported during this project review, it almost certainly would have included the recommendations Chevron employees had been making for years by that time, and the 2012 incident that nearly killed workers and sent some 15,000 residents to emergency rooms would never have occurred. (*See* also CSB Interim Investigation Report cited above.) The Standards Board and CalEPA have an historic opportunity to reshape refinery safety rules and set the conditions for continuous process safety improvement in refineries. Worker and community health and safety is at stake. We urgently request that you adopt these proposed rules with the specific changes that CBE the USW, BGA, and the California Labor Federation recommend. Please find proposed revised text for our specific recommendations regarding pre-permit inherent safety analysis and public reporting is attached hereto. For specific proposed text revisions addressing the balance of our comments and recommendations please refer to the attachments provided with the comment letters of BGA and USW.

M-1 Response

The comment is directed to the Standards Board and Cal EPA and pertains to the PSM regulations. Cal OES is a separate entity and the CalARP regulations are a separate and distinct rulemaking. To the extent the above referenced organizations submitted comments to Cal OES pertaining to CalARP during the noticed comment period, Cal OES will address these comments separately. Cal OES will take no action on this comment.

M-2 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis.

(b) The owner or operator shall also conduct an HCA in <u>each of</u> the following instances:

(1) For all PHA recommendations for each scenario that identifies the potential for a major incident; . <u>An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information.</u>

(2) Whenever a major change is proposed at a facility, the owner or operator shall conduct an HCA as part of a Management of Change review required by section 2762.6;.

(3) When a major incident occurs, the owner or operator shall complete an HCA on the recommendations of the incident investigation report required by section 2762.9.; ~~and~~

(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information. HCAs completed for this purpose shall be made publicly available prior to calendaring of hearings or other public meetings required under provisions of the California Environmental Quality Act (CEQA).

M-2 Response

The addition of "each" to the proposed regulatory language is unnecessary and extraneous. The regulated entities are already required to conduct an HCA upon the occurrence of any event listed in 2762.13(b).

With regard to the remainder of the suggested revisions, please see the response to comment O-6. Cal OES will take no action on this comment.

COMMENTER N
Randall L. Sawyer – Issue Coordinator, CUPA Forum Board
Emailed dated September 14, 2016

N-1 Comment

Thank you for the opportunity to comment on the proposed CalARP Refinery Safety and Prevention Regulations. Representatives of the CUPA Forum Board reviewed the training requirements (Section 2775.7) in the proposed regulations and has some suggested recommendation on language that will work better for the local CUPAs to meet the requirements and still establish a requirement for ensuring that their staff is trained appropriately. The proposed language is shown in the attached document and below.

2775.7(a) Unified Program Agency inspectors will be required to meet minimum educational qualifications as well as complete a specialized training program. Within one year after the effective date of Article 6.5, Cal OES will work in cooperation with the UPAs through the CUPA Forum Board to develop the minimum educational qualifications and a training program. The training program shall incorporate topics as appropriate from the Unified Program Training Framework developed by CalEPA, Cal OES and the CUPA Forum Board for the CalARP Program. Cal OES working with the CUPA Forum Board shall develop three levels of training and certification for inspectors for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4.

(b) Unified Program Agencies shall develop and implement a program for on-going and refresher training that will be based on the number and type of stationary sources regulated by the Unified Program Agency.

Thank you for considering the proposed language from the CUPA Forum Board. Please contact me if you have any questions.

N-1 Response

Regulatory changes have been made that render this comment moot. Cal OES will take no action on this comment.

COMMENTER O
Charlotte Brody, RN – BlueGreen Alliance
Emailed dated September 14, 2016

O-1 Comment

Process Hazard Analysis

The Governor's report specifically calls on Cal/EPA and DIR to implement regulatory changes that would require refineries to "implement inherently safer systems to the greatest extent feasible," and yet both the Cal/ARP and PSM proposals removed a six-month time limit by which a refinery would be required to perform a Hierarchy of Hazard Controls Analysis, or HCA, in order to identify the most effective and enduring solutions to serious hazards identified in a Process Hazard Analysis, or PHA. Without a time limit, the inherent safety requirement is less effective and less enforceable; the refinery would be under no obligation to complete the analysis by a date certain.

As a consequence, most refineries could continue doing what they've done for many years: rely on employee procedures and alarms to address hazards identified in the PHA, rather than implementing inherently the sound engineering practices called for in the Governor's Report.

Like other changes that appear in the most recent draft, this small change could undercut the effect the regulations will have in preventing the leaks, fires and explosions that are occurring in California's refineries.

O-1 Response

Although the commenter is correct that there is no timeline specified in Section 2762.2, the requirement is not less effective or enforceable than the pre-regulatory draft. Further, this change does not remove owner or operator's obligation to complete the HCA quickly. Section 2762.2 (i) requires the owner or operator to follow the corrective action work process in section 2762.16 (d) and (e) "when resolving the PHA team's findings and recommendations, determining action items for implementation, tracking to completion, and documentation of closeout." Section 2762.16 (e) (10)-(13) does contain strict timelines, and the HCA must be completed <u>prior</u> to the corrective actions. In the case of PHA recommendations, the deadline is two and half years <u>after completion of the PHA</u>, or the next regularly scheduled turnaround. The combined effect of the two sections will impose a sufficiently strict timeline on the owner or operator for completion of the HCA. The longer the HCA takes, the less time remains for the implementation of the corrective action. These strict deadlines, benchmarked to the completion of the PHA, effectively remove any incentive for the owner or operator to delay completion of the HCA. Recognizing the concern expressed by the commenter, however, a change was made to require that the HCA be completed "in a timely manner".

O-2 Comment

Damage Mechanism Reviews

In some cases, it appears that DIR introduced language in July that is weaker than the Cal/ARP language. In the July 2016 PSM proposal, for example, DIR turned the September 2015 requirement that refineries conduct a DMR in the wake of a major incident (if it involved a damage mechanism) into a less effective recommendation; the Cal/ARP language, however, remains unchanged:

> *PSM September 2015*: If a DMR has not been performed on the processes that are relevant to the investigation, a DMR shall be completed as part of the incident investigation.
>
> *PSM July 2016 PSM*: If a DMR has not been performed on the processes that are relevant to the investigation, the incident investigation team shall recommend that a DMR be conducted and completed within a specified timeframe.
>
> *Cal/ARP July 2016*: If a DMR has not been performed on the processes that are relevant to the investigation, the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e).

We believe the refinery should be required to conduct a DMR as quickly as possible if a damage mechanism is identified as potentially contributing factor to a major incident. DIR's new language allows the DMR to be conducted many months into the future, or not at all if the employer deems it to be infeasible. Downgrading the importance of a DMR following a major incident seems to contradict the recommendations of the Governor's report, which quotes a U.S. Chemical Safety Board finding of the Chevron incident that "piping circuit inspections should have included 'appropriate damage mechanisms using a standardized methodology and documentation system.'" We urge Cal/EPA to use clearer, more enforceable language that requires timely completion of the DMR as part of the incident investigation.

O-2 Response

The proposed regulatory language requires refineries to complete a DMR as quickly as possible. Section 2762.5 (e)(3) states, "If a DMR has not been performed on the processes that are relevant to the [incident] investigation, the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e)." The timeline in subsection 2762.16(e)(12) requires that, "Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation." This timeline effectively removes the incentive for the owner or operator to delay completion of the DMR. Cal OES will take no action on this comment.

O-3 Comment

Leak Seal Repairs

Similarly, in the Process Safety Information section, both Cal/EPA and DIR deleted language from earlier drafts that required the refinery to report the number of leak seal repairs it applies on piping systems, along with the length of time those repairs are in place. Some refineries apply these repairs as temporary measures in lieu of replacing sections of pipe, and some leave them in place for years, adding more repairs as the pipe materials degrade over time. At some point, the pipe itself can fail, as occurred at Chevron, Richmond. Leak seal repairs are therefore an important process safety indicator, something that shows how much or how little a refinery is investing in maintaining its infrastructure.

We are surprised that Cal/EPA and DIR have chosen to delete the leak seal repair reporting requirement from the Process Safety Information subsection, thereby concealing this information from employees and regulators and reducing accountability for this important aspect of process safety on the part of refinery managers.

O-3 Response

Section 2762.16(h)(1)(E) requires the owner or operator to publically document, "[t]he number of temporary piping and equipment repairs that are installed on hydrocarbon and high energy utility systems that are past their date of replacement with a permanent repair and the total number of temporary piping and equipment repairs installed on hydrocarbon and high energy utility systems." Temporary piping and equipment repairs include clamps and other leak seal repairs. Disclosure of leak seal repair information is required under the Accidental Release Prevention Program Management System section, therefore the deletion of the requirement in the Process Safety Information section will not conceal the information from employees and regulators. Owners or operators are still held accountable for this disclosure. Cal OES will take no action on this comment.

O-4 Comment

Corrective Actions

In the Accidental Release Program Management section, Cal/EPA uses language that allows the refinery to reject or alter the safety recommendations made by labor-management PSM teams (consisting of subject matter experts), without directly informing the team members about the employer's decision. Where the employer in previous drafts (including the September 2015 PSM draft) was required to *directly communicate* this information to each team member, the employer is now only required to "make the information available," thereby reducing management's accountability to the PSM teams. We have learned from working with USW representatives that Cal/EPA's approach will make it difficult for USW team members to track the outcome of specific recommendations.

We believe that requiring refineries to actually implement appropriate, timely corrective actions is the heart of the regulatory proposal and the key to its success. Cal/EPA's proposed language will undermine the regulation's effectiveness by weakening communication and accountability between the refinery management and USW subject matter experts who serve on PSM committees.

O-4 Response

Regulatory changes have been made to address this comment.

O-5 Comment

The List of Covered Chemicals

The PSM proposal removes the list of "regulated chemicals" (Appendix A in the PSM) thereby covering a larger universe of chemicals and avoiding disputes over quantities. Why did Cal/EPA limit the scope of the Cal/ARP proposal by retaining the list of covered chemicals and quantities under Section 2770.5? Does the Cal/ARP also include threshold quantities that trigger Program 4 requirements?

O-5 Response

The inclusion of the list of regulated substances in the definition of highly hazardous materials does not limit the scope of the definition. The purpose of incorporating the existing list of regulated substances is to ensure that, at a minimum, all substances that were previously included in Program 3 are also included in Program 4. The threshold quantities are not incorporated by reference in the Program 4 definition. Quantities of regulated substances below those that would be included in Program 3 would be included in Program 4, as would chemicals that meet the definition of highly hazardous materials and are not on the list of regulated substances. Program 4 requirements are triggered where a stationary source possesses a North American Industrial Classification System code of 324110, indicating its status as a petroleum refinery. Cal OES will take no action on this comment.

O-6 Comment

Public Disclosure

We strongly support the public disclosure provisions in the Cal/ARP proposal. We have added additional language that we developed in conjunction with Communities for a Better Environment (CBE) that would: (1) require the UPA to post HCAs conducted by a refinery for new construction *before* hearings or other meetings are calendared for the construction project under provisions of the California Environmental Quality Act; and (2) require the UPA to post HCAs conducted by a refinery for major event scenarios in the PHA.

O-6 Response

CalOES notes and appreciates the support for the public disclosure provisions in the CalARP proposal. The California Environmental Quality Act (CEQA), however, is a separate statute with its own timelines. The strict disclosure timelines prescribed by the CalARP proposed regulatory language may or may not align with the separate activities refineries undertake as part of their compliance with CEQA. Requiring that certain activities under CalARP occur prior to activities that are mandated by a different statute risks interfering with compliance with that statute, which would be outside the scope of these regulations. For this reason, it would be inappropriate to require that timelines under the current regulations align in any way with timelines under CEQA.

In response to the comment asking that HCAs conducted for major event scenarios in the PHA be publicly posted, CalOES recognizes the public interest in this information and seriously weighed the possibility of requiring that the information be made publicly available. In the end, CalOES concluded that the HCAs are likely to be numerous, voluminous, and highly technical in nature; they are likely to require extensive redaction to preserve confidential business information making them difficult for the public to understand and interpret in their redacted form. In addition, there is some potential that the knowledge that these documents will become public could constrain the full range of options considered by the HCA team as they perform their analysis. It is in the public interest that the HCA team freely consider the widest possible array of alternatives in the HCA, and that the entire un-redacted document be the basis for review by the CUPA. Constrained analyses by the teams, and documents with severely redacted information, are likely to be misleading and do not effectively serve the public interest. Cal OES will take no action on this comment.

O-7 Comment

RAND Report

Overall, we are surprised by Cal/EPA's decision to weaken certain aspects of the Cal/ARP proposal in light of the findings of the RAND Corporation's 2016 economic analysis, which concluded that the PSM and Cal/ARP proposals— based on previous, stronger language—would significantly benefit the industry as well as the California economy, in addition to protecting the lives and health of workers and residents.

RAND concluded that on average, a single major incident costs a California refinery about $220 million, which "is a cost that could be avoided if the proposed regulations are implemented and do, as intended, improve refinery and worker safety." RAND's estimate for all refineries statewide to maintain compliance with the proposed regulations ranged from $20 million per year to $183 million, with a best estimate of $58 million per year, well below the $220 million cost of a major incident. RAND concluded that the regulations would need to reduce a refinery's risk of a major incident by only 7.3% to be economically justified.

For the public, RAND found that the 2015 ExxonMobil explosion in Torrance cost California drivers nearly $2.4 billion in the form of a "prolonged $0.40 increase in gasoline prices," and that the lost fuel supply associated with this single incident reduced the size of the California

economy by $6.9 billion in the first six months following the explosion. The ExxonMobil refinery was offline for a total of 14 months. When RAND spread the $58 million cost of the proposed regulations for the refineries over the average annual California gasoline consumption of 14.5 billion gallons, the resulting increase in gasoline prices was about $0.004 per gallon, or 4/10 of a cent.

Based on RAND's economic analysis alone, let alone implications for worker and public safety, we find no justification for weakening any element of the Cal/ARP proposal; if anything, the proposal should be further strengthened to provide even greater protection against the potential for another major incident in one of the state's refineries.

O-7 Response

This is a general comment that warrants no substantive response.

O-8 Comment

Section 2735.3 Definitions

Proposed language:
"(v) "Feasible" means 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."

BGA Comments and recommendations:
"(v) "Feasible" means 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~~."

O-8 Response

The proposed regulatory language defines "feasible" in a way that takes into account policy considerations. The commenter's proposed changes would alter the intent of the regulation and provide less clarity to the regulated entities regarding factors that should be considered. Cal OES will take no action on this comment.

O-9 Comment

Section 2735.3 Definitions

Proposed language:
"(x) "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance as those terms are defined: (1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5194, Appendix B, (2) flammable liquid, as defined in CCR Title 9, §5194, Appendix B, (3) toxic substances as acute toxicity is defined in CCR Title 9, §5194, Appendix A, and (4) reactive substance as self-reactive chemical, as defined in CCR Title 9,

§5194, Appendix B. Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 of this Chapter."

BGA Comments and recommendations:
"(x) "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance as those terms are defined: (1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5194, Appendix B, (2) flammable liquid, as defined in CCR Title 9, §5194, Appendix B, (3) toxic substances as acute toxicity is defined in CCR Title 9, §5194, Appendix A, and (4) reactive substance as self-reactive chemical, as defined in CCR Title 9, §5194, Appendix B. ~~Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 of this Chapter.~~ This definition includes water when it is used as part of a process, or when it could affect a process, and it includes steam and asphyxiants, such as nitrogen and carbon dioxide."

O-9 Response

The reference to Tables 1, 2, and 3 of this Chapter is to emphasize that the chemical listed in these tables are a subset of the definition of highly hazardous material.

The listed materials are not hazardous unless they meet other criteria. Water is addressed in other parts of the regulation where it is part of the process hazard analysis and also considered as part of the MOC. Cal OES will take no action on this comment.

O-10 Comment

Section 2735.3 Definitions

Proposed language:
"(gg) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard."

BGA Comments and recommendations:
"(gg) "Major change" means: (1) introduction of a new process, or ~~(2)~~ new process equipment, or new ~~regulated substance~~ highly hazardous material; ~~that results in a change in~~ (2) any operation outside of safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard."

O-10 Response

Regulatory changes were made to address the commenter's concerns regarding operation outside of safe operating limits. Cal OES does not believe changing "regulated substance" to "highly hazardous material" is appropriate in this context because the definition applies to all CalARP stationary sources, and not just to Program 4. Safe operating limits for a particular piece of

equipment are based on the regulated substance involved in the process. A change in the substance would change these limits.

O-11 Comment

Section 2735.3 Definitions

Proposed language:
"(iii) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator."

BGA Comments and recommendations:
"(iii) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities ~~based on~~ established in codes, standards, technical reports or recommended practices published by professionally recognized organizations such as the American Institute of Chemical Engineers (AIChE)/Center for Chemical Process Safety (CCPS), 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), Instrument Society of America (ISA), or other standard-setting, guidance-setting, or technical organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator."

O-11 Response

When developing the definition of "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)," Cal OES included the most relevant standard-setting organizations. The included list is not meant to be exclusive as evidenced by the regulatory language's inclusion of "or other standard-setting organizations." RAGAGEP is intended to set a standard and the inclusion of "guidance-setting" and "technical organizations" would be inappropriate. To the extent that the AIChE/CCPS standards are widely recognized, they are considered RAGAGEP.

O-12 Comment

Section 2735.3 Definitions

Proposed language:
"(rrr) "Temporary piping or equipment repair" means a repair of an active or potential leak to hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or

manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident."

BGA Comments and recommendations:
(rrr) "Temporary piping or equipment repair" means a repair of an active or potential leak to hydrocarbon, chemical, or ~~high energy~~ utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident."

O-12 Response

Regulatory changes have been made to address this comment.

O-13 Comment

Section 2735.3 Definitions

Proposed language:
"(yyy) "Utility" for purposes of Article 6.5, means a system that provides energy or other process-related services to enable the safe operation of a petroleum refinery process. This definition includes electrical power, fire water systems, steam, instrument power, instrument air, nitrogen, and carbon dioxide."

BGA Comments and recommendations:
"(yyy) "Utility" for purposes of Article 6.5, means a system that provides energy or other process-related services to enable the safe operation of a petroleum refinery process. This definition includes electrical power, fire water systems, steam, instrument power, instrument air, water when it is used as part of a process or when it could affect a process, and it includes asphyxiants, such as nitrogen, and carbon dioxide."

O-13 Response

The commenter's proposed addition does not significantly expand the definition of "Utility". Water would already be included when it is used as a "process related service to enable safe operation of a petroleum refinery process." Water is also specifically included as it relates to "fire water systems" and "steam". These three uses of water are already included and do not require additional language in the definition. Cal OES will take no action on this comment.

O-14 Comment

Section 2762.0.1 Applicability.

Proposed language:
"(a) This Article shall apply to processes within petroleum refineries."

BGA Comments and recommendations:

"(a) This Article shall apply to processes within petroleum refineries, including processes under partial or complete turnaround."

O-14 Response

Regulatory changes were made to the definition of process for the purposes of Program 4 to include processes under partial or unplanned shutdowns.

O-15 Comment

Section 2762.1 Process Safety Information.

Proposed language:
"(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees."

BGA Comments and recommendations:
"(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The owner or operator shall provide for employee participation in developing and compiling the PSI, pursuant to 2762.10. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees."

O-15 Response

The goal of the Cal ARP program is to ensure the safety of the community while the PSM regulations focus on employee safety. For the purposes of the Cal ARP program Cal OES has opted to limit requirements mandating employee participation to the PHA, HCA, SPA, DMR, MOC, MOOC, PSSR, PSCA, incident investigation, and training program development. For

purposes of the Cal ARP program, employee participation in the PSI process is optional. Cal OES will take no action on this comment.

O-16 Comment

Section 2762.1 Process Safety Information.

Proposed language:
"(d) The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other equally or more protective internal standards that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.

BGA Comments and recommendations:
(d) The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment~~, or with other equally or more protective internal standards that ensure safe operation~~. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.

O-16 Response

Regulatory changes have been made that should, at least in part, address the commenters concerns. Cal OES has revised the proposed regulation to permit that an owner or operator document that process equipment complies with internal standards only as long as the internal standards are <u>more</u> protective than RAGAGEP. Eliminating the option for the owner or operator to maintain process equipment in a manner that exceeds RAGAGEP would be inconsistent with the goal of maximally improving process safety in this rulemaking.

O-17 Comment

Section 2762.2 Process Hazard Analysis [PHA].

Proposed language:
"(d) The PHA shall be performed by a team with expertise in engineering and process operations and shall include at least one operating employee who currently works or provides training in the unit, and has experience and knowledge specific to the process being evaluated. The team shall also include one member with expertise in the specific PHA method being used. As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry, and control systems. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10."

BGA Comments and recommendations:
"(d) The PHA shall be performed by a team with expertise in engineering and process operations and shall include at least one operating employee who currently works or provides training in the unit, and has experience and knowledge specific to the process being evaluated. The team shall also include one member with expertise in the specific PHA method being used. As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry, and control systems. The owner or operator shall provide for employee participation in ~~this process~~ the performance of all PHAs, pursuant to section 2762.10."

O-17 Response

The current regulatory language captures the commenter's intent. By "this process" Cal OES means that the owner or operator shall provide for employee participation in the PHA process. Cal OES will take no action on this comment.

O-18 Comment

Section 2762.2 Process Hazard Analysis [PHA].

Proposed language:
"(f) For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct a Hierarchy of Hazard Control Analysis pursuant to section 2762.13."

BGA Comments and recommendations:
"(f) For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct a Hierarchy of Hazard Control Analysis pursuant to section 2762.13. The employer shall complete the HCA within six (6) months of completion of the PHA recommendations and shall append the HCA report to the PHA report."

O-18 Response

Please see the response to Q-1. Further, Cal OES modified the regulatory language to specify that the HCA shall be conducted "in a timely manner." Cal OES will take no further action on this comment.

O-19 Comment

2762.2.1 Safeguard Protection Analysis.

Proposed language:
"(e) The SPA shall be performed by a team with expertise in engineering and process operations and the team shall include at least one operating employee who has experience and knowledge specific to the process being evaluated. The team shall also include one member knowledgeable in the specific SPA methodology being used. As necessary, the team shall consult with

individuals with expertise in damage mechanisms, process chemistry, or an engineer specializing in controls systems and instrumentation. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10. The PHA team may perform the SPA if the PHA team meets the requirements of this subsection."

BGA Comments and recommendations:
""(e) The SPA shall be performed by a team with expertise in engineering and process operations and the team shall include at least one operating employee who has experience and knowledge specific to the process being evaluated. The team shall also include one member knowledgeable in the specific SPA methodology being used. The employer shall provide for employee participation in the performance of all SPAs, pursuant to 2762.10. As necessary, the team shall consult with individuals with expertise in damage mechanisms, process chemistry, or an engineer specializing in controls systems and instrumentation. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10. The PHA team may perform the SPA if the PHA team meets the requirements of this subsection."

O-19 Response

The commenters proposed language is already contained within the cited subsection (see highlighted text). Cal OES will take no action on this comment.

O-20 Comment

Section 2762.3 Operating Procedures.

Proposed language:
"(b) The Operating Procedures shall include emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following:
(1) Shutdown and depressurize all process operations where a leak, release or discharge is occurring; or
(2) Isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring; or
(3) Follow established criteria for handling leaks, spills, or discharges that are designed to provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process."

BGA Comments and recommendations:
""(b) The Operating Procedures shall include emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following:

(1) Shutdown and depressurize all process operations where a leak, release or discharge is occurring; or
(2) Isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring; or
~~(3) Follow established criteria for handling leaks, spills, or discharges that are designed to provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process.~~"

O-20 Response

By including the option detailed in subsection (3) Cal OES is giving owners or operators the ability to take the safest course of action. Shutdown or isolation is not always the safest option. Cal OES will take no action on this comment.

O-21 Comment
Section 2762.5 Mechanical Integrity.

Proposed language:
"(b) Inspection and testing.
(1) Inspections and tests shall be performed on process equipment, using procedures that meet or exceed recognized and generally accepted good engineering practices (RAGAGEP).
(2) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations or RAGAGEP, or other equally or more protective internal standards. Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment."

BGA Comments and recommendations:
""(b) Inspection and testing.
(1) Inspections and tests shall be performed on process equipment, using procedures that meet or exceed recognized and generally accepted good engineering practices (RAGAGEP).
(2) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations or RAGAGEP~~, or other equally or more protective internal standards~~. Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment."

O-21 Response

Please see the response to Q-16.

O-22 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(c) Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with RAGAGEP or other equally or more protective internal standards."

BGA Comments and recommendations:
"(c) Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with ~~RAGAGEP or other equally or more protective internal standards~~."

O-22 Response

Please see the response to Q-16.

O-23 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
(e) Damage Mechanism Review
(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change."(3) As part of an incident investigation pursuant to section 2762.9, where a damage mechanism is identified as a contributing factor, the owner or operator shall review the most recent DMR(s) that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e).
(4) The DMR for a process unit shall be available to the team performing a PHA for that process unit.
(5) The DMR shall be performed by a team with expertise in engineering, operation of the processes under review, equipment and pipe inspection, and damage and failure mechanisms. The team shall also include one member knowledgeable in the specific DMR method being used. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10.

BGA Comments and recommendations:
(e) Damage Mechanism Review
(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change."(3) As part of an incident investigation pursuant to section 2762.9, where a damage mechanism is identified as a contributing factor, the owner or operator shall review the most recent DMR(s) that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, the owner or operator shall conduct and complete a DMR <u>within a timeframe specified by the incident investigation team</u> and prior to implementation of corrective actions pursuant to section 2762.16(d) and (e).
(4) The DMR for a process unit shall be available to the team performing a PHA for that process unit.

(5) The DMR shall be performed by a team with expertise in engineering, operation of the processes under review, equipment and pipe inspection, and damage and failure mechanisms. The team shall also include one member knowledgeable in the specific DMR method being used. The owner or operator shall provide for employee participation in ~~this process~~ the performance of all DMRs, pursuant to section 2762.10.

O-23 Response

With regard to the proposed revision to section (e)(3), please see the response to comment O-2.

With regard to the proposed revision to section (e)(5), "this process" in the context of section (e)(5) refers to the performance of the DMR. Therefore, the proposed revision is unnecessary. Cal OES will take no action on this comment.

O-24 Comment

Section 2762.6 Management of Change.

Proposed language:
"(a) The owner or operator shall develop, implement and maintain effective written Management of Change (MOC) procedures to manage changes in process chemicals, technology, procedures, process equipment, or facilities. The owner or operator shall also develop, implement and maintain written Management of Organizational Change (MOOC) procedures to manage changes in personnel or organizational issues. The MOC procedure shall include provisions for temporary repairs, including temporary piping or equipment repairs."

BGA Comments and recommendations:
"(a) The owner or operator shall develop, implement and maintain effective written Management of Change (MOC) procedures to manage changes in process chemicals, technology, procedures, process equipment, or facilities. The owner or operator shall also develop, implement and maintain written Management of Organizational Change (MOOC) procedures to manage changes in personnel or organizational issues. The MOC procedure shall include provisions for temporary repairs, including temporary piping or equipment repairs, including leak seal repairs.

(b) MOC information pertaining to leak seal repairs shall include the following:
(1) The identity, location and Management of Change (MOC) documentation, pursuant to subsection (n), of each leak seal repair installed on hydrocarbon and hazardous utility systems;
(2) The date each leak seal was installed;
(3) The date a permanent correction for each leak seal repair was implemented;
(4) The total number of days each leak seal repair was in service, from the date of installation to the date the permanent correction was implemented.

O-24 Response

Leak seal repairs are included within the definition of temporary repair. As written the proposed regulatory language includes a requirement that the MOC procedure "include provisions for

temporary repairs, including temporary piping or equipment repairs." The addition of this language would be redundant and over burdensome. Cal OES will take no action on this comment.

O-25 Comment

Section 2762.6 Management of Change.

Proposed language:
"(e) The owner or operator shall provide for employee participation, pursuant to section 2762.10."

BGA Comments and recommendations:
"(e) The owner or operator shall provide for employee participation in the performance of all MOCs, pursuant to section 2762.10."

O-25 Response

Cal OES believes the current regulatory language captures the commenter's intent. Owners or operators are required to provide for employee participation in the performance of all MOCs pursuant to section 2762.6(e). Cal OES will take no action on this comment.

O-26 Comment

Section 2762.6 Management of Change.

Proposed language:
"(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

BGA Comments and recommendations:
"(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing experience or classification levels of employees, changing shift duration, or substantively increasing changing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, mai~~ntenance,~~ health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

O-26 Response

Cal OES has concerns with clarity and consistency regarding the commenter's suggestions. In addition, any trivial change in responsibilities, including reduced responsibilities, would not appropriately trigger an MOOC. Similarly, a well-trained and qualified, but less experienced operator would not necessarily result in a change that would require an MOOC. Conflicting language was also requested in this section by other commenters. Revisions were made in this section to clarify that "substantively increasing employee responsibilities at or above 15%" would trigger a MOOC assessment.

O-27 Comment

Section 2762.6 Management of Change.

Proposed language:
"(k)(3) The owner or operator shall provide for employee participation pursuant to section 2762.10."

BGA Comments and recommendations:
"(k)(3) The owner or operator shall provide for employee participation <u>in the performance of all MOOCs</u>, pursuant to section 2762.10."

O-27 Response

Cal OES believes the current regulatory language captures the commenter's intent. Owners or operators are required to provide for employee participation in the performance of all MOOCs pursuant to section 2762.6(k). Cal OES will take no action on this comment.

O-28 Comment

Section 2762.7 Pre-Startup Safety Review.

Proposed language:
"(a) The owner or operator shall perform a pre-startup safety review (PSSR) for new processes and for modified processes if the modification necessitates a change in the Process Safety Information. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process."

BGA Comments and recommendations:
"(a) The owner or operator shall perform a pre-startup safety review (PSSR) for new processes and for modified processes if the modification necessitates a change in the Process Safety Information<u>, and for unplanned shut-downs</u> where process equipment was replaced.. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process."

O-28 Response

Regulatory changes have been made to address this comment.

O-29 Comment

Section 2762.9 Incident Investigation.

Proposed language:
"(d) An incident investigation team shall be established and shall, at a minimum, consist of a person with expertise and experience in the process involved, a person with expertise in the owner or operator's root cause analysis method, and a person with expertise in overseeing the investigation and analysis. The owner or operator shall provide for employee participation in this process, pursuant to section 2762.10. If the incident involved the work of a contractor, an employee and employee representative of that contractor, if applicable, shall also be included on the investigation team."

BGA Comments and recommendations:
"(d) An incident investigation team shall be established and shall, at a minimum, consist of a person with expertise and experience in the process involved, a person with expertise in the owner or operator's root cause analysis method, and a person with expertise in overseeing the investigation and analysis. The owner or operator shall provide for employee participation in ~~this process~~ the performance of all incident investigations, pursuant to section 2762.10. If the incident involved the work of a contractor, an employee and employee representative of that contractor, if applicable, shall also be included on the investigation team."

O-29 Response

Cal OES believes the current regulatory language captures the commenter's intent. Owners or operators are required to provide for employee participation in the performance of all incident investigations pursuant to section 2762.9(d). Cal OES will take no action on this comment.

O-30 Comment

Section 2762.9 Incident Investigation.

Proposed language:
"(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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 shall be provided to employee representatives, and where applicable, contractor employee representatives.

BGA Comments and recommendations:
(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. The owner or operator shall provide notification, and shall make all i~~I~~nvestigation reports ~~shall 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 shall be provided to employee representatives, and where applicable, contractor employee representatives.

O-30 Response

Cal OES believes the current proposed regulatory language provides the appropriate level of employee engagement. Employees who are affected by the incident will be provided with the report and afforded the opportunity to review the report with appropriate personnel. All other employees will have access to the report upon request. Cal OES will take no action on this comment.

O-31 Comment

Section 2762.10 Employee Participation.

Proposed language:
"(a) In consultation with employees and employee representatives, the owner or operator shall develop, implement and maintain a written plan to effectively provide for employee participation in Accidental Release Prevention elements, as required by this Article. The plan shall include provisions that provide for the following:
(1) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;
(2) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.
(3) Access by employees and employee representatives to all documents or information developed or collected by the owner or operator pursuant to this Article, including information that might be subject to protection as a trade secret."

BGA Comments and recommendations:
"(a) In consultation with employees and employee representatives, the owner or operator shall develop, implement and maintain a written plan to effectively provide for employee participation in Accidental Release Prevention elements, as required by this Article. The plan shall include provisions that provide for the following:
(1) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point <u>throughout all phases</u>, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;
(2) Effective participation by ~~affected~~ operating and maintenance employees and employee representatives, at the earliest possible point <u>throughout all phases</u>, in the development, training, implementation and maintenance of ~~the~~ <u>all</u> Accidental Release Prevention elements required by this Article.

(3) Access by employees and employee representatives to all documents or information developed or collected by the owner or operator pursuant to this Article, including information that might be subject to protection as a trade secret."

O-31 Response

Regulatory changes have been made to address the first proposed revision. Cal OES believes the second proposed revision is unnecessary. The language "Accidental Release Prevention elements required by this article" means all elements required by the Program 4 article.

O-32 Comment

Section 2762.12 Contractors.

Proposed language:
"(b) Stationary Source owner or operator responsibilities.
(1) The owner or operator, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs.
(2) The owner or operator shall inform the contract owner or operator of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.
(3) The owner or operator shall explain to the contract owner or operator the applicable provisions of Article 7.
(4) The owner or operator shall develop and implement effective written procedures to ensure the safe entry, presence, and exit of the contract owner or operator and contract employees in process areas.
(5) The owner or operator shall periodically evaluate the performance of the contract owner or operator in fulfilling their obligations as specified in subsection (c).
(6) The owner or operator shall ensure and document that the requirements of this section are performed and completed by the contractor owner or operator."

BGA Comments and recommendations:
"(b) Stationary Source owner or operator responsibilities.
(1) The owner or operator, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs <u>including programs use to prevent employee injuries and illnesses.</u>
(2) The owner or operator shall inform the contract owner or operator of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.
(3) ~~The owner or operator shall explain to the contract owner or operator the applicable provisions of Article 7.~~ <u>The refinery employer shall inform the contractor, and shall require that the contractor has effectively informed each of its employees, of the following: potential process safety hazards associated with the contractor's work; applicable refinery safety rules; and applicable provisions of this section, including the provisions of the Emergency Action Plan.</u>

(4) The owner or operator shall develop and implement effective written procedures to ensure the safe entry, presence, and exit of the contract owner or operator and contract employees in process areas.
(5) The owner or operator shall periodically evaluate the performance of the contract owner or operator in fulfilling their obligations as specified in subsection (c).
(6) The owner or operator shall ensure and document that the requirements of this section are performed and completed by the contractor owner or operator."

O-32 Response

Regulatory changes have been made that, at least in part, address the above proposed revisions in subsection (b)(1). It is important to remember that the CalARP program addresses process safety rather than personnel safety. With regard to subsection (b)(3), regulatory changes were made to subsection (b)(2) that address this proposed revision.

O-33 Comment

Section 2762.12 Contractors.

Proposed language:
"(c) (2) The contract owner or operator shall ensure that each contract employee is instructed in the potential hazards related to his or her job and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures."

BGA Comments and recommendations:
"(c) (2) The contract owner or operator shall ensure that each contract employee is <u>effectively</u> instructed in the potential hazards related to his or her job and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures."

O-33 Response

Cal OES believes that the regulatory language requires that the training required by this subsection, now located in section (c)(1), must be effective. Cal OES will take no action on this comment.

O-34 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis.

Proposed language:
"(b) The owner or operator shall also conduct an HCA in the following instances:
(1) For all PHA recommendations for each scenario that identifies the potential for a major incident;
(2) Whenever a major change is proposed at a facility, the owner or operator shall conduct an HCA as part of a Management of Change review required by section 2762.6;

(3) When a major incident occurs, the owner or operator shall complete an HCA on the recommendations of the incident investigation report required by section 2762.9; and
(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information."

BGA Comments and recommendations:
"(b) The owner or operator shall also conduct an HCA in the following instances:
(1) For all PHA recommendations for each scenario that identifies the potential for a major incident. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information;
(2) Whenever a major change is proposed at a facility, the owner or operator shall conduct an HCA as part of a Management of Change review required by section 2762.6;
(3) When a major incident occurs, the owner or operator shall complete an HCA on the recommendations of the incident investigation report required by section 2762.9; and
(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information. HCAs completed for this purpose shall be made publicly available prior to calendaring of hearings or other public meetings required under provisions of the California Environmental Quality Act (CEQA)."

O-34 Response

CalOES notes and appreciates the support for the public disclosure provisions in the CalARP proposal. The California Environmental Quality Act (CEQA), however, is a separate statute with its own timelines. The strict disclosure timelines prescribed by the CalARP proposed regulatory language may or may not align with the separate activities refineries undertake as part of their compliance with CEQA. Requiring that certain activities under CalARP occur prior to activities that are mandated by a different statute risks interfering with compliance with that statute, which would be outside the scope of these regulations. For this reason, it would be inappropriate to require that timelines under the current regulations align in any way with timelines under CEQA.

With regard to the proposed regulatory language requiring that HCA reports conducted in conjunction with PHA recommendations for each scenario that identifies the potential for a major incident, please see response to comment O-6. Cal OES will take no action on this comment.

O-35 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis.

Proposed language:
"(g) The HCA team shall complete an HCA report within 90 calendar days following development of the recommendations. The report shall include:"

BGA Comments and recommendations:
"(g) The HCA team shall complete an HCA report within 90 calendar days ~~following development~~ of issuing the recommendations. The report shall include:"

O-35 Response

Cal OES believes that its proposed regulatory language requires that the HCA team release required report upon the "development" of the recommendations is a more stringent standard requiring the HCA team to act more promptly. Cal OES will take no action on this comment.

O-36 Comment

Section 2762.14 Process Safety Culture Assessment.

Proposed language:
"(e) The owner or operator in consultation with the PSCA team shall develop corrective actions based on the PSCA Team recommendations and implement the corrective actions within twenty-four (24) months of the completion of the report."

BGA Comments and recommendations:
"(e) The owner or operator in consultation with the PSCA team shall develop corrective actions based on the PSCA Team recommendations and implement the corrective actions within ~~twenty-four~~ eighteen ~~(24)~~ (18) months of the completion of the report."

O-36 Response

Cal OES maintains that 24 months is a more feasible and realistic timeframe to implement corrective changes. Cal OES will take no action on this comment.

O-37 Comment

Section 2762.15 Human Factors Program.

Proposed language:
"(b) The owner or operator shall include a written analysis of human factors where relevant in the design phase of a major change, incident investigations, PHAs, MOOCs, and HCAs. The analysis shall include a description of selected methodologies and criteria for their use."

BGA Comments and recommendations:
"(b) The owner or operator shall include a written analysis of human factors ~~where relevant~~ in the design phase of a major change, incident investigations, PHAs, MOOCs, and HCAs. The analysis shall include a description of selected methodologies and criteria for their use."

O-37 Response

Human factors are not always relevant or at issue in the listed scenarios. Requiring a human factors analysis where human factors are irrelevant is would unnecessarily burden refineries and would not further Cal ARP's aim of preventing an accidental release.

O-38 Comment

Section 2762.15 Human Factors Program.

Proposed language:
"(e) The owner or operator shall develop a schedule for revising existing operating and maintenance procedures based on a human factors assessment. The owner or operator shall complete fifty (50) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years."

BGA Comments and recommendations:
"(e) The owner or operator shall develop a schedule for revising existing operating and maintenance procedures based on a human factors assessment. The owner or operator shall complete fifty (50) percent of assessments and revisions within ~~three~~ two (~~3~~2) years following the effective date of this Article and one hundred (100) percent within ~~five~~ four (~~5~~4) years."

O-38 Response

Cal OES believes that the proposed three and five year deadlines present a more feasible and realistic timeframe and are consistent with historical CalARP deadlines. Cal OES will take no action on this comment.

O-39 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:

"(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment."

BGA Comments and recommendations:
"(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. ~~If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment~~ Each recommendation that is
changed or rejected by the employer shall be communicated to all team members for comment. The employer shall document all comments received from team members for each changed or rejected recommendation. The employer shall document a final decision for each recommendation and shall communicate the decision to all team members."

O-39 Response

Regulatory changes have been made to address the first sentence of the proposed revision. The requirement in the second and third sentences of the commenters proposed language are encompassed by subsection (e)(5).

O-40 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:
"(e) (10) Notwithstanding sections (11) through (13) below, corrective actions addressing process safety hazards shall be prioritized and promptly completed, either through permanent corrections or interim safeguards sufficient to prevent the potential for a major incident, pending permanent corrections."

BGA Comments and recommendations:
"(e) (10) Notwithstanding sections (11) through (13) below, corrective actions addressing process safety hazards shall be ~~prioritized and~~ promptly completed, either through permanent corrections or interim safeguards sufficient to prevent the potential for a major incident, pending permanent corrections."

O-40 Response

Cal OES appreciates that the commenter's goal is to ensure that all corrective actions are promptly completed. However, Cal OES wants to ensure refineries consider risk based priorities and elect to complete the most pressing corrective actions first. Cal OES will take no action on this comment.

O-41 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:
"(f) Within 90 calendar days of the effective date of this Article, the owner or operator shall develop in consultation with employees and employee representatives, a system to implement the following:
(1) Effective Stop Work procedures that ensure:
(A) The authority of all employees, including employees of contractors, to refuse to perform a task where doing so could reasonably result in death or serious physical harm;
(B) The authority of all employees, including employees of contractors, to recommend to the operator in charge of a unit that an operation or process be partially or completely shut-down, based on a process safety hazard; and,
(C) The authority of the qualified operator in charge of a unit to partially or completely shut-down an operation or process, based on a process safety hazard.
(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to reports of hazards that present the potential for death or serious physical harm."

BGA Comments and recommendations:
"(f) Within 90 calendar days of the effective date of this Article, the owner or operator ~~shall develop~~ in consultation with employees and employee representatives, ~~a system to~~ shall develop and implement the following:
(1) Effective Stop Work procedures that ensure:
(A) The authority of all employees, including employees of contractors, to refuse to perform a task where doing so could reasonably result in death or serious physical harm;
(B) The authority of all employees, including employees of contractors, to recommend to the operator in charge of a unit that an operation or process be partially or completely shut-down, based on a process safety hazard; and,
(C) The authority of the qualified operator in charge of a unit to partially or completely shut-down an operation or process, based on a process safety hazard.
(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall ~~prioritize and~~ promptly respond to reports of hazards that present the potential for death or serious physical harm."

O-41 Response

Regulatory changes have been made to address this comment in part. With regard to the commenter's proposal that the word "prioritize" should be stricken, please see the response to comment O-40.

O-42 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:
"(g) Within 90 calendar days of the effective date of this section, the owner or operator shall develop a system to document and enable employees to report information pursuant to subsections (f)(1) and (f)(2).
(h) Process Safety Performance Indicators"

BGA Comments and recommendations:

"(g) Within 90 calendar days of the effective date of this section, the owner or operator shall develop <u>and implement</u> a system to document and enable employees to report information pursuant to subsections (f)(1) and (f)(2).
<u>(h) The employer shall document the following:</u>
<u>(1) Recommendations to partially or completely shut-down an operation or process, pursuant to subsection (q)(5)(A)(2);</u>
<u>(2) Partial or complete shut-down of an operation or process,</u>
<u>pursuant to subsection (q)(5)(A)(3); and,</u>
<u>(3) Written reports of hazards, and the employer's response,</u>
<u>pursuant to subsection (q)(5)(B).</u>
(~~h~~<u>i</u>) Process Safety Performance Indicators"

O-42 Response

The language in (g) already requires the owner or operator to develop a system to document information reported related to shut-downs and hazard reports. For this reason, the proposed language is largely unnecessary and redundant. It may not be possible for the owner or operator to document all verbal recommendations that may occur to shut down an operation or process, but the requirements in (g) would require documentation of written reports of hazards and responses, and shut-downs. Cal OES will take no action on this comment.

COMMENTER P
Christopher Lish – Member of the Public
Emailed dated September 15, 2016

P-1 Comment

Thank you for taking action to make much-needed updates to California's refinery safety standards. As the 2012 explosion and fire at the Chevron refinery made all too clear, we need these updated standards to protect workers, surrounding communities, and the environment—and the new rules must be as strong as possible. I am concerned that the draft rules have recently been weakened, undermining their efficacy by watering down key provisions and enforceability.

"Our duty to the whole, including to the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose and method."
-- Theodore Roosevelt

I encourage you to make the following changes and finalize the strongest rules possible, as quickly as possible:

- Implement the changes to the Process Safety Management (PSM) and Accidental Release Program (Cal/ARP) proposals that the United Steelworkers, BlueGreen Alliance, and California Labor Federation submitted to the Standards Board on September 3.
- Implement the recommendation of Communities for a Better Environment regarding public disclosure and the California Environmental Quality Act.

Please do not allow the proposals to be weakened in any way, as they already represent a compromise. It's also critical that these proposals move ahead for adoption as quickly as possible.

"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish—indeed, all the living creatures of prairie and woodland and seashore—from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."
-- Theodore Roosevelt

Thank you for your attention to this important matter. We must move toward a decarbonized economy, oil should ultimately be left in the ground, and existing facilities should be held to the highest-possible standards to minimize the burden they place on workers, the surrounding communities, and the environment. California's 18 refineries can and should be the safest and least-polluting petroleum refineries in the world.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."
-- Aldo Leopold

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

P-1 Response

See response to Comments D-1 and D-2.

COMMENTER Q
Christopher Howe – Valero
Emailed dated September 15, 2016

Q-1 Comment

Sections 2762.14 and 2762.16

Valero's Benicia and Wilmington refineries have been certified by Cal/OSHA as VPP STAR sites and have a demonstrated history of safe operation in the communities where they operate. Today our two California refineries are the only petroleum refineries in California to be recognized as VPP STAR Sites under the VPP program. This distinction is something we are proud of and we believe participation in VPP has helped create the foundation for our exemplary safety performance. The VPP certification includes effective management commitment and employee involvement as a fundamental core requirement in all program aspects. Since our refineries' initial certifications took place over a decade ago, and with required re-certification audits every three years, STAR sites must maintain and improve performance to remain in the program.

This foundation was developed while we implemented the existing PSM and Cal/ARP regulations and without the more prescriptive requirements such as those now being proposed. When implementing any new requirements that might be adopted, we request consideration be given to facilities that have received STAR certification under Cal/OSHA's Voluntary Protection Program (VPP) and demonstrated they are effectively deploying programs to continuously improve process safety.

Specifically we think refineries that are VPP STAR certified should be deemed to have met the requirements for the proposed regulations related to Process Safety Cultural Assessment (2762.14), Human Factors (2762.15) and Accidental Release Prevention Program Management System (2762.16). We know the importance of engaging all onsite employees in occupational and process safety, whether they are Valero employees or contractors. This engagement comes about not because of the results of a required process safety culture assessment, but because of our commitment to employee involvement in VPP.

Procedures and work processes developed at our refineries already consider factors like the complexity of the task, training, experience or expertise of the employee performing involved, and what might be the physical challenges in the work environment when performing the task. We already consider these factors and don't believe documenting a separate human factors program will improve the results we have demonstrated in safe operating performance.

Finally, our safe operations performance and certification as a VPP STAR site could only be achieved with an effective accidental release prevention program management system being in place. The elements of this accidental release prevention program management system are reviewed every three years as part of our VPP Recertification and should be deemed to meet the requirements of the proposed regulations.

Acknowledging the value of voluntary participation in Cal/OSHA VPP in the proposed amendments might also encourage greater participation from others in the Voluntary Protection Program and generate similar results in safety performance at other sites.

Q-1 Response

The subject of STAR rating is outside the scope of this rulemaking.

COMMENTER R
Joseph Bookout – Tesoro
Emailed dated September 15, 2016

R-1 Comment

Statutory Authority to Issue the CalARP Program 4 Regulations

CalOES relies on Health and Safety Code § 25531 and § 25534.05 as statutory support for its proposed rule. However, neither of these provisions, nor any other sections of Article 2 of Chapter 6.95,provides the requisite authority for CalOES' proposed rule. Tesoro believes that CalOES lacks the authority to implement the proposed rule for the following reasons:

A. The Proposed Rule is Inconsistent with the Stated Goals of the Legislature in Enacting Health and Safety Code Sec. 25531.

Section 25531 explains that the legislative goals of the CalARP program were "reducing regulated substances accident risks and eliminating duplication of regulatory programs." Health & Safety Code § 25531(e) The California Legislature determined that the best way to achieve these goals was through implementing the federal risk management program in the state, with certain amendments that are specific to the state." Id. The proposed rule is inconsistent with the intent of the California Legislature to the extent that it expands the requirements of the Federal rule. Cal OES will take no action on this comment.

R-1 Response

The comment is conclusory and does not illustrate how expansions to the federal accidental release program render the proposed revisions to the CalARP program contrary to the stated goals contained within Health and Safety Code section 25531(e). Although this comment directly quotes a portion of the Health and Safety Code § 25531(e), the comment ignores the balance of the statutes and other applicable section. For example, Health and Safety Code § 25531 (c) calls for the California "program" to "anticipate the circumstances" and "require the taking of necessary precautionary and preemption actions." The text of section 25531(e), as well as the federal program itself, specifically contemplates state-specific amendments that address state-specific needs. In 2014, the Governor's Interagency Working Group on Refinery Safety issued a report entitled *Improving Public and Worker Safety at Oil Refineries* this document identified gaps in the current regulatory framework. The proposed changes to Program 4 are necessary to address these state-specific gaps in the existing risk management plan.

R-2 Comment

B. The Proposed Rule Exceeds the Permissible Accidental Release Activity Regulations set forth by the Legislature in Enacting Health and Safety Code Sec. 25534.05.

Section 25534.05(a) establishes the scope of permissible accidental release activity regulations. This scope is limited to five discrete areas: (1) stationary source registration; (2)

RMP receipt, review, revision and audit; (3) resolution of disputes between stationary sources and local administering agencies; (4) providing for public availability of RMPs; and (5) technical assistance to stationary sources subject to the RMP program. The proposed rule is inconsistent with the intent of the California Legislature to the extent that it expands the existing regime beyond these stated activities.

R-2 Response

The comment is conclusory and does not illustrate which aspects of the proposed rule exceed the permissible scope of the accidental release regulations. Health and Safety Code section 25534.05 grants Cal OES the authority to adopt regulations pertaining to the RMP program. "'[T]he absence of any specific [statutory] provisions regarding the regulation of [an issue] does not mean that such a regulation exceeds statutory authority....' [Citations.] 'The [agency] is authorized to "fill up the details" of the statutory scheme.' [Citation.]" (*Marshall v. McMahon* (1993) 17 Cal.App.4th 1841, 1848, quoting *Ford Dealers Assn. v. Department of Motor Vehicles* (1982) 32 Cal.3d 347, 362; accord, *Mineral Associations Coalition v. State Mining & Geology Bd*. (2006) 138 Cal.App.4th 574, 589; *Physicians & Surgeons Laboratories, Inc. v. Department of Health Services* (1992) 6 Cal.App.4th 968, 98.) Cal OES will take no action on this comment.

R-3 Comment

<u>C. The Legislature Specifically Identified those Areas where California Rules May Deviate from Federal Rules</u>.

The plain language of § 25534.05(a) constrains Cal OES' authority to implementation of the federal RMP while accounting for circumstances specific to" California." See Health & Safety Code § 25531(e). See also Health & Safety Code § 25531.2 ("The legislature finds and declares that as the state implements the federal accidental release prevention program pursuant to this Article . . . .") CalOES' authority is limited to adopting the federal RMP. The only permissible deviations are *for* amendments that are specific to the state." (Health & Safety Code § 25531(e)) Such amendments include ministerial changes such as replacing references to the United States Environmental Protection Agency with CalOES and addressing concerns unique to California, such as seismic concerns. See Health & Safety Code § 25534.05(c). The refining industry is not specific to the state of California. Thus, the statute does not otherwise authorize CalOES to unilaterally single out the refining industry for additional regulation.

R-3 Response

The commenter's conclusion that 25534.05(a) constrains Cal OES' authority to implementation of the Federal program with ministerial deviations for name changes and addressing seismic concerns is legally erroneous. It is clear that the legislature intended for California to develop an RMP program that protects the public from health and safety threats due to accidental releases. Further, section 25534.05(e), states, "Administering agencies shall implement the regulations adopted pursuant to this section." While the "federal program provides no options for

implementing agencies to diminish the requirements or applicability of the federal program," nothing in the statutory authority prohibits Cal OES from setting forth more stringent requirements based on an assessment of risk. (Health & Saf. Code, § 25531(d).) Cal OES also has the authority to promulgate regulations that allow the CUPAs to enforce the "general duty clause" contained in Health and Safety Code section 25531.2. (Health & Saf. Code, § 25531.2(b).)

R-4 Comment

D. The Accidental Release Prevention Requirements Authorized by the California Legislature are Limited to Regulated Substances.

The accidental release prevention requirements of Chapter 6.95 apply to "regulated substances." CalOES admits that its proposed rule is "intentionally much broader" and is "designed to go beyond a list of regulated substances." See Initial Statement of Reasons at 7. Thus, the proposed rule is inconsistent with the intent of the California Legislature in this regard.

R-4 Response

In enacting the authorizing legislation, the California Legislature found that, "the potential for explosions, fires, or releases of toxic chemicals into the environment exists." And, "The protection of the public from uncontrolled releases or explosions of hazardous materials is of statewide concern." (Health & Saf. Code, § 25531(b).) Cal OES, by implementation of this rule, does intend to "go beyond a list of regulated substances" by implementing regulations aimed at the refinery as a whole, designed to prevent major incidents. The regulation does not, however, expand the scope of the regulation to entities that would not otherwise be regulated under the CalARP program. Every petroleum refinery subject to the Program 4 requirements is a stationary source with a "Covered Process" and subject to the provisions of the CalARP program. The Program 4 requirements merely add an extra layer of protection where serious accidental chemical releases at petroleum refineries demonstrated these extra regulations were warranted and necessary.

R-5 Comment

E. The Proposed Rule Violates the Funding Provisions of its Statutory Authority.

CalOES also disregards express statutory limitations on funding for the CalARP program in the proposed rule. Health and Safety Code provides:

> Any fee imposed on any stationary source to cover the administrating agency's cost of implementing the accidental release prevention program … shall be imposed only through the single fee system established pursuant to Section 25404.5

See Health & Safety Code § 25535.5. Proposed Section 2762.9(n) violates this restriction by requiring the owner or operator of the stationary source to pay the administering agency's independent analysis costs.

In addition, the proposed rule fails to provide any standards for determining when an administrating agency can conduct its own independent analysis. Rather, it is allowed whenever the administering agency "chooses to perform" it. Proposed § 2762.9(n).

R-5 Response

Regulatory changes have been made to address the commenter's concerns regarding the single fee system. With regard to the commenter's concern regarding the administering agency's discretion to conduct an independent analysis, the proposed regulation states that these independent investigations may be conducted following a major incident. Contrary to the commenter's insinuation, section 2762.9(n) does not permit the administering agency to conduct an independent investigation at will.

R-6 Comment

F. The California Legislature Mandated Coordination of CalARP and CalPSM Rules.

The proposed regulations are also inconsistent with statutory mandate requiring coordination between the CalARP and Cal/OSHA PSM programs to ensure a "single, unified inspection and enforcement program." Cal. Health & Safety Code §§ 25404.2(a)(4), 25542. See also Health & Safety Code § 25533(b). The proposed regulations are replete with inconsistences with Cal/OSHA's PSM rule that prevent a single unified program.

In addition, Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) is a concept applied throughout the CalARP and PSM proposed programs. However, the two programs define the term differently. In particular, the proposed regulation provides that an owner/operator's internal standards are not considered RAGAGEP. Proposed § 2735.3(iii).

Not only is this inconsistent with Cal/OSHA's PSM rule, this is inconsistent with other parts of the proposed regulation. In particular, CalOES indicates an owner/operator may use its own internal standards in lieu of RAGAGEP in other sections of the proposed regulation. See, e.g.,§§ 2762.l(d), 2762.S(b)(2).

R-6 Response

Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate. Consequently, Cal OES has worked closely with DIR to ensure that these regulations track closely. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting

communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. In addition, consistent does not necessarily mean identical. If there are differences between the two regulations but those differences do not lead to contradictory or significantly divergent requirements, then those differences would not render owners or operators “unable to…effectively comply with both regulator schemes.”

The definition of RAGAGEP is consistent between the two regulations. RAGAGEP is an acronym that stands for “Recognized and Generally Accepted Good Engineering Practices.” In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, “generally accepted” standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not “generally accepted” or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery’s internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery’s process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

R-7 Comment

The Proposed Rule Must Be "Reasonably Necessary"

Tesoro believes that the CalARP and CalPSM regulations have been effective in improving process safety in the petroleum refining industry because the regulation has focused on significant hazards/risks and used performance-based language that allows refineries flexibility in selecting the most appropriate means to comply. The regulations have represented a consistent and well-understood framework that has been used by refineries for many years.

Tesoro believes that strengthening the effectiveness of the existing regulation by improving OES's compliance programs is a surer way to improve process safety performance than by adding new PSM elements to the regulations.

Tesoro does not believe that OES has made an adequate case demonstrating that new PSM elements and expansions of existing regulatory requirements are reasonably necessary. OES has the burden of demonstrating that additional regulations are "reasonably necessary" and address a "significant risk of harm". The justification for additional regulations should be based on a holistic view of the petroleum refining industry's performance and most common event causes rather than on high profile, single events.

If OES determines that overall industry performance does support changes to the CalARP rule, then those changes should:

- Be risk-based and performance-based rather than prescriptive;
- Be supported by industry process safety performance data;
- Address root causes of significant performance issues and events;
- Rely primarily on compliance and enforcement of the existing regulations;
- Undergo rigorous cost-benefit analysis to clearly demonstrate that benefits to society exceed overall costs;
- Provide adequate time and certainty for implementation; and
- Provide appropriate structure for compliance and enforcement.

The proposed rule should address actual industry performance problems based on process safety data and the identification of root causes for process safety events that have the potential to cause serious physical harm. Therefore, Tesoro believes that it would be more effective for OES to focus on improving compliance with the existing regulations and enforcement programs which have proven their effectiveness rather than proposing new PSM elements of uncertain benefit. Adding more PSM elements will not necessarily result in improved process safety performance.

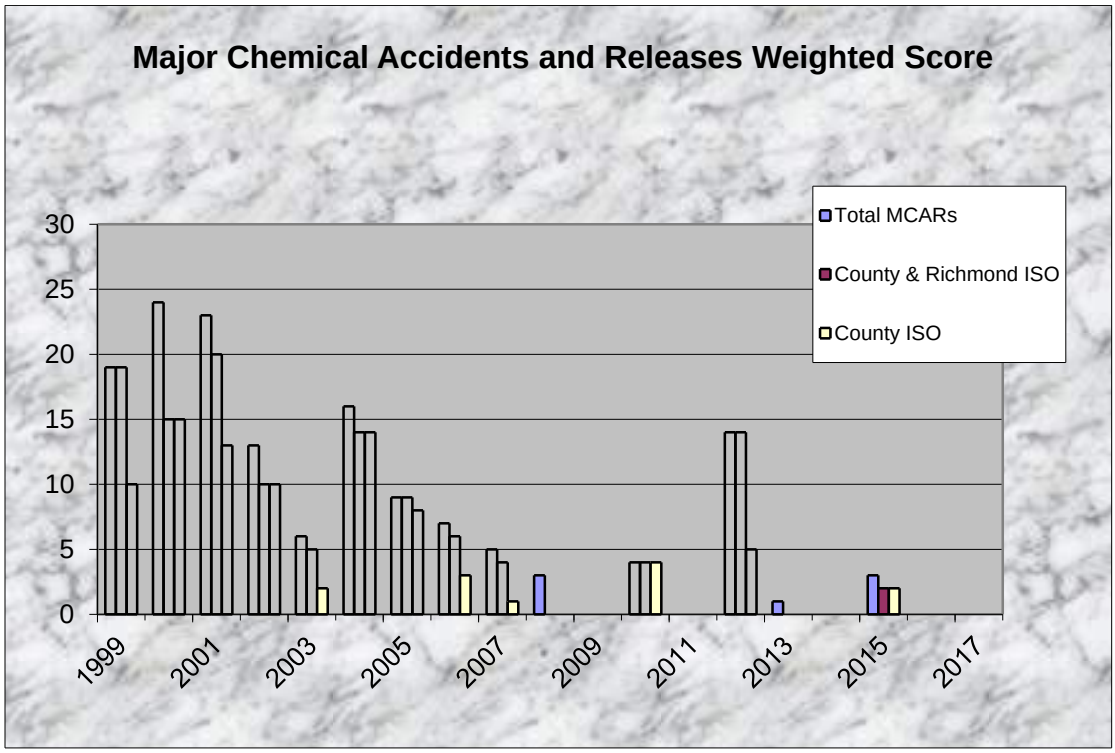
R-7 Response:

This regulation continues and builds upon the existing CalARP performance-based approach that allows refineries flexibility in selecting the most appropriate means to comply. The team-based analyses required in the regulation to review and enhance various aspects of process safety are all consistent with – and natural outgrowths of – the existing CalARP framework.

Cal OES believes that its Initial Statement of Reasons adequately demonstrates that this regulation is reasonably necessary. While the commenter asserts that the "justification for additional regulations should be based on a holistic view of the petroleum refining industry's performance and most common event causes rather than on high profile, single events," these events evidence gaps in the current regulatory scheme. Further, investigations following these events demonstrated the need for stronger preventative safeguards. Petroleum refineries are inherently hazardous and require a higher level of oversight than other stationary sources. The proposed regulations improve public safety through enhanced oversight of refineries.

The proposed regulations are modeled on evidence-based recommendations from the Chemical Safety Board (CSB) and the Governors Working Group on Refinery Safety. These recommendations are specifically referenced in the Initial Statement of Reasons for the relevant provisions. The regulations are also modeled on procedures that have been demonstrated to be successful in the refinery industry. For example, the Center for Chemical Process Safety (CCPS), a membership organization of the petroleum industry and other industries, has published books on best practices that describe many of the elements included in this regulation, including human factors, management of organizational change, root cause analysis, process safety metrics, and layer of protection analysis/safeguard protection analysis. Finally, the Contra Costa County Industrial Safety Ordinance (ISO) includes many of the provisions included in this regulation. Since the ISO has been in effect, the numbers of significant industrial accidents in Contra Costa

County have significantly decreased as shown in the chart below, constituting evidence of the effectiveness of the approach in this regulation.



MCAR = Major Chemical Accidents or Releases
Source: Contra Costa County 2016 Annual Performance Review & Evaluation Report

R-8 Comment

The Proposed Rule Should Be Supported by a Valid Cost to Benefit Analysis

Tesoro believes that the cost estimate developed by RAND for the state of California significantly underestimates the costs of the proposed rule and that the estimated benefits are overstated. One of the significant flaws in the RAND analysis was that it was based on the CalPSM proposed rule which ignored any costs of the CalARP proposed rule's additional requirements for both refineries and agency personnel. A more realistic benefit to cost ratio for the proposed rule would show that it is far less advantageous for California consumers than the RAND report suggests. The shortcomings described below weaken the credibility of the RAND report and undermine its conclusions. The OES reliance on this report constitutes a failure by the OES to properly analyze industry's implementation costs as required by the California Administrative Procedures Act or to do a reasonable cost to benefit analysis.

A. The RAND analysis of industry costs was based on a flawed methodology that resulted in a significant underestimation of industry's compliance costs.

In particular, RAND failed to properly consider the following costs:

1. The RAND analysis was based largely on a survey of California refiners, but the survey was modified as it was being administered so that it was not the same for all refineries. For example, some refineries were requested to include the costs of doing seismic studies as part of a PHA while others were not.
2. The RAND survey asked refineries to estimate implementation costs, but failed to provide them with a common basis for estimating costs or with sufficient time to do the basic engineering needed to develop cost estimates with better than an order of magnitude accuracy. Therefore, the RAND estimate of overall costs is based on an inconsistent data set which is completely inadequate as a basis for new regulations.
3. The capital costs that would be a direct consequence of complying with the proposed rule were not considered by RAND. This is a significant omission since the engineering and capital expenditure costs are orders of magnitude greater than the costs of the reviews and analyses required by the proposed rule.
4. RAND's decision to arbitrarily exclude one of the more developed cost estimates as an "outlier" invalidates the overall cost estimate for California developed from the survey data set. The Turner Mason analysis points out that the excluded refinery's cost estimate "included implementation costs and was not subject to caveats and qualifications, suggesting that it should have been included rather than discarded" and "that this refiner's estimate was not an outlier.
5. RAND's survey instructions advised refineries to assume that the CalARP proposed rule would be identical to the CalPSM rule and therefore would not have any additional costs associated with it. This assumption proved to be wrong as there are significant differences between the two proposed rules. This flaw in the RAND study ensured that that the total costs for the PSM and ARP elements would be underestimated.
6. The RAND survey did not include the cost impact of expanding the PSM regulation to cover all connected processes and equipment within the refinery regardless of whether they contained threshold quantities of materials listed in Appendix A of CalPSM 5189. This change in PSM applicability was not anticipated by RAND.
7. The RAND survey did not anticipate the RAGAGEP compliance costs that would be imposed by the proposed rule.

B. <u>The RAND analysis of economic benefits was based on a flawed methodology that resulted in a significant overestimation of benefits and avoided costs to the California economy.</u>

In particular, RAND was inadequate with respect to the following points:

1. RAND's estimate of a refinery's opportunity costs for a major event was based on an assumed value for the refinery's production of $4/gallon which overstates historical fuel values by 70%.

2. The RAND estimate of benefits double counted some costs by estimating consumers' avoided costs due to a reduction in major incidents (due to lower retail prices) and then adding to that the refinery's avoided costs for things such as liability claims. However, these additional costs are already represented in retail fuel prices since costs are passed through to consumers.
3. RAND ignored the proposed rule's potential to result in one or more refinery closures which would require replacing their production from other, likely higher cost suppliers.

R-8 Response

Cal OES disputes that the RAND analysis of industry costs and economic benefits was based on a flawed methodology that resulted in a significant underestimation of industry's compliance costs and overestimation of benefits and avoided costs to the California economy. The RAND report conforms to Department of Finance Regulations pertaining to Standardized Regulatory Impact Assessments (SRIA) for major regulations. The SRIA was submitted to the Department of Finance who agreed that the methodology used to estimate impacts was sound. Cal OES will take no action on this comment.

R-9 Comment

General - Harmonization of CalARP and CalPSM Rules

Tesoro believes that aligning the CalPSM and ARP rules would facilitate improved implementation of both rules within the refinery, and recommends that the CalARP proposed rule be revised to more closely align with the CalPSM rule.

A. Justification

The proposed California Accidental Release Prevention ("CalARP") program and the proposed refinery Process Safety Management ("PSM") rule contain significant differences, as described in more detail in the referenced WSPA comments and below. These differences will impede refiners' ability to implement consistent strategies and procedures to effectively comply with both regulatory schemes.

Tesoro recommends that the Cal ARP proposed rule be revised to match the proposed Cal PSM rule to ensure consistency between the final CalARP and CalPSM rules. It is critically important for petroleum refineries to have coordinated programs which will enable process safety improvements without duplicative or even contradictory compliance requirements.

The lnteragency Working Group on Refinery Safety (IWGRS), shares Tesoro's concerns on this point. IWGRS issued a report (Improving Public and Worker Safety at Oil Refineries, Report of the lnteragency Working Group on Refinery Safety at 1(Feb. 2014)) indicating that "[i]mproved coordination, communication and oversight are essential and will result in smarter, more targeted enforcement, while avoiding the potential for inconsistent and unnecessary regulatory requirements."

B. Proposed Revisions

The differences between the CalPSM and CalARP proposed rules are listed below. The CalARP proposed rule should be revised so that it is consistent with the CalPSM proposed rule and the final rules should be identical with respect to definitions and, to the degree possible, for the following elements:

- The definitions for Major Change, RAGAGEP, Process, Process Equipment, Utility, and Employee Representative in the CalARP proposed rule should be revised (see Section V of these comments) and the final definitions in this rule and the CalPSM rule should be identical.
- CalARP Section 2762.3 Operating Procedures - (a)(4) Safety Systems should be revised to (a)(4) Safety Instrumented Systems and their Functions

R-9 Response

Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate. Consequently, Cal OES has worked closely with DIR to ensure that these regulations track closely. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. In addition, consistent does not necessarily mean identical. If there are differences between the two regulations but those differences do not lead to contradictory or significantly divergent requirements, then those differences would not render owners or operators unable to effectively comply with both regulator schemes.

R-10 Comment

General -Transition from Existing Regulations to Final Regulations

The proposed rule should include "grandfather" clauses and reasonable implementation timing provisions for the new process safety management elements and new requirements on previously uncovered processes.

A. Justification

Refiners currently conduct PHAs, SPAs, safety culture assessments, DMRs, etc. and the proposed rule will impose new requirements for the timing and content of these analyses. The proposed rule should be revised in several ways to account for analyses that were conducted prior to its implementation. First, timing requirements for these analyses should be based on the timing of the most recent similar analyses conducted by the refinery. Second, the proposed rule should allow projects and analyses that are begun under one regulatory regime to continue to completion without being subject to a new regulatory regime if the rule is finalized before the work is complete.

For example, process plant changes that meet the definition of "major change" will have longer schedules, larger scopes of work, and MOC/PHA review requirements. If one of these projects completes its MOC/PHA before the rule is finalized and then has an additional HCA review requirement added after the rule is finalized, this new requirement would be a duplicative paper exercise that would not improve process safety. Due to the number of projects going on in a refinery, this would be a significant burden on the organization to have to re-evaluate every single change for which an MOC/PHA has already been performed.

Finally, the proposed rule includes requirements for processes that were not previously covered. Without a grandfather clause, all of those newly covered processes would be immediately out of compliance. As an example, the Process Safety Information element requires the retention of material balances back to 1992. It would be very difficult for newly covered units to comply with this requirement.

B. Proposed Revision

Include a grandfather clause and reasonable implementation timing provisions for new PSM elements regarding projects that meet the "major change" criteria and are past their design phase and into the execution phase of schedule. A grandfather clause is also needed for PSI, PSCA, employee participation, etc.

R-10 Response

Regulatory changes were made to add a “grandfathering” provision with regard to PSCAs required by section 2762.14. With regard to MOC procedures/PHA review requirements, if a refiner completes a MOC/PHA before the rule is finalized, it will not be required to revise this analysis pursuant to the new rule.

Most of the proposed new prevention elements have a built in time to be implemented. Damage Mechanism Review (DMR) and Hierarchy of Hazard Control Analysis (HCA) for existing process require that 50 percent of DMRs and HCAs being complete within three years and 100 percent being complete after five years. This is consistent with a Process Hazard Analysis review cycle. The Process Safety Culture Assessment (PSCA) and Human Factors Program allow eighteen months for implementation. The Process Hazard Analysis (PHA) gives five years to complete, since they are to be revalidated every five years. Operating and maintenance procedures are to implement human factors that give them eighteen months to complete with the requirement to have a human factors program in place within eighteen months. Safeguard Protection Analysis (SPA) are to be performed six months after the completion of the PHA, since the PHA does take weeks to complete, the SPA will have time to implement longer than six months. As mentioned earlier, many of these programs are already being implemented by the refineries and the implementation should be a revising and fine tuning of what is already being done to conform to the proposed regulations. Also see response to Comment S-3.

R-11 Comment

Section 2762.0.1 Applicability

OES should limit the applicability of the proposed CalARP regulations to process areas that contain a threshold quantity of highly hazardous materials (toxic, reactive, flammable or explosive chemicals).

A. Justification

Expanding the applicability of the rule to the entire refinery detracts from the refiner's ability to reduce hazards in a risk-based manner since it will require the commitment of a disproportionate amount of resources to processes and equipment that pose less risk. The scope and purpose of the regulation is to "reduce the risk of major incidents and eliminate or minimize process safety hazards to which employees may be exposed". Thus, a refinery's commitment of process safety resources to any particular hazard should be proportionate to the risks presented by that hazard. Refinery processes that contain threshold quantities of toxic, reactive, flammable or explosive chemicals have a greater potential to cause a major incident or a catastrophic release. Thus, the current regulation's application provision properly allows refiners to focus on areas of the refinery where the greater hazards exist.

The proposed change would apply the process safety management processes to areas of the refinery such as connected utility systems (e.g. steam, electric power, etc.) regardless of their actual risks, forcing refiners to commit a disproportionate amount of resources to low risk areas that would be better spent on process units with higher risks.

B. Proposed Revision

OES should keep the existing CalARP "Applicability" regulatory language in the proposed rule.

R-11 Response

Petroleum refineries are inherently dangerous facilities and each process regardless of threshold quantities and specific regulated substance therein needs to be regulated for program 4 purposes sitewide. Connected utility systems are only included to the extent that an incident in such systems could affect a process. Petroleum refineries are expected to devote an appropriate amount of time and resources towards satisfying each of the Program 4 requirements. Cal OES will take no action on this comment.

R-12 Comment

Section 2735.3 Definitions

OES should make the following changes to the Definitions in the proposed rule.

A. Definition of Major Change

Tesoro requests that: 1) the definition of "major change" be revised to limit the criteria for "major changes" to those that introduce a new process safety hazard or worsen an existing process safety hazard; and 2) "process equipment" be removed from the definition of major change".

1. Justification

As written, the definition of "major change" is too broad and will encompass a number of minor equipment changes. Revising the definition as suggested below will focus the requirements for major changes on the most important changes.

Changes that introduce a new process safety hazard or worsen an existing one should trigger damage mechanism reviews (DMRs); hazard controls analyses (HCAs), management of change (MOC), or analyses of human factors. However, applying those processes to routine or minor equipment changes would be a disproportionate and ineffective use of a refinery's resources. Applying these processes to minor changes will also lead to a reduction in the quality of those analyses when properly applied to changes that present higher risks.

2. Proposed Revision

Tesoro requests that the OES revise the proposed rule to define "major change" as follows:

Major Change - Any of the following that introduces a new process safety hazard or worsens an existing process safety hazard:

1. Introduction of a new process or new highly hazardous material;
2. Any change in operation outside of established safe operating limits; or,
3. Any alteration in a process or in process chemistry.

R-12 Response

Regulatory changes were made to address portions of this comment. Cal OES does not agree that it is overly broad to include “new process equipment” in the definition of major change. We do not interpret this phrase to include new equipment that is installed as a replacement for old equipment. Instead, the language is intended to apply to equipment that was not previously present at the stationary source and that is being newly installed. Cal OES considers new piping being installed as new equipment. The replacement of existing piping or minor modifications to an existing pipe run is not considered new equipment. The replacement of an existing pump is not new equipment even if that replacement is using a different pump technology (going from a mechanical seal to a seal less pump). Adding new pumps where pumps did not exist before is considered

new equipment; however if this change did not result in any operational change outside of the safe operating limits, this is considered a change but not major change.

R-13 Comment

B. Definition of Major Incident

OES should revise the proposed rule to limit the definition of "major incident" to an occurrence of a catastrophic release that has the potential to result in death or serious physical harm.

1. Justification

Several analyses required by the proposed rule are triggered when a process safety event meets the definition of a "major incident". Applying those analyses to minor releases or fires with low potential consequences would require the expenditure of a disproportionate amount of PSM resources on low-risk events or might lead to a reduction in the quality of those analyses when properly applied to more consequential events. OES should revise the definition of "Major Incident" to clarify that only incidents that exceed a specified level of severity and result in a shelter-in-place or evacuation should qualify as a "Major Incident."

2. Proposed Revision

Tesoro requests that the OES define "major incident" such that it focuses on the consequences of the event as follows:

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 (as defined in Labor Code Section 6432(e)), and results in an officially declared public shelter-in-place, or evacuation order.

R-13 Response

The only difference between the commenter's proposed definition and the definition ultimately adopted by Cal OES is the word "or" before the final clause. Cal OES does not believe that an incident must result in an officially declared public shelter-in-place, or evacuation order to be considered a major incident for purposes of the Program 4 regulations. A shelter-in-place order or an evacuation order is merely one indication of a major incident. Any incident that is serious enough to jeopardize human life is considered a major incident under the proposed regulatory scheme. Cal OES will take no action on this comment.

R-14 Comment

C. Definition of Process

Tesoro requests that OES revise the definition of "process" to explicitly exclude non-process areas such as office buildings, laboratories, warehouses, maintenance shops, and change rooms.

1. Justification

Tesoro believes that there is potential for the term "interconnected" to be misconstrued in such a way as to require the inclusion of low-risk, non-process areas in a refinery's PSM programs which would require a disproportionate share of PSM resources.

2. Proposed Revision

OES should strike the term "interconnected" from the definition of "process" so that non-process areas are excluded from the regulation.

R-14 Response

Regulatory changes have been made to address the commenters concerns. Cal OES added additional qualifiers to clarify that ancillary administrative and support functions, including office buildings, laboratories, warehouses, maintenance shops, and change rooms are not considered processes under this definition. The term interconnected is already applicable as the existing definition for Programs 1 – 3 and reads as follows: "For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process." (Section 2735.3 (xx).)

R-15 Comment

D. Definition of Process Equipment

OES should provide a more precise definition of process equipment.

1. Justification

Tesoro believes that the terms used to define "process equipment" in the proposed rule are imprecise. Some major equipment such as process vessels are not listed while other, lower risk equipment is listed. The definition should be precise and it should list those equipment types where the greatest process safety risks are commonly found.

2. Proposed Revision

Tesoro requests that OES revise the definition of "process equipment" to "Equipment, including pressure vessels, rotating equipment, piping, instrumentation, process control, or appurtenance related to a process."

R-15 Response

Regulatory changes have been made to address this comment in part. To the extent the commenter remains concerned regarding the including of the term “safeguard,” Cal OES intends to limit this definition to equipment that plays a direct process safety related role in the process, including, but not limited to, the mechanical integrity and process safety information elements. This definition applies to elements that are part of or closely connected to the process physically, electronically, or for safety purposes.

R-16 Comment

E. Definition of RAGAGEP

Refinery internal standards or guidelines should be included as RAGAGEP as long as they are as protective as the codes, standards, technical reports or recommended practices published by industry associations and standards organizations.

RAGAGEP has three fundamental characteristics: 1) proven safe and effective; 2) based on science, judgment and experience; and 3) created and defined under engineering principles. Therefore, any definition of RAGAGEP must be broad enough to include safe engineering practices currently being utilized by industry, and should explicitly include the internal standards developed and used by petroleum refineries.

1. Justification

The organizations that typically develop industry standards base their codes, standards, and practices on their members' internal standards, which were created by refinery engineers based on their experience at specific refineries. Since RAGAGEP is typically based on the internal standards and engineering practices developed by companies in the industry, refiners should have the flexibility to consider internal standards as well as the codes, standards, and practices developed by industry organizations. Furthermore, as worded in the proposed rule, the inclusion of the prohibition of internal standards within the definition conflicts with other sections of the proposed rule.

2. Proposed Revision

OES should revise the definition of RAGAGEP by deleting the sentence "RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator."

R-16 Response

For the purposes of the CalARP program, Cal OES has chosen to adopt a definition of RAGAGEP that does not include a refinery's internal practices. RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements. Cal OES will take no action on this comment.

R-17 Comment

F. Definition of Employee Representative

OES should revise the proposed rule to limit the definition of "employee representative" to employees or their representatives who have experience with the process technology and the operation of the relevant unit.

1. Justification

Tesoro believes that it is important for the employee representative to have experience with a process unit's operations, equipment, and technology so that the representative may contribute meaningfully to PHA's, incident investigations, damage mechanism reviews, human factor analyses, and all of the other PSM elements. Employee representatives will not be able to make a meaningful contribution if they lack experience with the unit's fundamental processes.

2. Proposed Revision

OES should define "Employee Representative" as a union representative, where a union exists, or an employee designated representative in the absence of a union, that is on- site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or a refinery employee designated by these parties, such as the safety and health committee representative at the site.

R-17 Response

Regulatory changes were made to clarify that, for nonunion facilities, the employee representative must be an on-site and qualified employee. Employee representatives from refineries at which the employees are represented by a union can be whomever the union selects to be their representatives. Cal OES will take no further action on this comment.

R-18 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis

OES should revise the proposed rule to limit the applicability of hazard controls analyses (HCA) to the design of new processes or major changes. HCA should not be applied periodically to existing units, since HCA rarely yields process safety benefits in the context of existing processes.

A. Justification

HCA is unlikely to result in meaningful benefits when applied to existing process units because the opportunities to employ higher levels of HCA are very limited for installed process equipment. The design phase is the best time to employ HCA principles as this is when the greatest degree of freedom exists to modify a process unit's design. Thus, performing a HCA on existing processes is an unnecessary documentation requirement with limited process safety benefits.

The proposed rule also includes a requirement to conduct searches and analyses regarding inherent safety measures implemented at other petroleum refining facilities as well as other industrial facilities, Further, the proposed rule would require consideration of inherent safety measures recommended by any government entity or included in a government report. However, 1ST analyses are performed on a case-by-case basis and are tailored to the unique process design or system to be engineered. 1ST measures deployed in one process unit are not necessarily compatible with similar process units. Thus, the additional HCA requirements are likely to consume a disproportionate amount of resources relative to the additional safety benefit they might provide.

B. Proposed Revision Tesoro requests that:

1. OES revise the proposed rule to require an HCA for the design phase of a major change or a new process unit;
2. OES revise the proposed rule to limit HCA the literature review requirement for implemented 1ST to the petroleum refining industry; and
3. OES revise the proposed rule to eliminate the requirement to conduct a periodic HCA for existing operating assets.

R-18 Response

Cal OES's proposed regulatory language ensures that there is evaluation of safety and continuous improvement throughout the lifecycle of the process unit. Cal OES disagrees that a HCA is unlikely to result in meaningful benefits when applied to existing process units. The HCA process can be successfully applied to existing process units to prevent an accident from happening in the future. The HCA can provide a framework for determining the most effective corrective actions to undertake. If a first order inherent safety measure is not feasible in an existing process, other control measures should be evaluated and implemented in descending order as required in the regulation. Cal OES will take no action on this comment.

R-19 Comment

Sections 2762.9 Incident Investigation; 2762.13 Hierarchy of Hazard Controls Analysis; and 2762.16 Accidental Release Prevention Program Management System

OES should eliminate the requirements for submitting incident investigation reports, HCA reports, and process safety performance indicators to UPA.

A. Justification

These sections of the proposed CalARP rule all require that final reports from the incident investigations, HCA design analyses, and process safety indicators be made available to the public on the UPA web site. Since these reports are likely to be very technical in nature, they provide limited value to the public. Publishing this information does not make process safety events less likely or reduce the risk of accidental releases. Although the ISOR claims that publishing the reports is necessary "for the purpose of demonstrating to the local community that a full investigation occurred and that changes were made to prevent future incidents", UPA can make attestation to the public that those changes have been made without publishing the these reports.

OES is required to identify the "specific purpose" of regulatory changes, i.e. "the problem the agency intends to address" and the agency's rationale for each [change] being reasonably necessary to carry out the purpose and address the problem for which it is proposed." (Cal. Gov. Code § 11346.2(b)(1)). The ISOR fails to address the causal linkage between publishing the full report and the specific purpose of enhancing process safety. Furthermore, OES has failed to consider and discuss reasonable alternatives which are "less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation" as it is required to do by Cal. Gov. Code § 11346.2(b)(4)(A); see also Cal. Gov. Code § 11346.5(a)(13).

Making engineering reports available to the public is not germane to the agency's purpose to prevent accidental releases and minimize the impacts of those releases and it should not be done simply to satisfy public curiosity.

B. Proposed Revision

Eliminate the requirements to submit reports to UPA that are found in Section 2762.9 Incident Investigation; Section 2762.13 Hierarchy of Hazard Controls Analysis; and Section 2762.16 Accidental Release Prevention Program Management System.

R-19 Response

The proposed regulatory language conforms with the legislature's intention "that the public has a right to know about acutely hazardous materials accident risks that may affect their health and safety, and that this right includes full and timely access to hazard assessment information, including offsite consequence analysis for the most likely hazards, which identifies the offsite area which may be required to take protective action in the event of an acutely hazardous materials release." The Health and Safety code further declares, "that the public has a right to participate in decisions about risk reduction options and measures to be taken to reduce the risk or severity of acutely hazardous materials accidents." (Health & Saf. Code, § 25531.1.) Providing investigation reports, HCA reports, and process safety performance indicators to UPA is the best way to ensure that the public is aware of and has the opportunity to participate in decisions about public risk. Cal OES will take no action on this comment.

R-20 Comment

Section 2775.2.5 Independent Assessments of Program 4 Facilities; and Section 2762.9 (n) Incident Investigation

Tesoro requests that UPA's prerogatives to order independent process safety culture assessments (PSCA), incident investigations, evaluations of the ARP management systems, or human factors analyses be withdrawn from the proposed rule since requiring the facility owner to pay for independent assessments is not allowed by the statutory limitations of the CalARP program.

A. Justification

Under the Independent Assessments of Program 4 Facilities and the Incident Investigation sections of the proposed rule, UPA has the prerogative to order independent process safety culture assessments (PSCA), incident investigations, evaluations of the ARP management systems, or human factors analyses and require the owner to pay those costs. However, the California Health & Safety Code § 25535.5 states that any fee imposed on any stationary source to cover the administrating agency's cost of implementing the accidental release prevention program . . . shall be imposed only through the single fee system established pursuant to Section The proposed rule violates this restriction by requiring the owner or operator of the stationary source to pay the administering agency's independent analysis costs.

Furthermore, the language of the proposed rule is inadequate since it lacks any controls on when this requirement may be triggered and it has the potential to be administered arbitrarily.

These provisions of the proposed rule are subject to abuse by third party contractors who may be engaged to perform these assessments because the proposed rule contains no administrative controls, no established criteria, and no established process for:

- Contractor qualification;
- Contractor selection and attestation of independence;
- Administration of the assessment;
- Establishing scope for the assessment;
- A standard to ensure the objectivity of the assessment; or
- A requirement that this effort should involve consultation and collaboration with the stationary source.

B. Proposed Revision

These provisions should be deleted from the proposed rule.

R-20 Response

Regulatory changes have been made to address the commenter's concerns about the single fee system. With regard to the UPA's ability to order an independent process safety culture assessments (PSCA), incident investigations, evaluations of the ARP management systems, and human factors analyses, the UPA may not arbitrarily order these assessments. Section 2775.2.5 limits these assessments to situations where there has been a major incident as defined by the regulatory language.

R-21 Comment

Section 2762.5 (e)(6)(C) Mechanical Integrity

Tesoro requests that OES revise paragraph (e)(6)(C) of Section 2762.5 in the proposed rule to require appropriate materials of construction rather than materials that are "resistant to potential damage mechanisms".

A. Justification

The language of the proposed rule specifies a material of construction that is "resistant to potential damage mechanisms", but the term "resistant" is imprecise given that all materials are resistant to damage mechanisms *to some degree*, but no material of construction is perfectly resistant to all potential damage mechanisms. Rather, a refiner determines appropriate materials of construction by considering the types of damage mechanisms present and planning for a deterioration rate of the material in the specified service.

B. Proposed Revision

Tesoro recommends the following language for (e)(6)(C): "Determination that the materials of construction are appropriate considering the potential damage mechanisms."

R-21 Response

The proposed regulatory language does not require that the material of construction be perfectly resistant to all potential damage mechanisms. Cal OES intends that qualifier "appropriate" in the phrase "determination that the materials of construction are appropriate for their application and are resistant to potential damage mechanisms" extends to the resistance to potential damage mechanisms. The refiner shall have some discretion to determine whether the materials used are appropriately resistant so long as the rationale is documented in the DMR. Cal OES will take no action on this comment.

R-22 Comment

General - Specified Duties for Refinery Managers or Stationary Source Managers: (Section (k)(S) Management of Change; Section 2762.16 Accidental Release Prevention Program Management System)

OES should remove references to the position of refinery manager or stationary source manager that would assign responsibility for PSM compliance to a single individual.

A. Justification

Many PSM elements require complex analyses that are done collaboratively by multi-disciplinary teams. This collaboration is generally beneficial since PSM requires inputs from diverse disciplines and team members with specialized knowledge. Therefore, it is unrealistic and unreasonable for the OES to arbitrarily assign responsibility to a single position in the facility given the extent of collaboration required to implement the rule. Such a complex and multifaceted program is more appropriately divided among a broad team composed of members with relevant skills and individual responsibilities. This responsibility properly belongs to the employer.

Moreover, The California Occupational Safety and Health Act applies exclusively to "employers" (Cal. Lab. Code § 6304.5) and the statute does not contemplate assigning responsibility for compliance with its provisions to individual employees.

B. Proposed Revision

The proposed rule should be revised to eliminate references to the Refinery Manager or Stationary Source Manager in Sections: 2762.6 (k)(s) Management of Organizational Change; and Section 2762.16 Accidental Release Prevention Program Management System.

R-22 Response

As a preliminary matter The California Occupational Safety and Health Act is not the authorizing statute for the Cal ARP program. Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or

operator. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority.

R-23 Comment

Section 2762.2.1 Safeguard Protection Analysis

Tesoro requests that OES revise the SPA requirements to allow the use of qualitative analyses when appropriate.

A. Justification

The proposed rule's current requirements only allow for quantitative or semi-quantitative methods to perform a SPA. Contra Costa Industrial Safety Ordinance allows refiners to conduct a qualitative analysis to meet SPA requirements. Since California law requires OES to document that proposed regulations are consistent and not in conflict with existing laws and regulations (Cal. Gov. Code §§ 11346.S(a)(l)(D), 11349, 11349.1) the proposed rule should also allow qualitative methods. It should also be noted that the use of qualitative methods is consistent with the original CSB recommendation.

B. Proposed Revision

OES should revise the proposed rule so that it will be acceptable for a SPA to utilize a qualitative, quantitative or semi-quantitative method, such as Layer of Protection Analysis, or an equally effective method to identify the most protective safeguards. The risk reduction obtainable by each safeguard should be based on site-specific failure rate data, or industry failure rate data for each device, system or human factor.

R-23 Response

Cal OES has determined that, in this case, a qualitative analysis is not a high enough standard. To adequately prevent accidental releases, the UPA must require a quantifiable means of measuring how protective the safeguard is. The use of a semi-quantitative method, such as Layer of Protection Analysis, would be consistent with the requirements in this provision which explicitly allow for the use of semi-quantitative methods for compliance. The State of California is permitted to have a more rigorous standard than Contra Costa Industrial Safety Ordinance. It is not prohibited from creating a more protective regulation because a local ordinance already exists. Cal OES will take no action on this comment.

R-24 Comment

Section 2762.14 Process Safety Culture Assessment

OES should revise the proposed rule such that facilities that have conducted a process safety culture assessment survey within 3.5 years of the issuance of the final rule are allowed up to five years to conduct their next survey.

A. Justification

Several California refineries are already required to conduct periodic process safety culture assessments. Those refineries and any others that have a process safety culture assessment program should be allowed to continue those programs as long as they adopt five years as the maximum interval between assessment surveys. Since many or most process safety culture changes take a relatively long time to develop and instill in a workplace, allowing facilities to maintain an existing schedule for making improvements will meet the objectives of the proposed rule and avoid the misstep of putting more effort into the assessments than into the efforts to improve the process safety culture.

B. Proposed Revision

OES should revise the proposed rule such that facilities that have conducted a process safety culture assessment survey within 3.5 years of the issuance of the final rule are allowed up to five years to conduct their next survey.

R-24 Response

Regulatory changes have been made to address this comment. Refiners who have conducted and documented a PSCA up to eighteen (18) months prior to the effective date of this section, and that PSCA includes the elements identified in this subsection, that PSCA may be used to satisfy the owner or operator's obligation to complete an initial PSCA under this subsection.

R-25 Comment

Section 2762.16 (e)(12) Accidental Release Prevention Program Management System

OES should revise the implementation time-limit for incident investigation corrective actions to allow an owner to demonstrate that the 18-month limitation is infeasible.

A. Justification

Time limits on corrective actions generally will provide an incentive for refiners to implement corrective actions that might be accomplished in the shortest time, as opposed to implementing corrective actions that are the most appropriate considering he hazard.

In addition, the limit on implementation for corrective actions from incident investigations should be consistent with similar provisions in the regulation that allow a demonstration of infeasibility. For example, the proposed rule allows for a demonstration of infeasibility with respect to the time limit for implementing compliance audit corrective actions:

Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so.

OES should revise the proposed rule to allow for a similar demonstration in the context of corrective actions for incident investigations.

B. Proposed Revision

OES should revise the implementation requirement for corrective actions for incident investigations to include the statement "unless the owner or operator demonstrates in writing that it is not feasible to do so".

R-25 Response

Regulatory changes have been made to address this comment.

R-26 Comment

Section 2755.7 (h) Incident Investigation

OES should revise the rule to eliminate the time limits for incident investigations.

A. Justification

The proposed rule's proposed 90-day and five-month limitations on investigation durations before submitting a report to the OES are unreasonable and arbitrary given:

- the complexity of process safety incidents;
- existing requirements that regulatory agencies, including DIR and OES, participate in and approve activities associated with evidence collection and analysis;
- the significant amounts of analytical work needed to identify contributing causes; and
- the need to engage multiple stakeholders.

Investigation teams should be allowed appropriate time to conduct complete technical failure analyses and understand the root causes of significant incidents. The five-month limit could impede the ability of the Investigation team to conduct a thorough analysis and incentivize the investigation team to finish on time rather than correctly identify an incident's contributing causes.

B. Proposed Revision

OES should revise the proposed rule to either 1) eliminate the deadlines for incident investigations; or 2) allow refiners to submit interim investigation reports to the OES where complex analyses or significant amounts of analytical work are needed to identify contributing causes.

R-26 Response

It is difficult to evaluate the comment because the commenter appears to be commenting on the PSM regulations based on the citation. However, to the extent this comment is intended to apply to 2762.9, Cal OES maintains that it is critical that the stationary source investigate incidents promptly. The regulation does build in flexibility with regard to deadlines for the written report. The owner or operator shall submit their initial report within 90 calendar days of the incident, unless they can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report within five (5) months of the incident. Cal OES maintains that 5 months is reasonable to complete the investigation. Cal OES will take no action on this comment.

R-27 Comment

Additional Comments

There are several other points in the proposed rule where OES could make minor modifications that would allow for a more effective implementation of the rule. These are described in the referenced WSPA comments.

Tesoro is committed to providing a safe workplace for its employees and protecting the communities surrounding its facilities. To do this effectively, it is critical for Tesoro to be able to address process safety hazards by utilizing proven methodologies and company resources to address the operations that pose the greatest risks. Tesoro has raised these concerns about OES' approach to process safety because we believe that OES has proposed this rule without having a legislative foundation or demonstrating that the regulations are necessary or produce economic benefits that offset the costs. OES has also proposed unproven methodologies without adequately considering implementation difficulties. Accordingly, Tesoro believes that:

1. OES should withdraw the proposed rule until it:
    - obtains the necessary legislative authority;
    - demonstrates that the rule is reasonably necessary; and
    - performs an economic analysis that demonstrates its cost effectiveness.

2. OES should continue to work with petroleum refiners through WSPA to refine the scope of the proposed rule and address the implementation issues raised in

these comments. When considering additional PSM elements, it is important to remember that adding *more* process safety activities may lead to a loss of focus on the *most important* activities for both the refinery and the agency. The objective should be to focus industry and agency resources on those activities which will be most effective in improving process safety.

R-27 Response

These comments are general in nature and require no response.

COMMENTER S

Catherine Reheis-Boyd – Western States Petroleum Association (WSPA)
Public Hearing on August 31, 2016

S-1 Comment

Suggested change
RAND Report

Basis for Change
California law requires preparation of a standardized regulatory impact analysis that addresses the impacts of the proposed regulation on jobs and businesses in California, competitive advantages or disadvantages for current California businesses, impacts on investment in the state, incentives for innovation, and benefits to health, welfare, worker safety, environment and quality of life. Cal. Gov. Code §§ 11346.2(b)(2)(B), 11346.3. The agency must describe "all cost impacts, known to the agency at the time a notice of proposed action is submitted to the office, that a representative private person or business would necessarily incur in reasonable compliance with the proposed action." Cal. Gov. Code § 11346.5(a)(9). If the agency concludes that any part of its action will not have a significant adverse economic impact on business, it must present "[f]acts, evidence, documents, testimony or other evidence on which the agency relies to support [this] initial determination." Cal. Gov. Code § 11346.2(b)(5)(A).

The Western States Petroleum Association ("WSPA") has commissioned the report entitled "Turner, Mason & Co. Evaluation of RAND Corporation Report-'Cost-Benefit Analysis of Proposed California Oil and Gas Refinery Regulations,'" dated September 6, 2016 ("Turner Mason Evaluation"), which is attached hereto. The findings by RAND were prepared for the California Department of Industrial Relations ("DIR") and the California Office of Emergency Services ("OES"), and were utilized as economic justification for the proposed California Accidental Release Prevention ("CalARP") program ("Proposed CalARP Regulation") and the proposed Refinery Process Safety Management ("PSM") standard ("Proposed CalPSMStandard"). WSPA adopts the findings in the Turner Mason Evaluation and incorporates them herein by reference. For the reasons described in the Turner Mason Evaluation, WSPA believes the RAND Report does not meet the required criteria for a sufficient and complete economic and cost-benefit analysis, supported by documented evidence.

S-1 Response

Cal OES disputes that the RAND analysis of industry costs and economic benefits is insufficient. The RAND report conforms to Department of Finance Regulations pertaining to Standardized Regulatory Impact Assessments (SRIA) for major regulations. The SRIA was submitted to the Department of Finance who agreed that the methodology used to estimate impacts was sound. Cal OES will take no action on this comment.

S-2 Comment

Suggested change
While it is recognized the Proposed CalARP Regulation has a different emphasis than the Proposed CalPSM Standard, the Proposed CalARP Regulation should match/harmonize with the Proposed CalPSM Standard so that the requirements are consistent between the two regulations. Specific areas where this should occur are included in WSPA's comments.

Basis for Change
California law requires OES to coordinate with DIR and its Occupational Safety and Health Standards Board ("OSHSB") in adopting and enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials. See Cal. Health & Saf. Code §§ 25533(b), 25542. California law also requires OES to "evaluat[e] [] whether the proposed regulation is inconsistent or incompatible with existing state regulations" (Cal. Gov. Code § 11346.5(a)(1)(D)), and to present evidence that the proposed regulations are not in conflict with existing state law (Cal. Gov. Code §§ 11349, 11349.1). See Cal. Health & Saf. Code § 25533(a) (OES regulations that are more stringent than federal program are subject to California APA requirements). The Proposed CalARP Regulation and Proposed CalPSM Standard contain significant differences, as described in more detail below. As WSPA noted during informal rulemaking, it is critical that OES, in coordination with the California Environmental Protection Agency ("CalEPA"), and the DIR, ensure consistency between the Proposed CalARP Regulation and the Proposed CalPSM Standard currently under development by the DIR. Otherwise, refinery owners and operators will be unable to implement consistent strategies and procedures to effectively comply with both regulatory schemes. The Interagency Working Group on Refinery Safety issued a report indicating that "[i]mproved coordination, communication and oversight are essential and will result in smarter, more targeted enforcement, while avoiding the potential for inconsistent and unnecessary regulatory requirements." Improving Public and Worker Safety at Oil Refineries, Report of the Interagency Working Group on Refinery Safety at 1 (Feb. 2014).

S-2 Response

Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. In addition, consistent does not necessarily mean identical. If there are minor differences between the two regulations, but those differences do not lead to contradictory or significantly divergent requirements, then those differences would not render owners or operators "unable to…effectively comply with both regulatory schemes." Cal OES and DIR carefully evaluated the regulations and made a number of changes to enhance consistency where appropriate. Cal OES will take no further action on this comment.

S-3 Comment

Suggested change
The Proposed CalARP Regulation does not have grandfathering clauses to recognize the needed transition to continue meeting both existing Federal requirements, CUPA requirements as well as defining and incorporating new regulatory requirements. The Regulation also does not have implementation timelines for all the requirements that need it. Examples include Process Safety Information ("PSI"), Process Safety Culture Assessments ("PSCAs"), employee participation, existing projects meeting the Major Change criteria that are in the execution phase and existing recommendations.

It must be recognized that until mutually acceptable programs can be developed based on requirements in employee participation that do not conflict with negotiated contract the existing programs as defined by each company for 14 PSM Elements remain effective (or are grandfathered).

Also individual Elements need to be grandfathered until such a time as they are rolled into the new site program. Prior Safeguard Protection Analyses ("SPAs"), Process Hazard Analyses ("PHAs"), Damage Mechanism Reviews ("DMRs"), PSCAs, and Hierarchy of Hazard Control Analyses ("HCAs") shall be grandfathered until new the Section 5189.1 requirements affect the existing grandfathered work product during a 5 year revalidation for the purpose of a refinery to comply with the Federal Risk Management Program ("RMP") and PSM.

Include a phased in implementation timing for PSI for processes that are newly covered by this regulation.

Language for PSCAs has been included under that comment section.

Language for employee participation has been included under that comment section.

Include a grandfather clause for projects meeting the Major Change criteria but are past their design phase and into the execution process.

Basis for Change
In adopting the Proposed CalARP Regulation, OES must articulate a supported determination "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4). For work products in each Element completed prior to the Proposed CalARP Regulation's effective date, these work products should be "grandfathered in" for purposes of compliance with the regulations (example existing PHAs, PSCAs, SPAs, DMRs, PSI, HCAs, etc.). Including appropriate grandfather clauses is a superior alternative to the existing coverage provisions that is more effective and avoids unnecessary or unworkable burdens on regulated parties.

For example, a PHA may need to be conducted during or immediately after implementation date and a mutually acceptable program may not be in place. Since the Proposed CalARP Regulation and Proposed CalPSM Standard are still different, putting a cohesive plan will take some time and all the while a refinery must still comply with Federal RMP and PSM for existing covered processes.

Also, the Proposed CalARP Regulation requires an owner or operator to conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article. An existing PSCA developed prior to effective date shall meet this requirement and be grandfathered since many sites must also comply with local CCC CUPA timing for PSCAs.

If the applicability of the Proposed CalARP Regulation remains as it is written, additional processes that were not previously subject to the Process Safety information element will have to have PSI immediately. The materials balance clause of PSI contains a requirement back to 1992, which is difficult for units that are newly covered by the regulation.

The new HCA work process requirement is closely intertwined with the Management of Change ("MOC"), PHA and Pre Start-Up Safety Review ("PSSR") work processes. Therefore, there is a critical need to ensure that an implementation timeline is specified especially for projects. For changes defined to be a "major change", this may require a larger scope of work or a project. In the project cycle, these changes will require a MOC/PHA review and with the new regulation, the addition of an HCA review.

If the implementation timeline is not specified, then a completed MOC/PHA on a project, which may be far along in the project cycle, will have to be re-evaluated to conduct an HCA review. Due to the number of projects, this could be a significant burden to the organization and can be resource intensive. Additionally, the work process could be duplicative. Re-evaluating every single change of which an MOC/PHA has already been performed does not improve safety, but generates a paper exercise that does not add value to improve process safety. Therefore, we recommend that for any change for which an MOC/PHA has already been performed, the change should be "grandfathered in" to be compliant, with no HCA analysis required.

For Process Safety Culture Survey, a suggested change is included under comments for that section. For employee participation, a suggested change is included in that section.
In the last revision of the CalARP regulation, a grandfather clause on recommendations was included; this same consideration should be given in the Proposed CalPSM Standard. Examples from the recent version of CalARP include the following:

> (1) The owner or operator shall…the recommendations or actions. The above timelines shall not apply to any process hazard analysis completed prior to January 1, 2015.
>
> (2) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article

(an existing PSCA developed prior to effective date shall meet this requirement) and at least once, every five (5) years thereafter

S-3 Response

Regulatory changes were made to add a “grandfathering” provision with regard to PSCAs required by section 2762.14. As described below, initial PHAs and DMRs are also “grandfathered” under the regulations under specified circumstances, as are completed MOCs. After consideration, Cal OES determined that a “grandfathering” requirement is not appropriate for HCAs; the HCA requirements are unique and distinct from current practices and requirements, making existing work products unlikely to fulfill the requirements in this Article. In recognition of the fact that there is no “grandfathering” provision for HCAs, Cal OES is providing five years to develop an effective program and fully implement this critical element.

CalOES maintains that Process Safety Information is fundamental to safe operations of each process including the understanding of energy and material balances. For this reason PSI must be collected prior to conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as stated in section 2762.1 (a). Most of the PSI is complete or is readily available for existing covered processes and newly covered processes. There will be additional information under this Article that most refineries have already collected. There will be some information that has not been collected that will need to be done as soon as possible. This information is critical for the safety of operating the processes and the safety of the employees and the public. There is no need for a timeline in this section because the PSI collection must occur prior to any of the other activities.

With regard to MOC procedures/PHA review requirements, if an owner or operator completes a MOC/PHA before the rule is finalized, it will not be required to revise this analysis pursuant to the new rule. The regulation allows three years to perform an initial PHA for new covered processes. It also allows PHAs already performed under the existing Program 3 requirements to be considered the initial PHA under this Article, providing up to five years for those to be updated and revalidated in accordance with the requirements of this Article. The DMRs can be phased in over a five year period with 50% being completed within three years. The owner or operator is required to perform the DMRs according to a priority schedule based on the operating history of the process unit. DMRs conducted prior to the effective date of the regulation that contain the elements required in section 2762.5(e)(8) will relieve the owner or operator of the obligation to repeat the DMR for up to five years.

A SPA must be completed within six months after a PHA is complete. This allows some time for the development of the SPA process. The time will vary dependent on when the first PHA is performed under the new requirements.

There is a five year timeline for the HCAs, with 50% of the HCAs being complete within three years for the covered processes. HCAs performed for the recommendations in PHAs, MOCs and incident investigations are required to be done in a timely manner. The time to conduct these more focused HCAs on recommendations, however, will come at the expense of a shorter timeline for implementation of the recommendations as required in section 2762.16 (11)-(14),

since the corrective action work plan timeline starts from the submission of the PHA, MOC, or incident investigation reports themselves, not the associated HCAs.

S-4 Comment

General Comment
Global issue with Effective. The term has been inserted in every element to qualify many references to training and involvement by employees in activities.

Basis for Change
"Effective" has to be a joint understanding as defined by employee participation not singly by OSHA and/or not interpreted by any single party.

OES is required to adopt regulations that are written so that the meaning of the regulations will be easily understood. Cal. Gov. Code §§ 11349, 11349.1. The Proposed CalARP Regulation uses the word "effective" multiple times, but OES has failed to specifically define what "effective" means. Absent a regulatory definition of "effective," those portions of the Proposed CalARP Regulation using that word will be arbitrarily vague, subject to different interpretations depending on the lens of the interpreter, and vulnerable to regulatory overreach and indiscriminate enforcement. By using the term "effective," OES clearly does not mean "perfect," nor would case law support such an interpretation. But how far from "perfect" constitutes compliance? Refinery owners and operators cannot be certain of their regulatory status with respect to an "effective" program until they become the subject of enforcement. Further, the difference between "perfect" and what a reasonable person deems "effective" may be significant in terms of cost of compliance. It is not clear from the rulemaking record what standard OES used to measure the cost-effectiveness of the regulations that require this subjective standard of "effective." Without clarifying the meaning of the term 'effective' as it is used in the Proposed CalARP Regulation, OES risks violating California's statutory requirement that regulations be clear enough on their face to be easily understood.

S-4 Response

Effective is used in this regulation according to its dictionary definition: "Adequate to accomplish a purpose; producing the intended or expected result". OES agrees with the commenter that "effective" does not mean "perfect", but it does mean that the activity is designed in such a way as to make it likely to succeed. For example, in Section 2762.16, the owner or operator is required to "develop and implement an effective written Accidental Release Prevention Program (ARP) Management System…" A system that addresses all of the issues described in that section of the regulation, is clear and well-documented, and that is regularly reviewed and updated, would meet this requirement. A system that does not contain all of the required elements, is confusing or poorly documented, does not function as described on paper, or is not up-to-date would fail to comply with the requirement to be effective. The term "effective" is necessary in the sections where it is used in order to ensure that the owner or operator does not simply create a program or system on paper and fail to fully implement it, or conversely partially implements a program or

system without adequately documenting and updating it. Cal OES will take no action on this comment.

S-5 Comment

General Comment
Language requiring specific Refinery Manager duties.

WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. Please refer to specific comments provided under:
2762.6 (k)(5) Management of Organizational Change
2762.14 (g) Process Safety Culture, and
2762.16 (h)(2)Accidental Release Prevention Program Management System

Basis for Change
WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. WSPA recommends the regulation be consistent in all sections and state the employer's responsibility.

California law requires OES to coordinate with DIR and OSHSB in adopting and enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials. See Cal. Health & Saf. Code §§ 25533(b), 25542. The California Occupational Safety and Health Act provides that all "occupational safety and health standards and orders promulgated under this code, are applicable to proceedings against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5 (emphasis added). The statute does not contemplate responsibility of individual employees for compliance with its provisions. While there are regulations that assign discrete roles to individual employees, individual employees are generally not assigned responsibility for overall implementation of an entire standard, which is not surprising given the impracticability of such an expectation.

However, the Proposed CalARP Regulation arbitrarily assigns responsibility to an individual employee for compliance with all elements of PSM. This runs counter not only to the regulation's enabling statute, but further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills and individual responsibility.

S-5 Response

As a preliminary matter, The California Occupational Safety and Health Act is not the authorizing statute for the Cal ARP program. Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator or an employer. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did

not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority.

S-6 Comment

General Comment
RAGAGEP. The impacts of the proposed requirements under RAGAGEP were not included in the RAND Report.

Suggested Change
Suggested changes are documented in the Turner Mason Critique attached hereto and incorporated by reference.

Basis for Change
The RAND Report did not properly assess the costs of the new RAGAGEP requirements, the adverse economic impacts that could flow from enforcement of those requirements, or more cost-effective and less burdensome alternatives. The attached Turner Mason Evaluation, incorporated herein by reference, has listed a number of such deficiencies in the RAND Report with respect to RAGAGEP.

S-6 Response

See response to comment S-1.

S-7 Comment

2735.4 (b) The CalARP Program defines four program levels with different levels of requirements depending upon the complexity, accident history, and potential impact of releases of regulated substances.

Suggested Change
(b) The CalARP Program defines four program levels with different levels of requirements depending upon the complexity, accident history, and potential impact of releases of regulated substances, or NAICS code.

Basis for Change
OES must identify the "specific purpose" of regulatory changes, "the problem the agency intends to address, and the rationale by the agency that each [change] is reasonably necessary to carry out the purpose and address the problem for which it is proposed." Cal. Gov. Code § 11346.2(b)(1). It also must make a determination supported by substantial evidence "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law."

Cal. Gov. Code § 11346.9(a)(4).

The Initial Statement of Reasons ("ISOR") does not provide support for OES' drafting of section 2735.4 to include a new program level solely for refineries. OES should evaluate potential unintended consequences of modifying the CalARP program submittal requirements. For example, a preliminary review of a facility indicates that many of the processes currently eligible for Program 1 would, under the Proposed CalARP Regulation, need to be assessed as Program 4 processes. The increased workload associated with Program 4 hazard assessments, including worst-case release scenario analysis, alternative release scenario analysis, and evaluation of population and environmental impacts, as well as general RMP reporting requirements, for these processes is not balanced by a significant improvement in safety.

S-7 Response

Cal OES believes the ISOR adequately details the purpose of the regulatory changes. In 2014, the Governor's Interagency Working Group on Refinery Safety issued a report entitled Improving Public and Worker Safety at Oil Refineries this document identified gaps in the current regulatory framework. The proposed changes to Program 4 are necessary to address these state-specific gaps in the existing risk management plan. Cal OES will take no action on this comment.

S-8 Comment

Section 2735.5
(g) Program 4 requirements. In addition to meeting the requirements of section (b), the owner or operator of a stationary source, as defined in Section 2735.4(f) shall:
(1) Conduct a hazard assessment as provided in Section 2750.1 through 2750.9;
(2) Implement the prevention and management system requirements of Sections 2762.1 – 2762.17; and submit as part of the RMP the data on prevention program elements for Program 4 processes as provided in Section 2745.7.5.

Suggested Change
(g) Program 4 requirements. In addition to meeting the requirements of section (b), the owner or operator of a stationary source, as defined in Section 2735.4(f) shall:
(1)For processes meeting the definition of "Covered Process" in section 2735.3(p), Conduct a hazard assessment as provided in Section 2750.1 through 2750.9 for the purposes of identifying those Covered Processes that can affect the public;
(2) For all processes defined in section 2762.0.3(a), Implement the prevention and management system requirements of Sections 2762.1 – 2762.17; and submit as part of the RMP the data on prevention program elements for Program 4 processes

Basis for Change
OES is required, among other things, to adopt regulations that are written so that the meaning of the regulations will be easily understood. See Gov. Code §§ 11349, 11349.1. The current wording of the Proposed CalARP Regulation is confusing and would require off-site consequence analysis on processes without any potential to affect the public in a Worst Case

Scenario. This would also be confusing to the public with the extra reporting and disclosure of all processes. For example, Water Treatment Plants that currently have no regulated substances in them under the current regulations would now require off-site modeling under the Proposed CalARP Regulation. Conducting such expensive analysis would provide no added benefit in terms of safety or environmental protection.

S-8 Response

The text of the proposed regulatory language specifies that the requirements outlined in section 2735.5 (g) apply to stationary sources "as defined in Section 2735.4(f)." A stationary source is only subject to the Program 4 requirements if it conducts activities set forth in NAICS code 324110. Stationary sources are required to base their worst case scenario and alternate release scenario on the parameters laid out in Section 2750.2. This limits the assessments to substances in Tables 1, 2, and 3 or for flammable mixtures, meeting the definition under NFPA 704 with a flammability hazard rating of 4. This will limit the offsite consequence analysis to regulated substances. Cal OES will take no action on this comment.

S-9 Comment

Miscellaneous Sections
WSPA recommends that OES develop a reporting tool for California facilities similar to EPA's current reporting tool. California law requires OES to harmonize its requirements with the requirements of the federal program adopted pursuant to Section 112(r) of the Clean Air Act. Cal. Health & Saf. Code §§ 25531(d), 25533(a), (b). Currently owners and operators are required to submit an RMP to the EPA. *See* Cal. Health & Saf. Code § 25535(b). Federal EPA utilizes RMP*eSubmit, an online portal for submittals. However, local reporting requirements for CalARP differences are not harmonized between UPAs. One UPA requires use of the old EPA RMP Submit (which is no longer supported by the EPA). Other UPAs require different reporting methods.

Furthermore, the RMP submit programs do not contain the necessary fields for CalARP's additional requirements, making submittal difficult if not impossible. For example, Program 4 submittal requirements include dates the operator most recently completed the new CalARP elements (*e.g.*, hierarchy of hazard control analysis, process safety culture assessment, etc.) as well as external events analysis. *See* §§ 2745.7.5(b)- (w).

S-9 Response

Cal OES notes WSPA's request for a reporting tool. Cal OES may develop such a tool in the future. This is a general comment warranting no response. Cal OES will take no action on this comment.

S-10 Comment

Section 2745.1 Submission.
(a) The owner or operator of a stationary source, which handles more than a threshold quantity

of a regulated substance in a process, shall determine the applicability of this chapter as set forth in Section 2735.4(a) and shall submit a single RMP to the AA. The owner or operator of a Program 4 stationary source shall submit a revised RMP to address the changes stated in Article 6.5 Program 4 within twenty- four (24) months of the effective date of this Article.

Suggested Change
WSPA recommends that OES complete developing a reporting tool for all California facilities and then require a new submittal one year after the reporting tool is complete.

(a) The owner or operator of a stationary source, which handles more than a threshold quantity of a regulated substance in a process, shall determine the applicability of this chapter as set forth in Section 2735.4(a) and shall submit a single RMP to the AA. The owner or operator of a Program 4 stationary source shall submit a revised RMP to address the changes stated in Article 6.5 Program 4 within ~~twenty-four (24)~~ 12 months of a California reporting tool being made available to the Stationary Source and taking into account implementation dates already established in Article 6.5 ~~of the effective date of this Article~~.

If reporting tool proposal is not accepted:

(a) The owner or operator of a stationary source, which handles more than a threshold quantity of a regulated substance in a process, shall determine the applicability of this chapter as set forth in Section 2735.4(a) and shall submit a single RMP to the AA. The owner or operator of a Program 4 stationary source shall submit a revised RMP to address the changes stated in Article 6.5 Program 4 within twenty-four (24) months of the effective date of this Article. Prevention elements under development at twenty-four months should be reported as "under implementation".

Basis for Change
California law requires OES to harmonize its requirements with the requirements of the federal program adopted pursuant to Section 112(r) of the Clean Air Act. Cal. Health & Saf. Code §§ 25531(d), 25533(a), (b). As noted above, a reporting tool is necessary to provide owners/operators the ability to accurately report the process inventories and the components of the process streams along with the prevention program elements in a cohesive fashion as is currently done with Federal RMP today. Additionally, a reporting tool ensures the reporting consistent among facilities, allowing for better understanding of information by the public.

The ISOR does not address WSPA's suggestion regarding a reporting tool.

S-10 Response

Cal OES notes WSPA's request for a reporting tool. Cal OES may develop such a tool in the future. However, as no tool is currently under development, Cal OES will not incorporate the suggested changes to the regulatory language. Cal OES will take no action on this comment.

S-11 Comment

Section 2745.10
(a)(7) Within six months of a change that alters the Program level that applied to any covered process.

Suggested Change:
This section conflicts with the 24 month program 4 submittal.
(a)(7) Within six months of a change that alters the Program level that applied to any covered process, unless the stationary source program level change is to program level 4.

Basis for Change
This section of the regulation would automatically require resubmittal of an RMP by 6 months due to becoming a program level 4 because of a regulatory change.

S-11 Response

Regulatory changes have been made to address this comment.

S-12 Comment

Section 2762.0.1 Applicability

(a) This Article shall apply to processes within petroleum refineries.
(b) All portions of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory.

Suggested Change:

(a) The requirements of this chapter apply to an owner or operator of a stationary source with more than a threshold quantity of a regulated substance in a process. Regulated substances are listed in three separate tables in Section 2770.5 of this chapter. An owner or operator of a stationary source shall comply with one of the following:
    1. If a stationary source has a process with more than a threshold quantity of a regulated substance as listed in Table 1 or 2 of Section 2770.5, the owner or operator shall comply with the provisions of this chapter pursuant to the time frames identified in Section 2745.1(b);
    2. If a stationary source has a process with more than a threshold quantity of a regulated substance as listed in Table 3 of Section 2770.5, and the AAUPA makes a determination pursuant to Section 25534 of HSC that an RMP is required, the owner or operator shall comply with the appropriate provisions of this chapter pursuant to the time frame identified in Section 2745.1(d) or (e); or,
    3. If a stationary source has a process with more than a threshold quantity of a regulated substance as listed in Tables 1 or2 and Table 3 of Section 2770.5,

the owner or operator shall comply with the provision of this chapter pursuant to the time frames identified in Section 2745.1(b).

Basis for Change:
The ISOR states, "[a]ctivities occurring within laboratories are specifically excluded from jurisdiction in this section (Section 2762.0.1 (b)); however, other areas in the refinery are included to the extent that they are part of a process." The ISOR continues, stating that "[m]any parts of a refinery that were not included under Article 6 would be included under Article 6.5," citing that, for example, "a storage tank would be considered part of a process if an explosion or fire at the tank could affect a process or if an incident in a process could affect the tank."

OES is required, among other things, to adopt regulations that are written so that the meaning of the regulations will be easily understood. See Gov. Code §§ 11349, 11349.1. These regulations also must be consistent and not in conflict with existing laws and regulations. Cal. Gov. Code §§ 11346.5(a)(1)(D), 11349, 11349.1.The language in proposed Section 2762.0.1 does not provide additional clarity to existing applicability requirements. Indeed, the language of subsections (a) and (b) appear to be at odds with one another because subsection (b) does not include the ISOR's caveat that CalARP applies to portions of refineries "to the extent that they are part of a process." This language adds critical context, which, if absent in the rule, may effectively swallow other applicability determination criteria. Absent a showing of why this additional information is helpful in defining the applicability of CalARP requirements, it should be removed from the Proposed CalARP Regulation to maintain consistency with the DIR's Proposed CalPSM Standard.

S-12 Response

Regulatory changes were made to provide additional clarity. Section 2762.0.1(b) now states that "All processes of the petroleum refinery are covered..." The term "process" has a precise meaning for purposes of Program 4. See 2735.3(yy).

S-13 Comment

Section 2735.3 Definitions
(t) "Employee Representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.

Suggested Change:
(t) "Employee Representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union, that is on-site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or a refinery employee ~~an individual~~ designated by these parties, such as the safety and health committee representative at the site.

Basis for Change:
California law requires OES to coordinate with DIR and OSHSB in enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials. See Cal. Health & Saf. Code §§ 25533(b), 25542. Also, OES may not adopt regulations that conflict with existing law and enforceable standards. See Cal. Gov. Code §§ 11346.5(a)(1)(D), 11349, 11349.1. The Proposed CalARP Regulation defines "employee representative" in a manner that will significantly hamper the employer's ability to control operations at its refinery, while at the same time allowing for unlimited involvement of non-employees in facility operations. As the term "employee representative" is used throughout the Proposed CalARP Regulation, this will create significant tension and an unmanageable relationship with labor groups, particularly during collective bargaining negotiations. As an example of how this broad definition will negatively impact the management and reliability of refinery operations, please refer to our recommended modifications of subsection 2762.10 regarding Employee Participation.

Additionally, the definition is inconsistent with the Proposed CalPSM Standard, making consistent implementation difficult or impossible. The ISOR does not offer support for the necessity of this definition. This is an instance where harmonization with Proposed CalPSM Standard is important.

S-13 Response

Regulatory changes were made to address this comment in part. For nonunion facilities, the employee representative must be on site and qualified for the task. Employee representatives from union shops may be whomever the union selects. Cal OES will take no further action on this comment.

S-14 Comment

Section 2735.3 Definitions

No definition for Hierarchy of Hazard Controls. Add back the definitions of Hierarchy of Hazard Controls and Hierarchy of Hazard Controls Analysis

Suggested Change:
Hierarchy of Hazard Controls Analysis (HCA) means a procedure that applies the Hierarchy of Hazard Controls for the purpose of selecting recommendations that eliminate or minimize a hazard, or that reduce the risk presented by a hazard.

Basis for Change:
A definition for Hierarchy of Hazard Controls and the analysis is needed to define the scope since requirements of the analysis are outlined in Section (l). Apparently, it is DIR's position that definitions were not included if the term was used in one subsection. However, this term is used in multiple places in the regulation. WSPA recommends adding back the definitions of Hierarchy of Hazard Controls and Hierarchy of Hazard Controls Analysis from an earlier pre-formal rulemaking version of the regulation.

S-14 Response

Regulatory changes were made to address this comment.

S-15 Comment

Section 2735.3 Definitions
(gg) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

Suggested Change:
(gg) "Major change" means any of the following that introduces a new process safety hazard or worsens an existing process safety hazard: (1) introduction of a new process, or ~~(2) new process equipment,~~ or new regulated substance ~~that results in~~ (2) Any ~~a~~ change in in operation outside of established safe operating limits; or (3) any alteration in a process, process equipment, or in process chemistry that introduces a new hazard or increases an existing hazard.

Basis for Change*:*
The definition of Major Change is a trigger for many requirements and is important in making this regulation workable. Major Change specifically triggers requirements in Damage Mechanism Review, Hierarchy of Hazard Controls, Management of Change and Human Factors. It is critical that this definition harmonize with the Proposed CalPSM Standard.

The definition of "Major Change" also remains overly broad to the point that implementation of the subsections incorporating this language will require more resources than currently exist at any refinery or within qualified hiring pools. According to the Proposed CalARP Regulation, a major change may trigger a number of lengthy activities, including a damage mechanism review ("DMR"), a hazard controls analysis ("HCA"), a management of change ("MOC"), and an analysis of human factors. *See* §§ 2762.6, 2762.5(f), 2762.13(b)(2), 2762.15(b). The definition of "Major Change" as currently written fails to take into consideration less burdensome alternatives that would not trigger such burdensome implementation activities.

OES also is required to present facts and evidence to support that the Proposed CalARP Regulation is necessary and more cost-effective and less burdensome than alternatives, See Cal. Gov. Code §§ 11346.3(a), 11346.5(a)(9), 11346.9(a)(4), 11349, 11349.1. The definition of "Major Change" will require that each of these activities be conducted for routine or minor equipment changes, such as the replacement of a minor piping flange, based on OES' proposed definition of "process equipment" and "process safety hazard." The ISOR does not appear to provide any support for the definition of "Major Change."

S-15 Response

Regulatory changes were made to provide additional clarity. The definition is designed to align with and clarify the existing definition under Cal ARP, and align with the new definition under the PSM regulations. It is not intended to substantially broaden the current Cal ARP definition. The definition of "major change" is intended to focus the attention of the owner or operator changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition is not intended to include unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately alters safe operating limits on a process so that it could routinely operate outside of the current existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." In particular, we do not believe that "the replacement of a minor piping flange" would be considered a major change under this definition.

We therefore conclude that the definition of major change is appropriately narrow to focus on changes that have the potential to increase process safety hazards and therefore this definition serves as an appropriate trigger to activities under the regulation.

S-16 Comment

Section 2735.3 Definitions
(hh) "Major Incident" means 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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public shelter-in-place, or evacuation order.

Suggested Change:
(hh) "Major Incident" means 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 (as defined in Labor Code Section 6432(e)), and ~~or which~~ results in an officially declared public shelter-in-place, or evacuation order.

Basis for Change*:*
The definition of Major Incident is a trigger for many requirements and is important in making this regulation workable. Major Incident is included within a number of definitions and specifically triggers requirements in Process Hazard Analysis, Safeguard Protection Analysis, Incident Investigation, Damage Mechanism Review, Hierarchy of Hazard Controls, and it affects what is submitted to the UPA. WSPA recognizes this definition cannot be exactly the same as the Proposed CalPSM Standard as the intent of this regulation is to protect the public.

OES should revise the definition of "Major Incident" to clarify that only incidents of certain severity and which result in a shelter-in-place or evacuation should qualify as a "Major Incident." As currently drafted, a small release with no offsite impact potential could result in burdensome submittal of investigation reports for the public that have no potential to impact public safety if a shelter-in-place or evacuation is issued. An example would be where a

small amount of Propane or an Ammonia odor results in a shelter-in-place, and, although turning out to be of no consequence upon further examination, requires a public investigation report under OES' language. Requirements for reporting these types of incidents would result in unduly concerning the public. Also, a written, the use of "or" instead of "and" would mean a PRECAUTIONARY shelter in place would trigger the extensive requirements. This could have the unintended consequence of reluctance (by agency or site personnel) to initiate a PRECAUTIONARY public shelter in place

The ISOR does not provide support for this overly broad language, but simply re-states the definition of "Major Incident."

S-16 Response

Deletion of "which" has been made as suggested by the commenter to improve clarity. The second change, of "or" to "and" would significantly weaken the definition and would have the effect that an incident that has the potential to result in death or serious physical harm but does not result in an officially declared public shelter-in-place, or evacuation order, would no longer be considered a major incident. This is contrary to the intent of the regulation, which is to "protect the health and safety of communities and the environment." [Section 2762.0.2, Purpose]. The second proposed change has not been made.

S-17 Comment

Section 2735.3 Definitions
(xx) "Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident.

Suggested Change:
(xx) "Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident. This definition excludes ancillary administrative and support functions, including office buildings, labs, warehouses, maintenance shops, and change rooms.

Basis for Change:
If the applicability of the rule remains broad with no threshold quantities or specifics regarding which chemicals are regulation, than this additional language is necessary on the definition of process to avoid pulling in areas that were not intended to be regulated.

S-17 Response

Regulatory changes were made to address this comment.

S-18 Comment

Section 2735.3 Definitions
(yy) "Process Equipment" for purposes of Article 6.5, means any equipment, instrumentation, control, safeguard, except procedural safeguards, or appurtenance related to a process.

Suggested Change:
(yy) "Process Equipment" for purposes of Article 6.5, means ~~any~~ equipment, including pressure vessels, rotating equipment, piping, ,instrumentation, process control, safeguard, except procedural safeguards, or appurtenance related to a process.

Basis for Change:
The current definition does not include major pieces of equipment such are process vessels and rotating equipment. However, the definition includes non-descript elements such as safeguard. The definition needs revision to clarify what is considered process equipment.

S-18 Response

Regulatory changes were made to address this comment.

S-19 Comment

Section 2735.3 Definitions
(aaa) "Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize safety over competing goals in order to ensure protection of people and the environment.

Suggested Change:
(aaa) "Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize process safety over competing goals in order to ensure protection of people and the environment.

Basis for Change:
This definition should harmonize with the purposes behind the identical definition in OSHSB's proposed 8 C.C.R. § 5189.1(c). Labor Code Section 7856 authorizes OSHSB, in relevant part, to "adopt process safety management standards for refineries." Cal. Lab. Code § 7856. Without the qualification that the definition of "Process safety culture" applies to "process"

safety, OES' proposed language deviates from the express purpose of the relevant regulation (*i.e.*, to promote "process safety"). Furthermore, the implementation of all subsections involving process safety culture will require a vast amount of resources to meet the literal meaning of OES' definition.

California law requires OES to include in its proposed regulatory analysis "[a] statement of the specific purpose of [the regulatory changes], the problem the agency intends to address, and the rationale for the determination by the agency that each [change] is reasonably necessary to carry out the purpose and address the problem for which it is proposed." Cal. Gov. Code § 11346.2(b)(1). The ISOR states, "A group's culture reflects the things that the group values. If the group places a high value on safety, the group is said to have a "strong safety culture." Evaluating a refinery's safety culture (and the ways in which it changes over time) is an important way of gauging the degree to which managers are implementing new safety requirements and prioritizing safety above other pressures, such as efficiency, costs, and competitiveness." However, these platitudes do not provide a basis for how this definition is grounded in the overriding purpose of this regulation: process safety.

S-19 Response

Regulatory changes were made to address this comment.

S-20 Comment

Section 2735.3 Definitions
(iii) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator.

Suggested Change:
(iii) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. ~~RAGAGEP does not include standards or guidelines developed for~~ internal use by the owner or operator.

Basis for Change:
The last sentence of this definition creates an internal conflict within the regulation under PSI and MI. This definition should match CalPSM Standard's definition to ensure the requirements between the two regulations are consistent.

OES should revise or remove its definition of Recognized and Generally Accepted Good Engineering Practices. For example, OES should clarify the role of an owner/operator's internal standards, guidelines, and practices that are equally as or more protective than RAGAGEP. In various sections of the Draft Regulation, OES establishes that an owner/operator may use internal standards in lieu of RAGAGEP. *See, e.g.,* §§ 2762.1(d), 2762.5(b)(2),(d). For consistency and clarity, the OES should explicitly describe the role of an owner/operator's internal standards in the definition of RAGAGEP. The ISOR explains that the listed organizations in the definition are widely recognized standard-setting bodies whose work is considered to set a standard of practice in their respective industry sector. The definition is intended to make it clear that "recognized and generally accepted" means that it must be based on more than just an individual company, or an individual owner or operator's usual practice. However, this does not provide sufficient basis for excluding reference to the role of operators' internal standards.

S-20 Response

The definition of RAGAGEP is consistent between the two regulations. RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

S-21 Comment

Section 2735.3 Definitions
(rrr) "Temporary piping or equipment repair" means a repair of an active or potential leak to hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism

or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident.

Suggested Change:
(rrr) "Temporary piping or equipment repair" means a repair of an active or potential leak ~~to~~ of hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident.

Basis for Change:
There is a minor error in the definition that needs correction.

S-21 Response

Regulatory changes have been made that render this comment moot.

S-22 Comment

Section 2735.3 Definitions
(yyy) "Utility" for purposes of Article 6.5, means a system that provides energy or other process-related services to enable the safe operation of a petroleum refinery process. This definition includes electrical power, fire water systems, steam, instrument power, instrument air, nitrogen, and carbon dioxide.

Suggested Change:
(yyy) "Utility" for purposes of Article 6.5, means a system that provides energy or other process-related services to enable the safe operation of a petroleum refinery process. This definition includes ~~electrical~~ ~~power, fire water systems~~, water, steam and asphyxiants, such as nitrogen and carbon dioxide, when used as part of a process.~~., instrument power, instrument~~ ~~air, nitrogen, and carbon dioxide~~.

Basis for Change:
This definition should harmonize with the Proposed CalPSM Standard.

S-22 Response

Cal OES does not believe that definition to deviate from the CalPSM standard in any meaningful or practical way. Cal OES will take no action on this comment.

S-23 Comment

Section 2762.1 Process Safety Information.

(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The

compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees.

Suggested Change:
(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. ~~The~~ Relevant process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees.

Basis for Change:
Proposed section 2762.1(a) now requires collection of additional toxicity data for regulated substances, and requires that PSI be made available to all refinery and contractor employees. As the ISOR opines, "This change is necessary in order to ensure that employees are well-informed about process hazards so they can better protect themselves." The inclusion of additional toxicity information and the requirement to communicate is consistent with HAZCOM principles and a "right to know" standard. However, It's important to recall that existing PSI definition, to which these additional toxicity data and communication requirements were appended, contains data well beyond toxicity and HAZCOM information. Data such as process chemistry and heat & material balances, which may contain proprietary and technology sensitive information, is also included. The requirement that this be broadly available to all will create an unnecessary burden on establishing, tracking, and enforcing confidentiality agreements (as suggested elsewhere in this rule) and may actually slow information access. By limiting availability to relevant process safety information, such as toxicity and process hazard data, the intent of the ISOR and worker protection can be preserved without the additional concerns.

S-23 Response

Regulatory changes have been made that address the commenters concerns regarding provision of all process safety information to contractors. The revised regulatory language requires that relevant information shall be made available to affected employees of contractors.

S-24 Comment

Section 2762.1 Process Safety Information.
(1)(C) For regulated substances: American Conference of Governmental Industrial Hygienists (ACGIH) Emergency Response Planning Guideline values, U.S. EPA Acute Exposure Guideline Levels (AEGLs), and the California Office of Environmental Health Hazard Assessment (OEHHA) acute and eight- hour Reference Exposure Levels (RELs);

Suggested Change:
~~(1)(C) For regulated substances: American Conference of Governmental Industrial Hygienists (ACGIH) Emergency Response Planning Guideline values, U.S. EPA Acute Exposure Guideline Levels (AEGLs), and the California Office of Environmental Health Hazard Assessment (OEHHA) acute and eight-hour Reference Exposure Levels (RELs);~~

Basis for Change:
The information required in this paragraph is not included in Safety Data Sheets (SD) (formerly known as Material Safety Data Sheets). Therefore this information would have to be created separately from the SDS process and maintained. OES has not demonstrated why the information beyond the generally accepted SDS is necessary. The Proposed CalARP Regulation does not explicitly limit the California permissive exposure limits ("PELs") to those listed in 8 C.C.R Section 5155, as WSPA suggested. The ISOR clarifies that: "This paragraph requires that the owner or operator compile not only the California Permissible Exposure Limit (PEL) *as under current regulations* (emphasis added)."

S-24 Response

The CalARP regulation focuses on community rather than worker health and safety. In the context of potential major incidents affecting communities, other benchmark numbers have been developed to gauge the risk associated with acute exposures. Numbers that are different from the PELs are important in this context because communities contain individuals with a range of vulnerabilities, including young children, the elderly, people with a range of serious underlying health conditions, pregnant women, and others who may be more susceptible to chemical exposures. Other community-relevant benchmarks include those developed by U.S. EPA, OEHHA, and ACGIH for emergency response purposes. The PHA team should be aware of these numbers because in some cases they are lower than the PELs, and therefore they might influence decisions made by the PHA team. To reduce the burden of compiling the information, it is only required for the subset of highly hazardous materials that are "regulated substances" under CalARP. Cal OES will take no action on this comment.

S-25 Comment

Section 2762.1 Process Safety Information.
(b)(5) The consequences of deviations, including chemical mixing or reactions that may affect the safety and health of employees or the public.

Suggested Change:
(b)(5) The consequences of deviations, including chemical mixing or reactions that may affect the safety and health of employees ~~or the public~~.

Basis for Change:
OES should revise the Proposed CalARP Regulation to limit consequence of deviation consideration to effects on the safety and health of employees. The ISOR explains that the "slight" expansion is "a clarifying change because it specifies what must be included in the information on the consequences of deviations. It is likely that refineries are already collecting information on chemical mixing or reactions." Absent a showing of why this additional information is helpful in defining the applicability of CalARP requirements, it should be removed to maintain consistency with the Proposed CalPSM Standard. The inclusion of "the public" attenuates and over-complicates the analysis of calculating "consequences of deviation," without adding additional protection.

S-25 Response

The purpose of the CalARP regulation is to "protect the health and safety of communities and the environment." [Section 2762.0.2, Purpose]. The purpose is not limited to protecting the safety and health of employees. Cal OES will take no action on this comment.

S-26 Comment

Section 2762.2 Process Hazard Analysis
(c)(2) Previous major incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;

Suggested Change:
(c)(2) Previous major and publically documented incidents in the petroleum refining refinery ~~and petrochemical~~ industry ~~sector~~ that are relevant to the PHA;

Basis for Change:
The ISOR explains these new requirements as follows:

(c)(2): Incorporates "[p]revious major incidents in the petroleum refinery and petrochemical industry sectors that are relevant to the PHA. This requirement now is more specific in that the PHA shall address where previous major incidents have occurred in petroleum refineries and petrochemical facilities only where those incidents are relevant to the PHA that is being performed.

S-26 Response

Regulatory changes have been made to include the "publically documented" qualifier. With regard to the commenter's suggestion that "petrochemical" and "sector" be stricken, Cal OES will take no action on that suggestion. The petrochemical industry sector has processes and process safety challenges that in some cases are similar to those in the refinery sector. For

example, many damage mechanisms such as corrosion and erosion are also present at refineries; process safety culture deficiencies, human factors, and management systems failures can also result in major incidents in the petrochemical industry. For these reasons, it is important for refineries to review documented incidents in the petrochemical industry sector and learn from such incidents.

S-27 Comment

Section 2762.2.1 Safeguard Protection Analysis
(c) The SPA shall use a quantitative or semi- quantitative method, such as Layer of Protection Analysis (LOPA) or an equally effective method. The risk reduction obtainable by each IPL shall be based on site- specific failure rate data, or in the absence of such data, industry failure rate data for each device, system, or human factor.

Suggested Change:
(c) The SPA shall use a qualitative, quantitative or semi-quantitative method, such as Layer of Protection Analysis (LOPA) or an equally effective method. The risk reduction obtainable by each IPL shall be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system, or human factor. When a qualitative method is appropriate for evaluating the safeguards, such as for human IPLs or administrative controls, it may be used and this method shall qualitatively evaluate risk reduction.

Basis for Change:
The Proposed CalARP Regulation requires independent protection layers to be independent of each other and of initiating causes. It requires the SPA team to utilize a quantitative or semi-quantitative method to identify the most protective safeguards, but does not allow for qualitative methods.

Qualitative methods should be allowed when conducting a SPA. Determination of risk and weighing various options inherently includes a qualitative analysis and such a process should be allowed for in OES' proposal. Quantitative analyses utilize exact inputs and values that may not always be practically assigned to the weight of various safeguards individually or combined. Qualitative analysis uses subjective judgment based upon unquantifiable information that is arguably impossible to capture with numerical inputs, such as process knowledge, equipment history, subject matter expertise, and confidence in the various measurements that are utilized in quantitative analysis. In fact, risk matrices often include qualitative descriptions of event likelihood, such as "unlikely to occur during the process lifecycle," as opposed to assigning it a quantitative value, such as "probability of occurrence is less than X," because it is more meaningful to the team assessing risk to consider practical qualitative terms. Excluding such considerations as a method to approach SPA severely limits the utility of the SPA and refinery's ability to make rational decisions regarding protective safeguards to employ. For example, an operator may have a routine duty to periodically check that a block valve upstream of a PRD is locked open. This is an administrative control that is a safeguard. The risk reduction coming from reduced likelihood of an overpressure event due to a blocked in PRD can be evaluated best qualitatively. Quantitative data does not exist for human performance evaluations. Inspection and

maintenance safeguards do not lend themselves to quantitative analysis.

It should also be noted that the addition of the Qualitative language is consistent with the original CSB recommendation and the current version of Contra Costa County's Industrial Safety Ordinance.

Additionally, WSPA recommends that the words, "or in the absence of such data," be eliminated, because the inclusion of this regulatory language falsely infers that site-specific failure rate data is somehow preferred; is superior and readily exists. In reality industry failure rate data may be more readily available, and if available more statistically significant due to the larger sample pool that the rates are based. Overall the level of prescription is not necessary and may actually conflict with existing established refinery processes already in place.

The ISOR states that the purpose of the SPA "is to determine the overall and combined effectiveness of the safeguards for each of the failure scenarios that have the potential for a major incident," noting that independent protection layer are necessary to "isolate safeguards and prevent sequential failures." The ISOR further notes that the regulation "requires the owner or operator to use a quantitative or semi- quantitative SPA method to identify the most protective safeguards." Layer of Protection Analysis (LOPA) is the most frequently used method for performing a SPA. LOPA incorporates established frequencies of when a safeguard may fail. Using this frequency rate will assist in determining if the risk of a major incident has been reduced to an acceptable level." The ISOR does not otherwise explain why it is necessary that the owner or operator use quantitative or semi- quantitative, rather than qualitative, methods to identify safeguards, and does not explain what benefits are anticipated by using only quantitative methods

S-27 Response

Cal OES has determined that semi-quantitative and quantitative methods will provide more reliable conclusions. The Contra Costa ISO allows qualitative methods, but these evaluations are subjective and may differ from refinery to refinery. Contra Costa works very closely with each refinery in the review of the PHAs and SPAs and also uses the Safety Plan Guidance document to provide a level of consistency. To be consistent with general practice, inspection and maintenance are not considered to be safeguards, although a purely qualitative analysis could allow a refinery to select these as safeguards. To guard against the selection of less effective or ineffective methods as safeguards, an analysis that is at least semi-quantitative is required. Cal OES will take no action on this comment.

S-28 Comment

Section 2762.2.1 Safeguard Protection Analysis
(f) The SPA team shall document the following: (1) potential initiating events and their likelihood and possible consequences, including equipment failures, human errors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction or other conditions that may lead to a loss of containment; (2) the risk reduction achieved by each IPL for each initiating event; (3) necessary maintenance and testing to

ensure that all IPLs function as designed; and (4) recommendations to address any deficiencies identified by the SPA.

Suggested Change:
(f) The SPA team shall document the following: (1) potential initiating events and their likelihood and possible consequences, including equipment failures, human errors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction or other conditions that may lead to a loss of containment; (2) the risk reduction achieved by each IPL for each initiating event; (3) ~~necessary maintenance and testing to ensure that all IPLs function as designed; and (4)~~ recommendations to address any deficiencies identified by the SPA.

Basis for Change:
Maintenance and testing frequency is not documented in the SPA but in other documents. IPL instrument testing frequency and testing methodology are documented in instrument specific documents such as Safety Requirement Specification (SRS). SRS are instrument related documents, which is under PSI information Section 2762.1 (d)(8) of "safety systems".

S-28 Response

CalOES recognizes that maintenance and testing procedures are documented in more detail elsewhere, including in SRS documents. The language in this section does not require the SPA team to document the maintenance and testing procedures in detail. Instead this requirement is designed to ensure that, when the SPA team evaluates various potential safeguards, it considers the level of ongoing maintenance and testing that will be necessary in order to ensure that the safeguard functions as an effective IPL. For example, if two potential safeguards are under consideration, and their level of risk reduction is similar but one requires more intensive maintenance and testing to ensure efficacy, the team should document that it has considered that difference and incorporated that consideration into the final recommendations. Cal OES will take no action on this comment.

S-29 Comment

Section 2762.3 Operating Procedures
(b) The Operating Procedures shall include emergency operations for each process, including any response to the over- pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following: (1) Shutdown and depressurize all process operations where a leak, release or discharge is occurring; or (2) Isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring; or (3) Follow established criteria for handling leaks, spills, or discharges that are designed to provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process.

Suggested Change:
(b) The Operating Procedures shall include emergency operations for each process, including any response to the over- pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following: (1) Shutdown and depressurize all process operations where a leak, release or discharge is occurring; or (2) Isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring; or (3) Follow established criteria for handling leaks, spills, or discharges that are designed to provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process.

Add new section (b)(4):

(5) (D) When a specific procedure does not exist for an emergency shutdown in response to a leak pursuant to (5)(A), the employer shall develop, implement and maintain an emergency operations practice for the refinery to assess possible responses to leaks, spills releases and discharges of highly hazardous materials, and specifically address the following:

1. Identification of roles and responsibilities for response to handling leaks, spills or releases, including qualified operators and emergency responders
2. A general method addressing the following:
3. Steps taken to assess the safety risks in the area of the leak, spill, release, or discharge
4. Consideration given to shut-down and depressuring equipment, and
   Consideration given to isolation of equipment.

Basis for Change:
The Proposed CalARP Regulation requires emergency operating procedures to include every process and to include any responses to over-pressurizing or overheating of equipment in addition to the handling of leaks, spills, releases, and discharges of highly hazardous materials. OES' requirements for "emergency procedures" are expansive and overly prescriptive. First, the phrase "any response" is ambiguous and would be difficult to capture in an operating procedure without putting the operator in danger of not having discretion in her or his response or creating the need to stop and pursue a proper procedural variance, per Cal OSHA Requirements. Additionally, a leak or over-pressure incident will involve a unique set of facts and circumstances in each instance. Therefore, a more general guidance or protocol document that asks the operator to consider relevant factors, examples, and actions would be more beneficial (and safe) to the employee charged with responding to the leak than a step-by-step guide that will not account for all types of leak, spill, or overheating incident. Such an approach would also allow the refinery to utilize existing emergency response procedures that apply across all processes in the facility.

The ISOR explains that:

Additional requirements for emergency operations are necessary because investigation of recent incidents at refineries, including the 2012 Chevron Richmond Refinery fire, revealed deficiencies in emergency operations and specifically identified failure to shut down a

process in a timely manner during an emergency." The intent of the section "is to create a clear default to protect workers and the community in an emergency situation by either shutting down the process or isolating the section of the process. In pre-regulatory discussions, refinery managers pointed out, and workers agreed, that there are also risks associated with shutting down a process and that in some cases the safest action is to keep a process running while addressing a leak, spill or discharge. In recognition of that fact, this subsection allows the refinery to establish other criteria in their operating procedures for addressing leaks, spills, or discharges provided that those other criteria are functionally equivalent to, or safer than, shutting down or isolating the process. This provision is designed to give some flexibility to the owner or operator while also requiring them to identify scenarios for which alternative procedures are warranted, and specify what those alternative procedures should be.

Because a leak or over-pressure incident involves a unique set of facts and circumstances in each case, it would be safer for the proposed regulation to include more general guidance, possibly supplemented with a protocol document that asks the operator to consider relevant factors, examples, and potential actions.

Notably, the Proposed CalARP Regulation and the Proposed CalPSM Standard differ with respect to emergency operating procedure requirements, creating an unworkable inconsistency between regulatory provisions. Additionally, the language as written precludes emergency responders from taking action (such as valve closure) in an emergency situation as must occasionally happen to avoid operators being placed in hazardous situations. This section applies more broadly than unit specific procedures and the language should reflect that.

S-29 Response

As a preliminary matter the commenter's proposed revisions contain references to the PSM regulations. Additionally, nothing in the language as written precludes emergency responders from taking action (such as valve closure) in an emergency situation. The regulatory language allows the refiner to establish "criteria for handling leaks, spills, or discharges". The language does not require that the refiner establish specific <u>procedures</u> for every possible occurrence. This contemplates an approach similar to the "emergency operations practice" suggested by the commenter. The owner or operator must, however, demonstrate that they have considered a wide range of potential leak, spill, or discharge scenarios and document a clear approach that defaults to isolation or shut-down unless it is reasonably clear that other options are equivalent or safer. Accordingly, Cal OES believes that this issue is addressed in the current language. Furthermore, the language of CalARP and PSM are identical except the order of the numbering. Cal OES will take no action on this comment.

S-30 Comment

Section 2762.3 Operating Procedures
(a)(4) Safety systems and their functions

Suggested Change:
(a)(4) Safety instrumented systems and their functions

Basis for Change:
This provision does not mesh with the corresponding Proposed CalPSM Standard proposed by OSHSB. See 8 CCR § 5189.1(f). OES is required to explain the rationale behind adopting a different standard here.

S-30 Response

Cal OES has elected not to incorporate the proposed revision. We are intentionally adopting a broader category of safety systems. For example, Cal OES intends that operating procedures address systems such as level indicators and shut-down alarms. As a practical matter, this information is already required under Program 3. The PSM regulation proposed by OSHSB has been amended for consistency. Cal OES will take no action on this comment.

S-31 Comment

Section 2762.4 Training
(a) Initial training.
(1)Each employee involved in operating a process, and each operating employee prior to working in a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in section 2762.3. The training shall include material on the specific safety and health hazards applicable to the employee's job tasks, procedures, including emergency operations and shutdown, and safe work practices applicable to the employee's job tasks.
(2) The owner or operator shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

Suggested Change:
(a) Initial training.
(1) Each employee involved in operating a process, and each operating employee prior to working in a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in section 2762.3. The training shall include material on the specific safety and health hazards applicable to the employee's job tasks, procedures, including emergency operations and shutdown, and safe work practices applicable to the employee's job tasks.
(2) Each employee involved in the maintenance of a process, and each maintenance employee prior to working in a newly assigned process, shall be trained in an overview of the process

and its hazards and in the relevant maintenance ~~Operating Pp~~procedures as required in section 2762.5.

Basis for Change:
The ISOR explains that the training requirement for maintenance employees in this section is new and more specific, "which is necessary to ensure that maintenance personnel are trained appropriately in their job skills and the hazards of the process units in order to reduce the risk that an insufficiently trained worker could cause or contribute to an incident."

This specificity, however, is inconsistently applied. The owner/operator must ensure that maintenance employees "can perform the job tasks in a safe manner," which is a different standard for training than for operating employees. This section is also inconsistent with language in the Proposed CalPSM Standard, creating significant operational inconsistency.

S-31 Response

The suggested changes are based on the PSM regulations and not the CalARP regulations. The CalARP language is consistent with the WSPA suggested change. The language in PSM has been changed to be consistent with CalARP.

S-32 Comment

Section 2762.5 Mechanical Integrity
(b) Inspection and testing.
Inspections and tests shall be performed on process equipment, using procedures that meet or exceed recognized and generally accepted good engineering practices (RAGAGEP).

Suggested Change:
(b)(1) Inspections and tests shall be performed on process equipment using procedures that are consistent with ~~meet or exceed~~ RAGAGEP or other equally or more protective internal standards.

Basis for Change:
Suggested changes are also documented in the Turner Mason Evaluation attached hereto and incorporated by reference.

This proposed regulation requires inspections to be conducted at a frequency consistent with manufacturer's recommendations, RAGAGEP, or more protective internal standards. The ISOR explains that conducting inspections and testing with appropriate frequency is necessary "to provide transparency and accountability in the employer's programs," to ensure "the quality, integrity, and appropriateness of all process equipment," and to "ensure that issues related to the performance of process equipment are identified through testing and inspection to prevent malfunction." The ISOR also says that these requirements are necessary to ensure that the employer's internal standards are equally or more protective compared to RAGAGEP.

The clause found in section (b)(1) regarding inspections and tests is overly restrictive and inconsistent s with the more descriptive language found in Sections (b)(2) and (c). While these other sections clearly allow regulated entities to utilize "other equally or more protective internal standards," Section (b)(1) states "Inspections and tests shall be performed on process equipment using procedures that meet or exceed RAGAGEP." A rigid interpretation of this clause would restrict regulated entities in a manner not found in Sections (b)(2) and (b)(3). Further, it is commonly understood in industry that recommended practices do not and cannot cover every conceivable situation – that is why they are "recommendations." Therefore in making RAGAGEP a regulated requirement, it is imperative that regulated entities have the ability to develop their own internal standards, when needed. Finally, the clear ability for regulated entities to have internal policies that provide "equal or greater protection" in these instances can greatly reduce regulatory ambiguity associated with making RAGAGEP a regulated requirement. WSPA recommends Section (b)(1) should be modified so it is clear that regulated entities can have internal policies and procedures that provide "equal or greater protection" as called for by RAGAGEP.

S-32 Response

See response to S-20. Cal OES will take no action on this comment.

S-33 Comment

Section 2762.5 Mechanical Integrity
(d)(5) The owner or operator shall establish a process for evaluating new or updated equipment codes and standards and implementing changes as appropriate to ensure safe operation.

Suggested Change:
(d)(5) The owner or operator shall establish a process for evaluating new or updated equipment codes and standards and implementing changes as appropriate to ensure safe operation, unless prohibited by existing California regulations..

Basis for Change:
California is a code state and specifies requirements for equipment in the codes for that equipment. Example: certain boiler codes may specify a particular API or ASME standard with a specific year.

This proposed regulation may not conflict or force non-compliance with another regulation.

S-33 Response

Cal OES does not believe that it is necessary to specify in this subsection that the process developed by the owner or operator should not conflict with existing California laws or regulations. No actions that are prohibited by other California laws or regulations should be taken under the CalARP Program. Cal OES will take no action on this comment.

S-34 Comment

Section 2762.5 Mechanical Integrity
(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change."(3) As part of an incident investigation pursuant to section 2762.9, where a damage mechanism is identified as a contributing factor, the owner or operator shall review the most recent DMR(s) that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e).

Suggested Change:
(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change."

(~~3~~4) As part of an incident investigation pursuant to section 2762.9, where a damage mechanism is identified as a contributing factor, the owner or operator shall review the most recent DMR(s) that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, ~~the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e).~~, the incident investigation team will identify the date the DMR is due.

Basis for Change:
The current wording of the section would prohibit any corrective action from being taken after an incident if the DMR had not been completed yet. Incidents do not have a single cause and to prevent any corrective action until the DMR was completed does not serve the purpose of protecting the workers or the public.

There appears to be a misnumbering in this section. (3) appears within paragraph (3) and it seems apparent this was meant to be its own paragraph.

California statutes require OES and the regulated sources "work closely" to (a) decide "which process hazard review technique is best suited for each stationary source's covered processes" (Cal. Health & Saf. Code § 25534.05(b)) and (b) to "determin[e] for each RMP an appropriate level of detail for the document elements specified in [40 C.F.R. § 68.150(a)] and for documentation of the external events analysis" (Cal. Health & Saf. Code § 25534.05(d)). OES also must identify the "specific purpose" of regulatory changes, "the problem the agency intends to address, and the rationale by the agency that each [change] is reasonably necessary to carry out the purpose and address the problem for which it is proposed." Cal. Gov. Code § 11346.2(b)(1). Moreover, the ISOR must articulate a supported determination "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to

affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4)

As previously discussed, the definition of "Major Change" is overly broad and its use in this section would require DMRs to be performed even for routine or minor equipment changes, such as the replacement of a minor piping flange. Additionally, the language as written appears to only allow for the exclusive use of DMRs to assess risks associated with a change. Refineries currently utilize their robust MOC processes to review materials of construction, inspection strategies, and other safeguards to address any potential damage mechanisms. Given the in-depth review that already occurs through MOC when a change is made, DMRs should only be performed for major changes that materially affect the process flow diagram ("PFD"). If the major change will not affect the PFD, refineries should manage the change through the robust MOC process.

The MOC review can be called an "Inspection and Metallurgy Review." An example of a change where a full DMR may be best option is adding an exchanger thereby changing process conditions for downstream equipment on shell and tube side streams. The heat exchanger itself and downstream pipe and equipment should be evaluated at a PFD level for damage mechanisms. An example of a smaller change where an Inspection and Metallurgy review is appropriate is adding a bypass around a control valve. In this case, the proper metallurgy should be selected for the bypass and the inspection strategy for the bypass loop should be put I place. The MOC would address the conditions for which the bypass would be used, for example, for the purpose of maintenance of the control valve on the run. If the MOC contemplates that the bypass may change process conditions of downstream equipment, then additional considerations should be explored with the "inspection and Metallurgy review. This change would not be evident on a PFD.

The ISOR states that, "DMRs are necessary to determine the right materials of construction, appropriate inspection frequency, and potential deficiencies in and degradation of the mechanical and structural integrity of equipment and piping. This review is necessary to help prevent process failures that could cause employee injuries or process incidents."

However, the proposed regulation as written would require a DMR for routine or minor equipment changes. Unless a major change will materially affect the PFD, a DMR is not necessary to prevent process failures.

S-34 Response

Cal OES does not understand what "misnumbering" error the commenter is referring to. The number (3) does not appear within paragraph (3).

This section requires that a DMR must only be reviewed or performed as part of an incident investigation "where a damage mechanism is identified as a contributing factor." If no damage mechanism is identified as a contributing factor in the investigation, no DMR needs to be reviewed or conducted. If a damage mechanism is identified as a contributing factor, and no DMR has been conducted on a process, then it is imperative that a DMR be conducted quickly and prior

to implementing a major change. The proposed revision would allow an owner or operator to defer a DMR for up to five years even if a damage mechanism is identified as a contributing factor to an incident. Such a change would be contrary to the intent of the regulation. Cal OES will take no action on this comment.

S-35 Comment

Section 2762.5 Mechanical Integrity
(6)(C) Determination that the materials of construction are appropriate for their application and are resistant to potential damage mechanisms;

Suggested Change:
(6)(C) Determination that the materials of construction are appropriate considering the potential damage mechanisms ~~for their application and are resistant to potential damage mechanisms~~;

Basis for Change:
The ISOR explains that the intent is for the DMR to consider the "appropriateness of materials of construction"**.** As currently written, the proposed regulation implies that materials of construction exist that are resistant to all potential damage mechanisms and that such materials should be used. This is incorrect. While some materials are more resistant to particular damage mechanisms, there is no material of construction that is impervious to all damage mechanisms. When determining the appropriate material of construction, consideration must be given to the types of damage mechanisms present and the predictability of potential deterioration of the material in that given situation. For consistency with ISOR intent, it is suggested to strike the language "and are resistant to potential damage mechanisms."

S-35 Response

The requirement that A DMR shall include determination that construction materials are "appropriate" and shall be "resistant to potential damage mechanisms" accounts for the commenters concern. The regulatory language does not require that the construction is impervious to all damage mechanisms. Cal OES recognizes that no materials of construction are impervious to all damage mechanisms. However, it is essential that the owner or operator select materials that, considering their planned use (application), are appropriately resistant to the most likely damage mechanisms. The regulation does not require unrealistic materials perfection. Rather, it requires that the selection of appropriate materials include an evaluation of potential damage mechanisms and a determination that the materials selected are appropriate in light of those damage mechanisms. Cal OES will take no action on this comment.

S-36 Comment

Section 2762.6 Management of Change
(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require

effective training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change.

Suggested Change:
(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the relevant portions of the MOC documentation available to and require effective training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change.

Basis for Change:
The ISOR does not address the distinction between contractors and employees, but states merely that the requirement "is necessary to ensure that employees who are affected by a change are aware of and can safely perform their job tasks once the change is implemented."

S-36 Response

Regulatory changes have been made that address this comment.

S-37 Comment

Section 2762.6 Management of Change
(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

Suggested Change:
(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, ~~reducing classification levels of employees,~~ changing shift duration, or substantively increasing ~~employee~~ position responsibilities. The MOOC assessment is required only for changes with a duration exceeding ~~90 calendar days~~ six months, affecting operations, engineering, maintenance, process ~~health and~~ safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

Basis for Change:
OES has proposed including its MOOC requirements within the MOC element, in opposition to the DIR's Proposed CalPSM Standard, which includes a separate MOOC element. According to the ISOR, "MOOC assessments ensure that changes to organization or responsibilities do not introduce new unforeseen hazards or increase risk of existing hazards," and this section "is necessary to ensure that refineries evaluate and manage organizational

changes, such as staffing levels, changing experience levels of employees, changing shift duration, or changing employee responsibilities, which could adversely affect process safety." However, similar to the DIR, OES has significantly expanded the requirements relating to MOOC, including that MOOCs shall be performed with respect to "reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities."

In any event, changes "with a duration exceeding 90 calendar days" is too short of a timeframe to provide any safety benefit in light of the administrative burdens that will be created. This could violate OES' obligation to consider and discuss reasonable alternatives which are "less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation." Cal. Gov. Code § 11346.2(b)(4)(A)

S-37 Response

In meetings with stakeholders prior to drafting the regulatory proposal, Cal OES frequently heard concerns from union representatives that less qualified employees may be substituted for more highly qualified employees. WSPA representatives argued that years of experience should not be listed as a trigger for an MOOC, but that training and qualifications are reasonable considerations. For this reason, the language on "reducing classification levels of employees" was carefully crafted to address the labor concerns and the refinery owner and operator concerns. The language on "substantively increasing employee responsibilities" was also carefully crafted based on extensive stakeholder input. In this case, the word "substantively" was added in response to concerns from refineries that minor additions to employee responsibilities should not trigger a MOOC. In response to industry concerns that the requirement was too imprecise, Cal OES clarified that "substantively" meant at or above 15%.

The 90 calendar day trigger was also a compromise crafted with stakeholders, in which unions asked for a much shorter trigger period of days or weeks. Commenter has not provided compelling reason to revisit and change these carefully-crafted compromises. Cal OES will take no action on this comment.

S-38 Comment

Section 2762.6 Management of Change
(5) The petroleum refinery manager, or his or her designee, shall certify that the assessment is accurate and that the proposed organizational change(s) meet the requirements of this section.

Suggested Change:
(5) The stationary source shall specify the management review and approval process to verify ~~petroleum refinery manager, or his or her designee, shall certify~~ that the assessment is accurate and that the proposed organizational change(s) meet the requirements of this section.

Basis for Change:
The California Occupational Safety and Health Act provides that all "occupational safety and

health standards and orders promulgated under this code, are applicable to proceedings against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5(emphasis added).

WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. WSPA recommends the regulation be consistent in all sections and state the employer's responsibility. The statute does not contemplate responsibility of individual employees for compliance with its provisions. While there are regulations that assign discrete roles to individual employees, individual employees are generally not assigned responsibility for overall implementation of an entire standard, which is not surprising given the impracticability of such an expectation

The proposed regulation arbitrarily assigns responsibility to an individual employee for compliance with all elements of PSM. This runs counter not only to the regulation's enabling statute, but further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills and individual responsibility.

S-38 Response

As a preliminary matter, The California Occupational Safety and Health Act is not the authorizing statute for the Cal ARP program. Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority. Cal OES will take no action on this comment.

S-39 Comment

Section 2762.7 Pre Start-Up Safety Review
(b) The pre-startup safety review shall confirm, as a verification check, independent of the management of change process, that prior to the introduction of highly hazardous materials to a process:

Suggested Change:
(b) The pre-startup safety review shall confirm all of the following~~, as a verification check, independent of the management of change process, that~~ prior to the introduction of highly hazardous materials to a process:

Basis for Change:

The requirement that PSSR be independent of MOC makes no sense and is unworkable. The PSSR is a separate PSM element. However, from a practical field implementation standpoint, this element goes hand-in-hand with the MOC or the PHA work processes. A hazard assessment (MOC/PHA) on a change is conducted first, potential hazards are evaluated with safeguards considered, identified hazards addressed, and reviewed by the various technical disciplines. Then a PSSR is conducted prior to implementation of the change. Therefore, specifying that the PSSR is "independent" of the MOC process is an unworkable requirement. PSSR is an integral part of the MOC process to verify that what was identified as needed to make a safe change has, in fact, been completed.

Furthermore, it is difficult to document "independence," which has not been defined in the proposed regulation. The regulation would leave refineries to guess at whether the PSSR is sufficiently "independent:" of the MOC process to meet the requirements of the section.

S-39 Response

The pre start-up safety review is designed to perform an independent check to ensure that the process is safe to operate after a turnaround. This includes verification that the necessary changes have been completed; personnel have been trained; and that the changes have been reviewed by the appropriate personnel. This verification is designed to be redundant to the MOC process as a separate verification. Cal OES will take no action on this comment.

S-40 Comment

Section 2762.8 Compliance Audits
(c) The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with answers and findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report available to employees and employee representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any employee or employee representative comments on the written audit report.

Suggested Change:
(c) The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with ~~answers and~~ findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report available to employees and employee representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any employee or employee representative comments on the written audit report.

Basis for Change:
"Answers" is an undefined term with an uncertain meaning in this context. Written compliance audits typically yield "findings" and "recommendations" for the facility, but "answers"

suggests the implementation of a solution, which typically comes after the report is finished, and after consideration of all the recommendations and findings of the report.

The ISOR outlines the intent of the amendments to Subsection(c) are to "ensure that refineries will adequately document details regarding the audit process, which will improve the refinery's internal compliance assurance programs and facilitate review by UPAs." It is reasonable to document the question asked to verify compliance along with an answer, however, as written the regulation appears to require every answer received to every question be documented along with the questions. A clarification should be made to eliminate this confusion, such as using the word "findings" (as our change suggests) instead of "answers." Not every answer received will be correct (or authoritative) and the auditor's job is to document the compliance situation as it actually exists by distilling all facts he/she gathers into a single finding.

S-40 Response

Regulatory changes have been made to address this comment.

S-41 Comment

Section 2762.8 Compliance Audits
(f) As part of the compliance audit, the owner or operator shall consult with operators with expertise and experience in each process audited and shall document the findings and recommendations from these consultations in the audit report.

Suggested Change:
(f) As part of the compliance audit, the owner or operator shall consult with operators with expertise and experience in each process audited and shall include ~~document the~~ findings and recommendations from these consultations in the audit report.

Basis for Change:
This documentation requirement, as written, could be interpreted to remove any anonymity of employees interviewed during the audit. As such, employees may be less likely to discuss areas of concern with auditors.

Under the Proposed CalARP Regulation, OES has expanded the requirement of documenting operator involvement to include findings "and recommendations" made by operators, meaning that employee suggestions will be specifically listed in the audit report. The ISOR states this is "necessary to ensure that at least one employee who routinely works on the process and understands the operating conditions is consulted in the audit." It is not clear that listing every recommendation from all line-level operators will provide additional safety benefit, nor is it clear whether these recommendations must be acted upon, regardless of safety implications or quality.

S-41 Response

Commenter's proposed change is unnecessary and will not substantively change the requirements of the regulatory language. Nothing in the regulatory language requires that "all line-level operators" be consulted, nor that the documentation include the identity of the operators consulted. The regulatory language requires documentation of the findings and recommendations from the consultations. Cal OES will take no action on this comment.

S-42 Comment

Section 2762.9 Incident Investigation
(e) The incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident. The analysis shall include identification of management system causes, including organizational and safety culture causes.

Suggested Change:
(e) The incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident. The analysis shall include an assessment ~~identification~~ of management system causes, including organizational and safety culture causes.

Basis for Change:
This change aligns with the Proposed CalPSM Standard.

S-42 Response

Regulatory changes were made to the CalPSM regulation in response to this comment.

S-43 Comment

Section 2762.9 Incident Investigation
(h) The owner or operator shall submit a written report for major incidents to the UPA within 90 calendar days of the incident, unless the owner or operator can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report within five (5) months of the incident.

Suggested Change:
1) Delete requirement for submittal to the UPA
2) The timing for investigation completion needs revision as suggested below.

(h) The owner or operator shall submit a written report for major incidents to the UPA within 90 calendar days of the incident, unless the owner or operator can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner

or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report upon completion of the investigation. If the investigation is not complete within five (5) months of the incident, the team shall prepare an interim investigation report. This interim report shall be made available to the UPA upon request.

Basis for Change:
WSPA disagrees with submitting reports to the UPA. For non-Contra Costa refineries, public posting of information is expected to be an overwhelming activity for both CUPA and refineries as the public requires educational feedback to understand technical information being provided by the very technical nature of the new regulations. Neither CUPAs nor companies can anticipate the resources that will be needed to address this.

The Proposed CalARP Regulation's five-month limitation to complete an investigation, excluding even the possibility of an interim report, creates an unreasonable and arbitrary limitation on owner/operators in the context of complex investigations. In the absence of compelling evidence that owner/operators have routinely failed to conduct timely investigations, this provision will prevent owner/operators from fully conducting complex technical failure analysis and understanding the root cause of significant incidents and may actually be against public interest. Additionally, the challenges of this section are compounded by existing requirements that regulatory agencies, including the UPA, participate in and approve activities associated with evidence collection and analysis. *See, e.g.*, http://www.csb.gov/in-cooperation-with- cal-osha-csb-releases-technical-report-on-chevron-2012-pipe- rupture-and-fire-extensive-sulfidation-corrosion-noted/.

In short, due to the reality of potentially complex process safety incident investigations, and necessary engagement of multiple stakeholders, the requirement that incident investigations be completed within five months defeats the purpose of "quality" incident investigations. This may prevent identification of true root cause(s) and associated incident learnings with the intent of preventing the potential for similar incidents to occur in the future.

The ISOR explains that the "90-calendar day deadline ensures that the investigation is done promptly, but the regulation is written with the flexibility to allow extensions for complex investigations. In such cases the owner or operator must provide status reports to the UPA, starting at 90 days after the incident, and on every 30-day basis, until the final report is completed, of which must be no later than five months after the incident." The ISOR's claim that these provisions provide flexibility for complex investigations, without stating a rational basis for the five-month deadline, is insufficient justification for this provision.

S-43 Response

The Incident Investigation report for major incidents is to be submitted to the UPA so the report can be reviewed and posted as required in Section 2762.9(j). The incident investigation report for incidents that do not meet the definition of a major incident are not required to be submitted to the UPA. The five month limitation is to ensure consistency with the PSM regulation. This timeline allows CalOSHA time to review the report in advance of the six month statute of

limitations imposed by Labor Code section 6317. Also, the employer is given flexibility (see (o)(7)) to demonstrate that additional time is needed due to the complexity of the investigation. Prompt investigation of incidents is necessary to ensure the information gathered is relevant and accurate and available for use in improving the safety of the unit and/or process. Cal OES will take no further action on this comment.

S-44 Comment

Section 2762.9 Incident Investigation
(j) The UPA shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt.

Suggested Change:
(j) The UPA shall make reports from investigation of major incidents available to the public ~~by posting the final report on the Unified Program Agency's website~~ within 30 calendar days of receipt.

Basis for Change:
The Proposed CalARP Regulation requires posting of the final report on the UPA's website. Due to the potentially technical nature of these incident investigations, the value of posting them and making them available to the public does not reduce nor prevent accidental releases nor minimize process safety incidents from occurring. The ISOR explains that this provision applies only to those incidents that actually result in a major incident. Specifically, "the public will have a strong desire to know what happened and what recommendations resulted from the investigation." Publishing is necessary "for the purpose of demonstrating to the local community that a full investigation occurred, and that changes were made to prevent future incidents."

The ISOR does not explain how publishing the full report would enhance safety, rather than to simplify satisfy public curiosity. Post-incident publication is also arguably not related to the agency's purpose to prevent accidental releases and minimize impacts of such releases.

WSPA is also concerned that due to the regulation of the refineries under homeland security, there may be potential security issues associated with posting incident reports on the web.

S-44 Response

As a preliminary matter, the commenter's suggested revision does not address the concerns they outline in their rationale. Striking "by posting the final report on the Unified Program Agency's website" does not change the technical nature of the report nor does it prevent the disclosure of sensitive information. The authorizing statutes stress the need for public notification and opportunity to participate in decisions affecting their safety. The public has a right to know about risks that may affect their health and safety, and to understand the root causes of any major incident that affected their community as well as the recommendations to prevent recurrence of

such incidents. The CalARP regulatory language provides appropriate safeguards for confidential and proprietary information. Cal OES will take no action on this comment.

S-45 Comment

Section 2762.9 Incident Investigation
(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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 shall be provided to employee representatives, and where applicable, contractor employee representatives.

Suggested Change:
(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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. Upon request, Investigation reports shall be provided to employee representatives, and where applicable, contractor employee representatives.

Basis for Change:
The Proposed CalARP Regulation's requirement that incident investigation reports be "provided to and, upon request, reviewed with employees whose job tasks are affected by the incident" as well as always provided to employee representatives may be impractical given the number of reports conducted by complex refineries. OES has also inserted the new requirement that investigation reports be provided to employee representatives, an affirmative responsibility that is overly burdensome on the owner/operator.

The ISOR states that these provisions are necessary, "so that employees are aware of what happened, and of the report recommendations, so they can participate effectively in any follow up activities for prevention of future incidents. Upon request from the employees or contractor employees, the owner or operator must review the report with the employees to explain the findings and recommendations." The ISOR does not explain why it is necessary to affirmatively provide incident investigation reports to employee representatives.

S-45 Response

Regulatory changes have been made to address this comment.

S-46 Comment

Section 2762.9 Incident Investigation
(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors

Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis.

Suggested Change:
WSPA recommends deleting this requirement due to numerous concerns with its administration.

~~(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis.~~

Basis for Change:
WSPA has a number of concerns over this requirement in the regulation. The definition of Major Incident is a key piece for this section, but that is only one small part of the concern. To begin, OES also is required to adopt regulations that are written so that the meaning of the regulations will be easily understood. Cal. Gov. Code §§ 11349, 11349.1. In this proposed provision, there are no controls on when this requirement may be triggered. Rather, it appears it can be arbitrarily administered. Because there is no control in-place, nor an established process, this section is subject to abuse by any 3rd party contractor. Additionally, there are no established criteria, such as a qualification, a selection process, or a procedure on the administration of the assessment. There is no standard established to ensure objectivity of the assessment. There is also no requirement that this effort should involve consultation with the stationary source.

The ISOR explains that the independent analysis requirement is necessary because:

After a major incident, there is frequently significant interest from the local community, the media, and elected officials in knowing exactly what went wrong. At such a time, there may also be a high level of public mistrust of the responsible entity, and concern that an internal investigation may not be fair and impartial. This provision allows an impartial third-party review to be performed under such circumstances. Such a review may be done by the UPA or under contract by an independent outside contractor. The Contra Costa County ISO contains a provision allowing the UPA to conduct such investigations, and this provision has been used several times, including after the 2012 Chevron Richmond Refinery fire.

As a more reasonable alternative to this proposed regulation, OES should place parameters on how an independent PSM analysis is conducted. Without specific parameters, the reasons for this requirement are not clear, and create the potential for multiple divergent and overlapping investigations as well as a lack of clarity in driving where the UPA will independently conduct analysis of refinery operations. Absent a showing of why this requirement is appropriate in addition to the agencies' existing statutory authority to conduct inspections, it should be removed to avoid unclear mandates and maintain consistency with the Proposed CalPSM Standard.

S-46 Response

Commenter's assertion that there are no controls regarding when this requirement is triggered is unfounded. The independent assessments discussed in this subsection are only implicated when there is a major incident pursuant to 2775.2.5. A UPA cannot arbitrarily decide to perform an independent assessment. The CalARP language has been revised to remove the requirement that the owner or operator will pay the costs. Cal OES will take no further action on this comment.

S-47 Comment

Section 2762.10 Employee Participation
(a) In consultation with employees and employee representatives, the owner or operator shall develop, implement and maintain a written plan to effectively provide for employee participation in Accidental Release Prevention elements, as required by this Article. The plan shall include provisions that provide for the following:

(1) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;

(2) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.

Suggested Change: (a) In consultation with employees and employee representatives, the owner or operator shall develop, implement and maintain a written plan to effectively provide for employee participation in Accidental Release Prevention elements, as required by this Article. The plan shall include provisions that provide for the following:

(1) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in performing relevant PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;

(2) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in the development (for programs not previously developed under Title 19 Chapter 4.5), training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.

Basis for Change:
A grandfathering clause is also needed in this section for programs that were already developed under the current regulation. A refinery cannot go back and re-develop the program to be in compliance with the revisions to the regulation. However, the employees can be involved in the ongoing efforts of these programs, such as the training, implementation and maintenance, which would include revisions of the program as needed to comply with the new requirements.

The proposed regulation no longer requires employee participation on *all* PHA, DMR, HCA, MOC, MOOC, PSCA, Incident Investigation, PSA and PSSR teams. Instead participation is required "at the early possible point" in performing theses assessments and tasks.

The ISOR states that this is requirement is "designed to assure that the analysis is not developed and conducted without employee participation and then presented to employees for review near the end of the process." The ISOR also notes that "the language is designed to allow some limited flexibility in determining when to engage employees in the process, and the intent is that employee involvement should begin at the point when the owner or operator determines that a PHA, DMR, HCA, MOC, MOOC, PSCA, Incident Investigation, SPA, or PSSR will be conducted." The flexibility allowed by the language of the proposed regulation mitigates concerns that including employee representatives on all teams will interfere with facility operations and maintenance. However, inclusion of employees with responsibilities unrelated to the CalARP employees is still a concern because it would impede normal operations and maintenance while increasing compliance costs.

Despite the ISOR's assurances that this language will provide "limited flexibility," OES should adhere to the performance- based nature of PSM and allow the owner/operator to determine which analyses are relevant enough to employees to warrant participation.

S-47 Response

Cal OES disagrees with the commenter's contention that "A refinery cannot go back and re-develop the program to be in compliance with the revisions to the regulation." Refiners should reassess and revise their programs to the extent Program 4 elements are not addressed.

Rather than "the earliest possible point" Cal OES has revised the regulatory language to clarify that there is effective participation "throughout all phases" of the development, training, implementation, and maintenance of the elements required by Program 4. Employee participation by affected operating and maintenance employees is critical to achieve the program's goals. The commenter's concern that "inclusion of employees with responsibilities unrelated to the CalARP" will impede operations is conclusory and unfounded. Cal OES will take no action on this comment.

S-48 Comment

Section 2762.10 Employee Participation

(b) In accordance with the collective bargaining agreement in effect with the stationary source, an authorized collective bargaining agent may select representative(s) to participate in overall Accidental Release Prevention program development and implementation planning and for person(s) to participate in each team-based activity pursuant to this Article.

Suggested Change:

WSPA recommends deleting this paragraph. If the paragraph remains in the regulation, WSPA recommends:

(b) In accordance with the collective bargaining agreement in effect with the stationary source, an authorized collective bargaining agent may select employee representative(s) to

participate in overall Accidental Release Prevention program development and implementation planning and for person(s) to participate in each team-based activity pursuant to this Article.

Basis for Change: WSPA disagrees with this subsection and does not believe it is necessary to achieve employee participation by requirements laid out according to this paragraph. Rather that employee participation is achieved by the earlier paragraphs in employee participation and by requiring the proper qualifications of personnel in each subsection with team requirements. One example is the language used in PHA that specifies an operator be used.

The Proposed CalARP Regulation allows authorized collective bargaining agents to select representatives to participate in overall ARP program development and implementation planning, and for persons to participate in each team-based activity.

This provision will allow labor representatives to effectively re- assign refinery employees, or assign non-employees, to work processes unrelated to their own roles and in unlimited numbers. As a result, work assignments and overall operations at a refinery can be immediately crippled according to state safety provisions. This definition is clearly at odds with OES' position of neutrality with respect to labor relations, and the ISOR fails to substantiate "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4).

This proposed regulation does not explicitly allow the owner/operator to enter into a confidentiality agreement with individuals involved in a team-based activity, pursuant to (b). This is especially problematic because this authority is made explicit for (a)(3), the previous provision regarding access to documents and information. § 2762.10(a)(6). As drafted, the regulation suggests that the owner/operator does not have the authority to enter into confidentiality agreements for activities pursuant to (b), since it was not explicitly stated, in contrast to (a)(3). However, even if this authority was made explicit, confidentiality agreements are cumbersome to develop and rarely understood by non-attorneys, and there exist numerous instances involving the loss of confidential information despite employee confidentiality agreements.

The ISOR explains that this provision "requires the plan to provide for the selection of representatives by authorized collective bargaining agents, in accordance with collective bargaining agreements." Further, the ISOR states that the term "employee representative" is to be construed broadly, and "may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site." The breadth of the meaning of this term and the way it is used in this subsection will have dire consequences on ARP program efficiency and effectiveness.

S-48 Response

Regulatory changes have been made to address this comment.

S-49 Comment

Section 2762.12 Contractors
(b)(6) The owner or operator shall ensure and document that the requirements of this section are performed and completed by the contractor owner or operator.

Suggested Change:
(b)(6) The owner or operator shall require ~~ensure~~ and document that the requirements of this section are performed and completed by the contractor owner or operator.

Basis for Change:
The requirement for an employer to "ensure" that a subcontractor meets the obligations of the regulations is too broad and implies that the employer must **guarantee** that the subcontractor perform the required tasks. Employers can only contractually require that the subcontractor take compliant actions; there is no practical way for an employer to absolutely guarantee or "ensure" that a subcontractor comply with the requirement. The ISOR fails to provide a sufficient explanation as to why it is not sufficient for an employer to "require" its subcontractors to comply, rather than absolutely "ensuring" such compliance.

S-49 Response

The regulatory language requires that an owner or operator ensure that the requirements of this section are performed. Merely stating that the contractor is "required" to comply with the requirements is insufficient. The owner or operator must take affirmative steps to verify that the requirements are met and that the contractor is fulfilling its contractual obligation to comply with the Cal ARP program. Cal OES will take no action on this comment.

S-50 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis
Philosophy regarding the effectiveness of HCA. It is best done in design phase and not on existing units.

Suggested Change:
Revise HCA section to apply to design phases only and not existing units. This would affect 2762.13(a), 2762.13(b)(1), and2762.13(b)(3). WSPA recommends these paragraphs be deleted and keep the emphasis on the design phase and/or a Major Change. However, WSPA's proposed revision to the definition of Major Change is key for keeping the emphasis of HCA in the design phase.

Basis for Change:
The application of inherently safer design strategies (the higher order in HCA) is most effective if a design is under development such as during a major change/process modification or new Project and the full range of opportunities exists to eliminate or reduce hazards. It is important to emphasize the ISS is a philosophy, a way of thinking. While a number of the references on ISS talk about a life cycle approach to ISS, the largest opportunity to employ Inherently Safer principles exist in the design phase of a process. Once

the process is built, the opportunities become limited. The purpose of performing HCA studies should be looking for Inherent or Passive levels to achieve on the HCA ladder. Without that emphasis, this element is duplicative of the PHA/SPA process, violating OES' obligation to avoid duplication in its proposed regulations. See Cal. Gov. Code §§ 11349, 11349.1.

Considering an existing operating asset, the opportunities to employ higher levels of HCA to address hazards are limited and can often only include additional layers of protection and procedural controls. HCA on existing processes is an unnecessary documentation requirement with limited benefit to process safety. For PHA revalidation on an existing process unit, it is a redundant exercise. During PHA team recommendation discussions, the PHA team discussions take into consideration an HCA review, during the development of PHA recommendations. However, when used in the design phase, the ISD portion of the HCA can be more effectively achieved than on an existing asset.

Furthermore, OES has not provided any basis to impose HCA.

- The safety record at sites that are currently required to do HCA under ISO is not significantly better than non-ISO facilities.
- It is understood that inherently safer portion of HCA is most effective during the design phase (reference CCPS) and doing it for existing processes are unnecessary and burdensome.
- California law requires preparation of a standardized regulatory impact analysis that addresses the impacts of the proposed regulation on jobs and businesses in California, competitive advantages or disadvantages for current California businesses, impacts on investment in the state, incentives for innovation, and benefits to health, welfare, worker safety, environment and quality of life. Cal. Gov. Code §§ 11346.2(b)(2)(B), 11346.3(c). The law also requires that OES ultimately arrive at a supported determination "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4).
- The RAND Report has failed to demonstrate the specific benefits of doing HCAs; if anything, HCAs should only be applied to new process units or major modifications. The RAND Report also has underestimated the cost of doing HCAs as most facilities did not include the cost of implementing any changes that would be required as a result of the HCA, and the cost estimate of one refinery that did so was removed from the cost analysis as an outlier. The proposed rule, however, does include implementation requirements in prescribed schedule for HCA recommendations, and therefore those implementation costs need to be included in the analysis, which according to the RAND report can be 20 times what has been stated.

S-50 Response

CalOES generally agrees with the commenter that HCAs are most likely to generate actionable recommendations that include first order inherent safety measures if they are performed during

the design phase. For this reason, such HCAs are required and must also be made publicly available to assure the public that first order inherent safety measures were fully considered and employed to the greatest extent feasible during the early design phase of new process units or major modifications. However, an HCA is effective at other times. The HCA is relevant at all stages of a process life cycle. CalOES recognizes that HCAs performed on existing processes may identify second order inherent safety measures or other measures lower on the hierarchy of hazard control as the only feasible alternatives. Such a finding, if supported by the analysis, would be acceptable. The findings and recommendations of all of the required HCAs cannot be predicted in advance for each process and each refinery. For this reason, it would be premature and inappropriate to attempt to assign costs to hypothetical outcomes of these analyses. Cal OES will take no action on this comment.

S-51 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis
(c) All HCAs shall be updated and revalidated at least every five years, in conjunction with the PHA schedule.

Suggested Change:
(a)(3~~e~~) All HCAs shall be updated and revalidated at least every five years, in conjunction with the PHA schedule.

Basis for Change:
The regulation has a requirement out of order. The requirements in paragraph c apply only to paragraph a. The HCAs in paragraph b are one-time events and can't be subject to 5 year revalidations.

S-51 Response

Cal OES disagrees that the requirements are out of order. Cal OES will take no action on this comment.

S-52 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis
(b)(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information.

Suggested Change:
(b)(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. ~~An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade~~ secret information.

(5) For new process units, an HCA report will be conducted per 2762.13(b)(4). A summary explaining the HCA analysis and conclusions shall be prepared and provided to the UPA (This requirement may be satisfied by the CEQA process if this is a requirement from the lead CEQA administering agency.) The UPA shall make these HCA summary documents available to the public by posting them on the UPA's website within 30 days, with appropriate protections for trade secret information.

Basis for Change:
This requirement as written would impose significant burdens both on industry and the agency, with little discernible benefit, by essentially requiring several hundred submittals from each refinery each year to the UPA.

The Proposed CalARP Regulation does not ensure the design reports, which are highly confidential documents that containing forward looking business information that may be subject to anti-trust concerns, are kept confidential. For new process units, the HCA is a small piece of a larger process where there are many opportunities for public disclosure, *i.e.*, CEQA review, Title V permitting, etc. These processes allow for public input without the concern of disclosure of highly confidential business information. Due to the very technical nature of engineering design reports, there is limited value to the public.

A compromise was offered up by WSPA in 2015 that should fulfill the desire of information to the public as well as protect confidential and forward looking business information. This compromise language would also result in a more manageable number of HCA submittals to the UPA.

The ISOR indicates that the public posting requirement:

Provides information to the public on the hazards that are present when a major modification is being proposed and assures the public that the principles of inherent safety were fully evaluated in the design of these new facilities and incorporated to the greatest extent feasible. This process provides transparency on how the refinery is preventing a major incident from occurring. CalOES recognizes that HCAs may contain confidential business information; for this reason, and to reduce workload, the proposal is not requiring all HCAs to be made publicly available despite the requests from some stakeholders. However, when a new process, unit, or facility is being designed, the public has a right to review this document, in conjunction with related documents prepared pursuant to the California Environmental Quality Act, to assure that alternatives have been fully assessed. In addition, refinery process safety engineers have told us that it is at the initial design phase when opportunities for inherently safer solutions are most feasible, and for that reason, these analyses will be particularly valuable."

The ISOR does not explain why the public has a "right" to review confidential design documents, or how having the public review highly technical documents would enhance safety.

S-52 Response

The proposed regulatory language includes appropriate safeguards for confidential and proprietary information. Cal OES will take no action on this comment.

S-53 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis
(e)(3) Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report.

Suggested Changes:
(e)(3) Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry ~~and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report~~.

Basis for Change:
Inherent safety analyses are performed on a case-by-case basis and are tailored to the unique process or system to be engineered. While inherently safer strategies are preferred by the refining industry to eliminate hazards, many challenges are posed by the implementation of the concept as a regulatory requirement. For example, the CCPS, which has developed guidance for consideration in developing inherent safety strategies, notes in Inherently Safer Chemical Processes, 2nd ed., that "inherent safety should not be seen as an end in itself, or even the preferred strategy to reduce risk. Rather, it must be seen as one strategy to be employed to reach a risk reduction target." There is not a clear boundary between ISD and other strategies. ISDs are relative and can only be described as inherently safer when compared to a different technology, including a description of the hazard or set of hazards being considered, their location, and the potentially affected population. Fundamentally, the concept of ISD is difficult to apply by comparison to other facilities, or to processes in other industries, due to the differences that exist amongst them, including surrounding populations, exposures, hazards, location, and technical and economic feasibility.

Inherently safer design analysis is already integrated into the existing PSM framework and is

regularly considered through the PHA process. Application of good PHA techniques often reveals opportunities for continuous improvement of existing processes and operations without a separate analysis of alternatives. In depth and lengthy PHAs are performed to assess the hazards of a specific process and may choose between options for process design through a series of tradeoffs. For example, when selecting a design alternative, the team must consider the potential creation of new hazards or possible creation of environmental impacts. Inherent safety analysis is simply one portion of the hazard analysis and should not be made a standalone requirement.

The Proposed CalARP Regulation requires inherent safety analysis to consider and document inherent safety measures that have been recommended by a government entity, federal, state, or local, in a regulation or report. Government agencies routinely issue guidance, presentations, and other documentation that may be considered publically available and a report, although not widely disseminated or based on sound engineering analysis. For example, the U.S. Chemical Safety Board ("CSB") regularly issues reports relating to their investigations that may propose inherent safety technologies to individual companies. However, the CSB makes their recommendations explicitly without binding or regulatory enforcement authority, and thus are not subject to the rulemaking process that binds DIR and other agencies which promulgate regulations. At the same time that tracking and analyzing such reports would prove unmanageable; this provision would effectively side-step state and federal rulemaking requirements with respect to agency regulations.

A requirement to conduct searches and analysis regarding inherent safety implemented at, or recommended for, other facilities will require excessive resources while producing no significant additional safety benefit, particularly if the agency is unwilling to establish a database of all relevant inherent safety measures. Such a requirement is imprecise due to the design-specific nature of inherent safety analysis. As a result, full compliance could never be achieved, ensuring that regulated entities will face violations for failing to consider every possible design scenario that has ever been implemented within industry or recommended by regulators.

The ISOR attempts to clarify this requirement by stating that the "provision does not require refinery owner or operators to do exhaustive searches for all measures and safeguards adopted worldwide, but it does require some diligence to be aware – at a minimum - of activities at other refineries in their own company, at other refineries in California, and advances in process safety that have been presented at major industry meetings or in industry publications. It also requires refinery owner or operators to be aware of requirements and recommendations from entities such as the CSB, USEPA, Federal OSHA, Cal/OSHA, and UPAs. This is necessary to ensure that the HCA teams have sufficient information to perform effective HCAs and develop recommendations that are effective, feasible, and consistent with best practices."

However, the assurances of the ISOR are belied by the plain language of the regulation, which will make facilities liable for resource-intensive efforts to constantly improve equipment that is already proven to be safe.

S-53 Response

Regulatory changes were made to limit this requirement to publicly available information. Cal OES maintains that it is reasonable for petroleum refineries to remain apprised of publicly available information on inherent safety measures and safeguards. Cal OES will take no further action on this comment.

S-54 Comment

Section 2762.13 Hierarchy of Hazard Controls Analysis
(f) For each process safety hazard identified using the analysis required by subdivision (e), the team shall develop written recommendations to eliminate hazards to the greatest extent feasible using first order inherent safety measures. The team shall develop written recommendations to reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures. If necessary, the team shall also develop written recommendations to address any remaining risks in the following sequence and priority order:

(1) Effectively reduce remaining risks using passive safeguards;
(2) Effectively reduce remaining risks using active safeguards;
(3) Effectively reduce remaining risks using procedural safeguards.

Suggested Change:
Recommend deletion of (f). It is duplicative of (e)(3). In addition, the Hierarchy of Controls definition should be included in the regulation. (f) contains the same requirements as (e)(3). It should be removed to avoid any confusion. Furthermore, the Hierarchy of Controls definition from CalPSM version 4.5 should be included in the regulation to provide clarity on the HCA process. This comment was also included under definitions.

S-54 Response

Regulatory changes were made to add a definition of "Hierarchy of Hazard Control." Further, Section (f) is not duplicative of section (e)(3). Section (e)(3) requires identification and analysis of publically documented safety measures while section (f) requires development of recommendations to implement the safety measures identified. Cal OES will take no further action on this comment.

S-55 Comment

Section 2762.14 Process Safety Culture Assessment
(b) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter. The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:

Suggested Change:
(b) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article, unless one

was already done within the last 3.5 years and at least once, every five (5) years thereafter. The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:

Basis for Change:
The Process Safety Culture Assessment section was one that needed a grandfathering clause to accept assessments that were recently performed before the adoption of the regulation. Safety Culture takes time to change and if an assessment has been recently performed, it should be considered satisfactory to meet the regulatory requirements so the facility can concentrate on responding to concerns identified in the assessment rather than immediately performing another assessment.

S-55 Response

Regulatory changes were made to address the commenter's request for a grandfathering provision. Cal OES has determined that a complaint PSCA conducted within the past 18 months will satisfy the refinery's obligation to conduct the initial PSCA required by this subsection.

S-56 Comment

Section 2762.14 Process Safety Culture Assessment
(g) The stationary source manager, or his or her designee, shall serve as signatory to all process safety culture assessment reports and corrective action plans.

Suggested Change:
(g) The stationary source shall specify the management review and approval process to verify that the PSCA reports are accurate ~~manager, or his or her designee, shall serve~~ ~~as signatory to~~ and that all process safety culture assessment reports and corrective action plans are managed in accordance with the requirements of this section.

Basis for Change:
The California Occupational Safety and Health Act provides that all "occupational safety and health standards and orders promulgated under this code, are applicable to proceedings against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5(emphasis added).

WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. WSPA recommends the regulation be consistent in all sections and state the employer's responsibility. The statute does not contemplate responsibility of individual employees for compliance with its provisions. While there are regulations that assign discrete roles to individual employees, individual employees are generally not assigned responsibility for overall implementation of an entire standard, which is not surprising given the impracticability of such an expectation

The proposed regulation arbitrarily assigns responsibility to an individual employee for compliance with all elements of PSM. This runs counter not only to the regulation's enabling

statute, but further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills and individual responsibility.

S-56 Response

As a preliminary matter The California Occupational Safety and Health Act is not the authorizing statute for the Cal ARP program. Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal Arp program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority.

S-57 Comment

Section 2762.14 Process Safety Culture Assessment
(h) The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within 30 calendar days of the completion of the report.

Suggested Change:
(h) The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within ~~30~~ 60 calendar days of the completion of the report.

Basis for Change:
Discussions regarding the results of a PSCA are more productive if performed face to face. WSPA recommends lengthening the timeframe to comply with the communication section to encourage face to face discussions. If the time frame to comply is too short, this will limit communication methods to electronic means.

S-57 Response

Regulatory changes have been made to address this comment.

S-58 Comment

Section 2762.15 Human Factors Program
(b) The owner or operator shall include a written analysis of human factors where relevant in the design phase of a major change, incident investigations, PHAs, MOOCs, and HCAs. The analysis shall include a description of selected methodologies and criteria for their use.

Suggested Change:
(b) The owner or operator shall include a written analysis of human factors where relevant in the design phase of a major change, Major Iincident investigations, PHAs, MOOCs, and HCAs. The analysis shall include a description of selected methodologies and criteria for their use.

Basis for Change:
The word Major needs to be included in this paragraph to make it consistent with the rest of the regulation. Notwithstanding the minor modification from previous drafts, OES' proposed section regarding Human Factors is vague, ambiguous, and potentially over-broad. As drafted, the section appears to require a written analysis of all major changes in the sort of "check-the-box" manner that agencies and industry have rejected as unlikely to result in heightened safety.

The ISOR acknowledges the broad nature of this requirement, explaining that "the design phase of a major change; in all incident investigations; in all PHAs; in all management of organizational change analyses (MOOCs); and in all HCAs."

S-58 Response

Cal OES maintains that human factors must be considered in all incident investigations. Incidents and near miss incidents help identify human factors issues existing in a facility. The uncovering of such issues will help prevent the occurrence of major incidents. Cal OES will take no action on this comment.

S-59 Comment

Section 2762.15 Human Factors Program
(d) The owner or operator shall include an assessment of human factors in new operating and maintenance procedures.
(e) The owner or operator shall develop a schedule for revising existing operating and maintenance procedures based on a human factors assessment. The owner or operator shall complete fifty (50) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years.

Suggested Change:
(d) The owner or operator shall include an assessment of human factors in new operating procedures for startup, shutdown, and emergency shutdown, and maintenance procedures wherein the process equipment is online.
(e) The owner or operator shall develop a schedule for revising existing operating procedures for startup, shutdown, and emergency shutdown, and maintenance procedures wherein the process equipment is online based on a human factors assessment. The owner or operator shall complete fifty (50) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years.

Basis for Change:
Human factors analysis is most effective for non-routine operations where the frequency/probability of a process safety event is higher. According to CCPS Guidelines for Risk Based Process Safety, "the risks associated with startup, shutdown, and other non-routine operations can exceed that of routine operations, even though the risk exposure (in hours per year) for routine operations dwarfs all other operating modes." These processes or activities are perceived to be high risk since the causal factors tend to be human error related and/or when the hazard event consequence is most severe since one or more personnel are in the hazard zone.

Although the ISOR notes that the schedule was considered to be feasible by most refinery representatives consulted, OES has failed to provide a plan in the event that an owner/operator cannot complete the Human Factors Analysis within the arbitrary five-year time frame. Again, this failure to present a sufficient rationale for the more expansive human factors analysis requirements is prohibited by California law. Rather than including an arbitrarily limited timeframe, OES should allow owners/operators a contingency plan for completing Human Factors Analysis.

S-59 Response

Although the risks associated with non-routine operations may exceed the risk of normal operations, the commenter correctly points out that the CCPS Guidelines say that "risk exposure (in hours per year) for routine operations dwarfs all other operating modes." For these reasons, CalOES believes that it is critically important to analyze human factors both during routine operations and non-routine operations. Human factors in all procedures should be considered to prevent human error from occurring. Contra Costa County has found many human factor errors in normal procedure that if followed as written would lead to accidents. Contra Costa County has also found that five years is an appropriate time to complete the initial review of the procedures. Cal OES will take no action on this comment.

S-60 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The stationary source manager shall be responsible for compliance with this Article, and shall maintain process safety goals that support continuous improvement.

Suggested Change:
(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The stationary source ~~manager~~ shall be responsible for compliance with this Article, and shall maintain process safety goals that support continuous improvement.

Basis for Change:
The California Occupational Safety and Health Act provides that all "occupational safety and health standards and orders promulgated under this code, are applicable to proceedings

against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5 (emphasis added)

WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. WSPA recommends the regulation be consistent in all sections and state the employer's responsibility. The statute does not contemplate responsibility of individual employees for compliance with its provisions.

The Proposed CalARP Regulation provides that "[t]he stationary source manager shall be responsible for compliance with this Article." *See* § 2762.16(a). While there are regulations that assign discrete roles to specific employees, individual employees are generally not assigned responsibility for overall implementation of an entire standard, which is not surprising given the impracticability of such an expectation. However, the Proposed CalARP Regulation arbitrarily assigns responsibility to an individual employee for compliance with all elements of CalARP. This runs counter not only to the regulation's enabling statute, but further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills and individual responsibility.

Although OES appears to have removed prescriptive language related to annual goals, the ISOR states that this section "requires the development of annual safety goals to achieve continuous improvement." OES should clarify the intent of its language to avoid significant uncertainty by the regulated community.

S-60 Response

See response to comment S-56. Cal OES will take no action on this comment.

S-61 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(e)(1) All findings and recommendations must be provided by the team to the owner or operator at the earliest opportunity, but no later than 14 calendar days after recommendation and findings are complete.

Suggested Change:
(e)(1) All findings and recommendations must be provided by the team to the owner or operator at the earliest opportunity, ~~but no later than 14 calendar days~~ in a timely manner after recommendation and findings are complete.

Basis for Change:
The requirement of 14 days is arbitrary and does not take into account the time needed to write up the report from the team activity. This arbitrary value should be replaced in the regulation with "in a timely manner." CalARP should align with the Proposed CalPSM Standard.

S-61 Response

The findings and recommendations must be provided to the owner or operator within 14 days after they are complete. This 14 day deadline has no bearing on the time it takes to draft the report. Two weeks is ample time to simply transmit the completed findings and recommendations from the team to the owner or operator. Cal OES will take no action on this comment.

S-62 Comment

Section 2762.16 Accidental Release Prevention Program Management System

(2) The owner or operator may reject a team recommendation if the owner or operator can demonstrate in writing that one of the following applies:

(A) The analysis upon which the recommendation is based contains material factual errors;
(B) The recommendation is not relevant to process safety; or
(C) The recommendation is infeasible; however, a determination of infeasibility shall not be based solely on cost.

(3) The owner or operator may change a team recommendation if the owner or operator can demonstrate in writing that an alternative inherent safety measure would provide an equivalent or higher order of inherent safety, or, for a safeguard recommendation, an alternative safeguard would provide an equally or more effective level of protection.

Suggested Changes:
(2) The owner or operator may reject a team recommendation if the owner or operator can demonstrate in writing that one of the following applies:

(A) The analysis upon which the recommendation is based contains material factual errors;
(B) The recommendation is not necessary to protect the health and safety of the employer's own employees or contractor employees ~~relevant to process safety~~; or
(C) The recommendation is infeasible; ~~however, a determination of infeasibility shall not be based solely on cost.~~
(D) An alternative measure would provide a sufficient level of protection.

~~(3) The owner or operator may change a team recommendation if the owner or operator can demonstrate in writing that an alternative inherent safety measure would provide an equivalent or higher order of inherent safety, or, for a safeguard recommendation, an alternative safeguard would provide an equally or more effective level of protection.~~

Basis for Change:
The ISOR explains that this section "allows the owner or operator to reject a recommendation only under specific circumstances: when there are factual errors; when the recommendation is not relevant to process safety; or when the recommendation is infeasible."

First, OES may not declare by fiat that cost considerations alone are insufficient to justify a finding of infeasibility. OES cannot legally abandon its obligation to achieve cost effective regulations by adopting a blanket rule that a cost effective recommendation enjoys ***zero*** advantage over an equally effective, but prohibitively expensive, recommendation.

The provisions regarding implementation are directly tied to the recommendations developed in accordance with the Hierarchy of Hazards Control Analysis section. Accordingly, our comments regarding the requirement that owner/operators must develop recommendations to "eliminate hazards to the greatest extent feasible" also apply to this section. EPA's RMP Guidance references the Federal OSHA Compliance Directive regarding Workers' Rights indicating that steps should be taken to protect the health and safety of employees and contractors employees. *See* EPA's General Risk Management Program Guidance, Chapter 7, *available at* http://www2.epa.gov/sites/production/files/2013- 11/documents/chap-07-final.pdf.

Additionally, EPA's RMP Guidance further advises that an owner or operator "may also decline a recommendation if [the owner or operator] can show that it is not necessary to protect public health and the environment." *Id*. For all studies and corrective actions, the owner or operator should be able to adopt alternative measures that provide sufficient risk reduction, and should be able to decline recommendations that are not needed for risk reduction.

If OES believes this is what the Proposed CalARP Regulation language means, owner/operators should be able to go through the required analysis and determine that they are already mitigating the risk, thereby eliminating any need to implement a change. However, this does not comport with a literal reading of the proposed standard's language, which does not provide such flexibility.

The ISOR states that this requirement "allows the owner or operator to change a recommendation only when it is possible to demonstrate that an alternative measure is equally safe or safer. The ability to change a recommendation, however, does not allow the owner or operator to replace a measure recommended by a team with a different measure that is lower on the hierarchy of hazard controls."

As discussed above, California law requires OES to coordinate with DIR and OSHSB in adopting and enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials (Cal. Health & Saf. Code §§ 25533(b), 25542), and to harmonize its requirements with the requirements of the federal program adopted pursuant to Section 112(r) of the Clean Air Act (Cal. Health & Saf. Code §§ 25531(d), 25533(a), (b)). California law also requires OES to "evaluat[e] [] whether the proposed regulation is inconsistent or incompatible with existing state regulations" (Cal. Gov. Code § 11346.5(a)(1)(D)), and to present evidence that the proposed regulations are not in conflict with existing state law (Cal. Gov. Code §§ 11349, 11349.1). As described above, this section should be deleted and both OSHSB and OES should maintain alignment with the federal compliance directives.

The ISOR states that this requirement "allows the owner or operator to change a recommendation only when it is possible to demonstrate that an alternative measure is equally safe or safer. The ability to change a recommendation, however, does not allow the owner or operator to replace a measure recommended by a team with a different measure that is lower on the hierarchy of hazard controls."

As described above, this section should be deleted and both DIR and OES should maintain alignment with the federal compliance directives.

S-62 Response

The owner or operator is not permitted to reject a team recommendation where cost is the only determination of infeasibility. However, the proposed regulatory language permits an owner to *change* a recommendation where an alternative measure is equally safe or safer. This permits the owner or operator the flexibility needed to implement a more cost effective inherent safety measure so long as the alternative inherent safety measure or a safeguard is equally safe or safer. Eliminating or reducing a hazard is always preferable to additional layers of protection. Cal OES strongly disputes that the owner or operator should be able to decline recommendations that "are not needed for risk reduction." If the team has evaluated the process, made findings and recommendations relevant to process safety based on a careful analysis, and there are no material or factual errors in the team's analysis, then it would be inappropriate for the owner or operator to reject the recommendations as "not needed for risk reduction." It is precisely to prevent such a management determination, which led in part to the Chevron, Richmond fire, that this regulation was created. Cal OES will take no action on this comment.

S-63 Comment

Section 2762.16 Accidental Release Prevention Program Management System

(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.

(5)The owner or operator shall document the comments from all team members on any rejected or changed findings and recommendations.

(6)The owner or operator shall document a final decision for each recommendation and shall make it available to all team members.

Suggested Change:
(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. If a finding or recommendation from an applicable team- based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.

~~(5) The owner or operator shall document the comments from all team members on any rejected or changed findings and recommendations.~~
~~(6) The owner or operator shall document a final decision for each recommendation and shall make it available to all team members.~~

Basis for Change:
Employees have expressed concern about retention and documentation of comments from employees regarding health and safety issues. As a result, owner/operators should not be required to document conversations against the wishes of employees where OES can readily access the needed information pursuant to its inspection and enforcement authority.

There are numerous requirements for developing recommendations throughout this regulation. It is impractical to have an active closed loop communication process for each of these that may change. For example, all PSSR punch list items and HCA recommendations that may change in engineering process. Making information available and discussing process for obtaining information is a practical way to deal with this issue. In addition, if an employee is concerned that there is a process safety hazard associated with changing recommendations, they could report it in the hazard communication process. Some employees will not want their concerns documented transparently, but would rather have their concerns understood and understand the outcome.

The ISOR simply comments that these sections "require the owner or operator to document all decisions and communicate them back to the original team members, who are afforded the opportunity to comment," but not does not comment specifically on why this provision is necessary to enhance safety.

S-63 Response

Regulatory changes have been made to address this comment. Owners or operators are only required to document written comments from team members on any rejected or changed findings and recommendations.

S-64 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(9) The owner or operator shall promptly complete all corrective actions and shall comply with the completion dates required by this subsection. The owner or operator shall conduct a MOC pursuant to section 2762.6 for any proposed change to a completion date. The owner or operator shall make all completion dates available, upon request, to all affected operation and maintenance employees and employee representatives.

Suggested Changes:
(9) The owner or operator shall promptly complete all corrective actions and shall comply with the completion dates required by this subsection. . Any changes made to established completion dates must be done in accordance with the employer's documented corrective action deferral process. This deferral process must include the requirements to document the reasons for the

change, evaluate the risk associated with the change, and be reviewed/approved by refinery management. ~~The owner or operator shall conduct a MOC pursuant to section 2762.6 for any proposed change to a completion date.~~ The owner or operator shall make all completion dates available, upon request, to all affected operation and maintenance employees and employee representatives.

Basis for Change:
The ISOR states that this subsection "requires any change to a completion date must be evaluated under the Management of Change process. The scheduled completion dates are available to the employees upon request." The ISOR does not comment on the rejection of WSPA's deferral process suggestion.

Refineries have established management assurance systems that define processes for changing completion dates, including assuring management review and approval. Completion dates may be changed for a multitude of reasons that support safe operation, such as accommodating a higher priority item, and as a result the administrative burden of performing countless MOCs on minor date changes will distract from the identification of true hazards. The owner/operator should not be required to conduct an MOC for every change to a completion date if that action does not otherwise fit within the requirements of OES' MOC element.

S-64 Response

A MOC process can be developed that is relevant to determining if an extension of a completion date can be done safely. Repeated deferral of a recommendation regarding a pipe replacement led in significant part to the Chevron, Richmond fire, despite the refinery's deferral process. Performing an MOC should help ensure that such deferrals do not compromise safety in the future.

S-65 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(12) Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation.

Suggested Change:
(12) Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation, unless the owner or operator demonstrates in writing that it is infeasible to do so.

Basis for Change:
OES has removed the alternative deadline for implementing corrective actions from incident

investigations. Based on the agency's absolute deadline that all incident investigations be completed within five months of the incident, an eighteen month deadline to complete corrective actions will always come earlier than a deadline twenty four months following the incident. Without commenting on the necessity of the provision, the ISOR states, "Corrective actions from compliance audits must be completed within one and a half years."

The additional clause is necessary on incident investigation findings or it will preclude recommendations that require engineering but don't require a process shutdown to implement them. Recommendations that are higher on the HCA ladder will fall into this category.

S-65 Response

Regulatory changes have been made to address this comment.

S-66 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(h)(1) Common Process Safety Performance Indicators: Starting one calendar year after the effective date of this Article, the owner or operator shall report indicators (A)-(E) below to Cal OES and the UPA every year on June 30 for the period from January 1 to December 31 of the prior year. Cal OES shall make these indicators public by posting them on their web site.

Suggested Changes:
(h)(1) Common Process Safety Performance Indicators: Starting one calendar year after the effective date of this Article, the owner or operator shall ~~report~~ track the indicators (A)-(E) below ~~to Cal OES and the UPA every year on June 30 for the period from January 1 to December 31 of the prior year. Cal OES shall make these indicators public~~ by posting them on their web site.

Basis for Change:
WSPA opposes public reporting of indicators. The proposed public reporting of Process Safety Performance Indicators and making them public **does not reduce or prevent** accidental releases/process safety incidents, and nor does it minimize process safety impacts to the community.

Furthermore, WSPA opposes public reporting of indicators before related data has been gathered and tracked to determine its relevance to a facility's process safety performance. Publishing several indicators will likely be confusing to the public.

According to the ISOR, "Having common process safety performance indicators that will be made public will provide a transparent means to assess the commitment to process safety by the different Program 4 stationary sources. " The ISOR also quotes a CCPS report explaining how "The public can play an important role in monitoring process safety at the refineries."

OES' attempts to improve public transparency may be inconsistent with the reporting criteria already established by Contra Costa County and reporting that was first submitted on June 30,

2015. . Any inconsistency would be overly burdensome and could create uncertainty for the regulated community.

In addition, for non-Contra Costa refineries, public posting of information is expected to be an overwhelming activity for both CUPA and refineries as the public requires educational feedback to understand technical information being provided by the very technical nature of the new regulations. Neither CUPAs nor companies can anticipate the resources that will be needed to address this.

S-66 Response

The authorizing statutes for the CalARP program emphasize the public's right to know about acutely hazardous materials accident risk and participate in decisions related to risk reduction options. This portion of the regulation ensures that these statutory objections are carried out.

The proposed requirement is consistent with the Contra Costa County process. Contra Costa County requires very similar information to be submitted annually. That information is then included in an annual report to the County's Board of Supervisors. The annual report is posted on the UPA's website. The public posting of indicators has not proven to be an overwhelming activity for the CUPA or the refineries in Contra Costa County. Cal OES will take no action on this comment.

S-67 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(h)(1)(E) The number of temporary piping and equipment repairs that are installed on hydrocarbon and high energy utility systems that are past their date of replacement with a permanent repair and the total number of temporary piping and equipment repairs installed on hydrocarbon and high energy utility systems. The owner or operator shall document, but not report, the date the temporary piping repair was installed, and the date for the permanent repair is to be complete.

Suggested Change:
WSPA opposes public reporting of indicators. If public reporting is kept in the regulation, then WSPA recommends aligning with Contra Costa County reporting and removing inconsistent requirements. However, it should be noted that the proposed public reporting of Process Safety Performance Indicators and making them public **does not reduce nor prevent** accidental releases/process safety incidents, and nor does it minimize process safety impacts to the community.

(h)(1)(E) The number of temporary piping and equipment repairs that are installed on ~~hydrocarbon and high energy utility systems that are past their date of replacement~~ with a ~~permanent repair and the total number of temporary piping and equipment repairs installed~~ on ~~hydrocarbon and high energy utility systems. The owner or operator shall document, but not report, the date the temporary piping repair was installed, and the date for the permanent repair is to be complete~~

Basis for Change:
Temporary piping repairs are related to process safety and addresses repairs that are temporary and may address mitigating a leak or may prevent equipment failure (in this case there is no leak). However, the number of temporary piping repairs is not a good indicator for a mechanical integrity program. Rather, past due inspections is a better indicator of the health of the program, which OES has already listed as process safety performance indicator. OES should consider and implement this alternative to the temporary piping repair indicator, since using past due inspections more effectively addresses the problem OES seeks to address. Reporting the number temporary piping repairs is misleading to the public without an understanding of the underlying process to manage these repairs.

S-67 Response

The regulatory language states that the "owner or operator shall document, but not report, the date the temporary piping repair was installed, and the date for the permanent repair is to be complete." This provision does not mandate the reporting of these temporary piping repairs. Cal OES maintains that the owner or operator should have a record of all temporary piping repairs as well as the date the permanent repair is to be completed. The refineries will only be required to report any temporary repairs that are not permanently repaired by the date specified in the MOC or other documentation. If all temporary repairs are permanently repaired by the designated date, then the number reported is zero. Such an indicator ratio is a good indicator for a mechanical integrity program because it measures the ability of the refinery to track and follow-up on temporary piping repairs to ensure that each one is ultimately permanently repaired by the designated time. Cal OES will take no action on this comment.

S-68 Comment

Section 2762.16 Accidental Release Prevention Program Management System
(2) Individual Program 4 Process Safety Performance Indicators: No later than six months after the effective date of this Article, each stationary source shall develop a list of site-specific indicators, consisting of activities and other events that it shall measure in order to evaluate the performance of its process safety systems for the purpose of continuous improvement. The owner or operator shall prepare an annual written report by June 30 of each year containing a compilation of these site specific indicators for the previous calendar year. The stationary source manager or designee shall certify annually that the report is current and accurate.

Suggested Change:
(2) Individual Program 4 Process Safety Performance Indicators: No later than six months after the effective date of this Article, each stationary source shall develop a list of site-specific indicators, consisting of activities and other events that it shall measure in order to evaluate the performance of its process safety systems for the purpose of continuous improvement. ~~The owner or operator shall prepare an annual written report by June 30 of each year containing a compilation of these site specific indicators for the previous calendar year.~~

~~The stationary source manager or designee shall certify annually that the report is current and accurate.~~

Basis for Change:
California law requires OES to document, among other things, that its Proposed CalARP Regulation is consistent and not in conflict with existing laws and regulations, or with itself. Cal. Gov. Code §§ 11346.5(a)(1)(D), 11349, 11349.1 OES' attempts to improve public transparency may be inconsistent with the reporting criteria already established by Contra Costa County and reporting that was first submitted on June 30, 2015. Any inconsistency would be overly burdensome and could create uncertainty for the regulated community.

Also, as discussed above, California law requires OES to coordinate with DIR and OSHSB in enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials. See Cal. Health & Safety Code §§ 25533(b), 25542. The California Occupational Safety and Health Act provides that all "occupational safety and health standards and orders promulgated under this code, are applicable to proceedings against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5 (emphasis added).

WSPA disagrees with the regulation specifying the duties for a specific employee position within a facility. WSPA recommends the regulation be consistent in all sections and state the employer's responsibility. The statute does not contemplate responsibility of individual employees for compliance with its provisions. While there are regulations that assign discrete roles to individual employees, individual employees are generally not assigned responsibility for overall implementation of an entire standard, which is not surprising given the impracticability of such an expectation
However, the proposed regulation arbitrarily assigns responsibility to an individual employee for compliance with all elements of PSM. This runs counter not only to the regulation's enabling statute, but further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills and individual responsibility. Additionally, the creation of a report to address this requirement is unnecessary and creates additional administrative burden, adding no additional process safety benefit.

S-68 Response

While the CalARP program has more detailed requirements regarding the tracking and documentation associated with process safety performance indicators, the regulations are not inconsistent. With regard to commenters concern regarding the stationary source manager, please see response to comment S-5.

S-69 Comment

Section 2775.2.5 Independent Assessments of Program 4 Facilities.
After a major incident, the UPA may perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system required under Section 2762.16, or Human Factors Analysis on any Program 4 facility.

Suggested Change:
WSPA recommends deleting this requirement due to numerous concerns with its administration.
~~**Section 2775.2.5 Independent Assessments of Program 4 Facilities.**~~
~~After a major incident, the UPA may perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system required under Section 2762.16, or Human Factors Analysis on any Program 4 facility.~~

Basis for Change:
WSPA has a number of concerns over this requirement in the regulation. The definition of Major Incident is a key piece for this section, but that is only one small part of the concern. There are no controls on when this requirement may be triggered; rather, it appears it can be arbitrarily administered. While the definition of Major Incident includes an officially declared shelter in place, a facility should not be penalized for officially declaring a precautionary shelter in place where after the incident it is determined that in fact, the shelter in place was not needed. This section is also subject to abuse by 3rd parties because there are no controls or established processes to ensure objectivity such as having a selection process, qualification criteria, a procedure on how the assessment is to be administered and that this requirement should involve consultation with the stationary source.

OES should place parameters on how an independent PSM analysis is conducted. Without specific parameters, the reasons for this requirement are not clear, and create the potential for multiple divergent and overlapping investigations as well as a lack of clarity in driving where the UPA will independently conduct analysis of refinery operations. Absent a showing of why this requirement is appropriate in addition to the agencies' existing statutory authority to conduct inspections, it should be removed to avoid unclear mandates and maintain consistency with the Proposed CalPSM Standard.

It should be notes that at any time, the UPA can audit a refinery and issue a deficiency to any Program 4 Element. Refineries must address the deficiencies until approved by agency.

The ISOR explains that the independent analysis requirement is necessary because:

After a major incident, there is frequently significant interest from the local community, the media, and elected officials in knowing exactly what went wrong. At such a time, there may also be a high level of public mistrust of the responsible entity, and concern that an internal investigation may not be fair and impartial. This provision allows an impartial third-party review to be performed under such circumstances. Such a review may be done by the UPA or under contract by an independent outside contractor. The Contra Costa County ISO contains a

provision allowing the UPA to conduct such investigations, and this provision has been used several times, including after the 2012 Chevron Richmond Refinery fire.

S-69 Response

With regard to the commenter's concern regarding the administering agency's discretion to conduct an independent analysis, the proposed regulation states that these independent investigations may be conducted following a major incident. Contrary to the commenter's insinuation, the proposed regulatory language does not permit the administering agency to conduct an independent investigation at will. An independent investigation allows for assurance that the appropriate correction will be made. After a major incident, there is often a high level of public concern and mistrust in the ability of the stationary source to operate safely in the future. An independent investigation can help to assure the community that the true root causes are understood and addressed and can help to restore public trust. For this reason, it can even benefit the stationary source to have an independent audit or investigation after such an incident. Cal OES will take no action on this comment.

COMMENTER T

Melinda Hicks– Kern Oil & Refining Co.
Emailed dated September 15, 2016

T-1 Comment

Unique Burden on Small Refineries

Kern urges Cal OES to provide a simplified and streamlined CalARP option for smaller, less complex refineries like Kern, to which application of the full Program 4 is not justified. Although Kern appreciates the steps Cal OES has taken to streamline the regulation during the informal rulemaking phase, Kern still has serious concerns regarding the scope and corresponding burden for a small refinery like Kern. CalARP should focus on major incident risks and acceptable risk should be quantified. Data needed and the level of analysis performed should correspond to the degree of risk. As a small, low-complexity refinery, Kern has a correspondingly smaller degree of risk inherent in its smaller process units that does not justify the full proposed Program 4 from a risk management perspective.

Because of its small size and low-complexity, a "major incident" at Kern's refinery is on a much smaller scale than its larger refiner counterparts. Kern's facility utilizes much smaller volumes of flammable and/or explosive materials as compared to other refineries in the state that are 5 to 10 times larger. Kern's relative risk is further lowered by the relative simplicity of its operation. Kern does not employ the higher hazard processes that utilize higher temperatures and pressures (e.g., hydrocrackers, alkylation unit etc.) or units that introduce additional highly hazardous materials (e.g., the use of acids in the alkylation process) typical of larger and more complex refineries.

Kern is facing a two-fold expansion of its regulatory burden: first, in the scope of the program's application – nearly doubling the number of Kern's covered process units, and second, in the expanded substantive program elements that apply to that expanded list of covered processes. This expansion in the application of the program imposes a disproportionate impact on Kern. Most larger refineries in California are anticipated to increase their compliance programs by only 2 or 3 additional processes that have not historically been treated as such. The elimination of threshold quantities within the applicability of the rule will result in Kern incorporating some 9 or 10 additional covered processes to its compliance program because small-volume processes historically below the current thresholds will now be drawn in.

As a small refinery, Kern has limited resources and must utilize its efforts, resources and investments with a high degree of efficiency. For process safety, this means in accordance with the associated degree of risk. Kern still believes that compliance with the regulation as proposed will divert Kern's limited resources to perform assessments better suited to larger, more complex facilities – diverting scarce resources for relatively small gains to the detriment of overall refinery process safety.

Kern was extremely disappointed that the final RAND Corporation economic analysis did not include any discussion of small refineries like Kern, despite the fact that Kern was specifically asked for and actively contributed data to RAND. Absent from the report was any discussion or acknowledgement of the obviously very different cost benefit analysis of the proposed regulation on a facility like Kern. Kern firmly believes that analysis would demonstrate the inappropriateness of application of the fully expanded regulations on a small facility like Kern.

Finally, Kern continues to have concerns regarding its ability to meet the timetables and deliverables in the revised CalARP. Although they might not appear burdensome on an individual basis, once all of the various substantive requirements are layered on top of each other, the result is extremely burdensome and will be very difficult, if not impossible, to comply with as prescribed – especially for a small refinery with limited resources.

T-1 Response

These comments are general in nature and warrant no substantive response. However, Cal OES wants to stress that there are inherent safety concerns in all petroleum refineries regardless of size that justify the proposed regulations. Kern Oil & Refining Co.'s status as a smaller refinery does not correspond to a reduced likelihood of accidental release. Furthermore, its proximity to populated areas solidifies the need for a program that protects the community from releases. Cal OES has taken steps to ensure that there is sufficient flexibility in the regulations to allow compliance by refineries regardless of size. The costs of the regulation to Kern were incorporated into the economic analysis performed by the RAND Corporation. Cal OES will take no action on this comment.

T-2 Comment

Section 2735.3 – Definitions - *Hierarchy of Hazards Control Analysis*

The term "Hierarchy of Hazards Control Analysis" (HCA) is not defined within Section 2735.3, Definitions, of the proposed regulation. Section 2762.13 specifically details under what circumstances one must be conducted, timing for completion, contents of resultant report, and other criteria specific to completion of an HCA; however, it appears a specific definition for the term may have inadvertently been omitted.

T-2 Response

Regulatory changes were made to address this comment.

T-3 Comment

Section 2735.3 – Definitions - *Highly Hazardous Material*

The term "Highly Hazardous Material" incorporates references to regulations in other titles of the California Code of Regulations (CCR) for the purpose of succinctly and consistently defining the properties of flammable gases, flammable liquids, toxic and reactive substances. However,

multiple references are made to CCR Title 9 in this proposed definition, when they should correctly reference CCR Title 8.

T-3 Response

Regulatory changes have been made to address this concern.

T-4 Comment

Section 2735.3 – Definitions - *Root Cause Analysis*

The term "root cause analysis" is not defined within the Definitions, Section 2735.3 of the proposed regulation. This term is used throughout Section 2762.9 within the requirements for performing incident investigations. A specific definition for the term existed in previous working drafts of the regulation, but may have inadvertently been omitted in the current proposal.

T-4 Response

Cal OES determined that a definition for the term "root cause analysis" was unnecessary because the term is not used throughout the regulation. The term is only used in Section 2762.9 on incident investigation, and the critical elements of a root cause analysis are listed in Section 2762.9 (e), including: Identification of the underlying causes of the incident and identification of the management system causes of the incident. Cal OES will take no action on this comment.

T-5 Comment

Section 2745.1 – Submission, *Paragraph (a)*

The proposed regulation specifies that a facility subject to the Program 4 requirements must submit a revised Risk Management Plan (RMP) within twenty-four months of the effective date of the regulation. Kern suggests the timing for this revised submittal would be more appropriate at thirty- six months after the effective date of the regulation. Several components of the new Program 4 requirements have initial deadlines of three years; aligning the first required submittal of a revised RMP with these initial completion dates would make for a more meaningful, robust submittal that contains more of the new program elements.

T-5 Response

The program element that has an initial deadline within three years of the effective date of the Article is the PHA. The PHA is not a required component of the RMP. Therefore, the deadlines for these requirements do not need to be aligned. Cal OES believes that twenty-four months provides sufficient time to complete a revised RMP. Cal OES will take no action on this comment.

T-6 Comment

Section 2762.2 - Process Hazard Analysis
Paragraph (a)

Kern believes that additional time is warranted for completion of the initial Process Hazard Analyses (PHA) for processes not previously covered by the existing Cal ARP regulation, especially for small refineries like Kern. Given the substantially increased scope of the regulation and Kern's limited resources, completing these initial PHA assessments with three years will be extremely difficult, if not, impossible. Kern expects to nearly double the number covered processes. Kern requests a minimum of five years to complete the initial assessment and to allow sufficient time to space out the PHAs in consideration of the timing of subsequently required assessments, recognizing that revalidations for existing PHAs will be required within the same five years. The additional time will also allow for appropriate prioritization of the processes associated the highest degree of risk first and allow sufficient time to complete those assessments in a thorough manner. Precedent for a five-year implementation schedule exists not only within the existing California Process Safety Management (PSM) regulations, but also within Contra Costa County's implementation of its Industrial Safety Ordinance (ISO) standard. Similarly, precedent exists within the existing PSM regulation for having yearly percentage targets coupled with the additional time to complete the initial PHAs, e.g., a requirement that x% initial PHAs be complete after one year, y% after two years, etc.

T-6 Response

Cal OES believes that three years is sufficient for the regulated refineries to complete initial PHA assessments. While Cal OES is sympathetic that compliance with the proposed regulation will require refineries to expend resources, these PHAs are necessary to mitigate public safety risks and must be completed in a timely manner. Cal OES will take no action on this comment.

T-7 Comment

Section 2762.2 - Process Hazard Analysis
Paragraph (d)

As drafted, the proposed regulation requires the PHA team to include at least one refinery operating employee who currently works in or provides training in the unit, and who has experience and knowledge specific to the process being evaluated. This requirement is unnecessarily restrictive for a small refinery like Kern, with a streamlined workforce where little overlap exists within the staffing for Operations positions. Kern respectfully requests the language be amended to read: "…to include at least one refinery operating employee who currently works in or provides training in the unit, or has maintained current qualifications to operate the unit, and who has experience and knowledge specific to the process being evaluated."

T-7 Response

Again Cal OES is sympathetic that the proposed regulatory revisions will necessitate the expenditure of resources, particularly in the area of personnel and staffing. However, Cal OES believes that the requirement that the refinery operating employee who *currently* works in or provides training in the unit be a member of the PHA team is critical to assist the team in understanding the specific process being evaluated and the current operating conditions. Cal OES will take no action on this comment.

T-8 Comment

Section 2762.2 - Process Hazard Analysis
Paragraph (f)

As written, this paragraph requiring an employer to perform an HCA for each scenario in a PHA with the potential to result in a major incident appears to incorporate the entire spectrum of recommendations made by the PHA team. Section 2762.16 provides grounds upon which an employer can either reject or change a recommendation before the PHA report is finalized; these are referred to as "accepted recommendations." In order to appropriately limit the scope of the HCA to recommendations that are accepted by the employer, Kern suggests the addition of "…and accepted by the employer, pursuant to section 2762.16" to the end of the first sentence in this paragraph. This will effectively eliminate inclusion of recommendations which were deemed infeasible, not related to process safety or based on factual errors.

T-8 Response

Cal OES has already included a qualifier that appropriately limits the scope of this requirement. The PHA team is only required to perform an HCA where the potential for a major incident is identified. In instances where the team has identified the potential for a major incident, the owner or operator should not have the discretion to avoid performing an HCA by pre-determining that certain recommendations are infeasible. A feasibility determination is made by the team performing the HCA in this section. Once the PHA team conducts an HCA and develops final recommendations, then the owner or operator has the opportunity to review the recommendations as appropriate. Experience with the Contra Costa County Industrial Safety Ordinance has shown that there are a manageable number of recommendations in the PHAs that would trigger this requirement. Cal OES will take no action on this comment.

T-9 Comment

Section 2762.2.1 – Safeguard Protection Analysis

Kern has particular concerns about how the requirements for performing Safeguard Protection Analyses have been incorporated in a manner related to, but distinctly separate from, conducting the PHA. Kern understands that Cal OES and the California Department of Industrial Relations (DIR) have worked closely together in drafting the proposed CalARP Program 4 and Refinery

PSM regulations; however, it appears there is some disconnect in the proposed requirements for how and when to perform a SPA. Kern prefers the approach in which the SPA is performed in conjunction with the PHA, and can be carried out by the same team performing the PHA. This aligned approach, as detailed in the July 15, 2016 draft Refinery PSM Section 5189.1, subsection (e), paragraphs (5) through (7), streamlines the effort, reducing the demand for duplication of efforts and additional man-hours spent compiling a separate team, conserving valuable resources for utilization in other areas.

T-9 Response

This is a general comment warranting no response. However, Cal OES will note that where the members of the PHA team meet the requirements in section 2762.2.1(e), the SPA may be conducted by the same team and could be performed in conjunction with one another. Cal OES will take no action on this comment.

T-10 Comment

Section 2762.7 – Pre Start-Up Safety Review, *Paragraph (a)*

Kern disagrees with the requirement to conduct a Pre-Start-Up Safety Review (PSSR) for all turnaround work performed on a process. PSSRs are conducted for all new processes and are conducted for changes to a process within the Management of Change (MOC) procedures. Turnaround work that is general maintenance, for example replacement in kind, should not be a PSSR requirement. Conducting such general maintenance tasks during a turnaround is no different and introduces no new hazard or level of risk over performing such general maintenance tasks any other time. Safe work practices employed during the course of turnaround activities have safeguards inherent to safe turnover of equipment upon completion of the work. For example, the use of blind lists when employing lockout tagout procedures serves not only for the safe and proper isolation of equipment upon shutdown, but likewise serves as a checklist for removal of isolation devices and return of equipment to an operations-ready state. Custody transfer procedures within these safe work programs serve to ensure effective communication between operations and maintenance/turnaround personnel. From a small refiner's perspective, a requirement to perform a PSSR on routine maintenance tasks conducted within the context of a turnaround adds time to the overall duration of the shutdown, resulting in added costs to perform, added costs to manage and ultimately economic losses due to delays in unit startups. Kern respectfully requests this section be amended to exclude the requirement to perform a PSSR on all turnaround work performed.

T-10 Response

Performing PSSRs for turnaround work is already common practice within the refining industry. Maintenance work has the potential to introduce new hazards (for example leaving a valve open) and therefore a PSSR is warranted and necessary. Cal OES believes that the requirements of Section 2762.7 are already being performed at most California refineries, including verifying that the work is being performed in accordance with design specifications; process equipment has been maintained and is operable in accordance with design specifications; effective operating,

maintenance, and emergency procedures already exist; and if there is no new process unit and there is no change to the equipment a PHA, HCA, DMR, and SPA will not have to be performed and training will not be required. Cal OES will take no action on this comment.

T-11 Comment

Section 2762.9 – Incident Investigation – Root Cause Analysis
Paragraph (a)

This paragraph describes under what circumstances an employer is to report and investigate an incident. The proposed language includes incidents that result in, or "could reasonably have resulted in" a major incident. As expressed during a stakeholder meeting hosted by DIR and Cal OES in June 2015, Kern believes this application is too broad by incorporating the qualifying language to investigate incidents that "could reasonably have resulted" in a major incident. The definition of major incident already incorporates events that have the potential to result in death or serious physical harm, even if the event did not actually have such a result. Adding a requirement to investigate incidents that "could have" resulted in "potential for serious injury" is redundant and overlapping. This language will significantly increase the number and frequency of incident investigations requiring Root Cause Analysis, again creating a burdensome amount of follow-up and tying up valuable resources for what was in fact not a major incident. Kern requests the paragraph be amended to limit the requirement to events that did result in a major incident.

T-11 Response

Cal OES believes that it is important to determine root cause <u>before</u> a major incident occurs and so identify corrective action that will prevent major incidents. Root cause determination after a major incident occurs is too late to achieve this goal. Cal OES believes this expansion is necessary to achieve our safety goals and prevent accidental releases. Cal OES will take no action on this comment.

T-12 Comment

Section 2762.9 – Incident Investigation – Root Cause Analysis
Paragraphs (g) and (h)

Paragraph (g) contains a requirement that the Incident Investigation Team shall incorporate interim measures with the recommendations that will prevent a recurrence or similar incident until final corrective actions can be implemented. As written, this paragraph suggests that interim actions are mandatory, without regard to determining a valid need for such. This requirement should include qualifying verbiage for what conditions, for instance an imminent hazard to human health, or what circumstances, such as duration it would take to implement the recommendation, would warrant interim actions.

Additionally, this paragraph contains a requirement that a HCA be conducted for recommendations that result from the investigation of a major incident, and that the HCA report be appended to the final investigation report. The following paragraph (h) goes on to specify that final investigation reports must be submitted to the agency within 90 days of the incident. Kern requests that Cal OES clarify the language surrounding the deadline for submittal in order to make clear that any HCA to be conducted as a result of an incident investigation recommendation is not required to be completed and append the investigation report by this same 90-day deadline.

T-12 Response

After an incident investigation is complete, the causes of the incident are determined along with the recommendations to prevent future incidents. Since there was a major incident or there could have reasonably been a major incident, interim actions need to be taken until the final corrective actions are taken. The interim actions may be administrative or procedural actions, as well as passive or active actions. It is the duty of the Incident Investigation Team to offer these interim measures.

With regard to the commenter's concern regarding the HCA deadline, the text of the proposed regulation is clear that only the status report must be submitted within 90 days of the incident. The final report, including the HCA, shall be submitted within five months. Cal OES will take no action on this comment.

T-13 Comment

Section 2762.9 – Incident Investigation – Root Cause Analysis
Paragraph (i)

Kern appreciates the underlying goal of the CalARP program to eliminate or minimize accidental releases to which the public may be exposed, and at the same time serve to inform the public of the potential hazards in their community. However, Kern disagrees with the proposed requirement, as written, for the agency to make investigation reports from major incidents available to the public. By definition, a major incident is not necessarily an event that occurred, but can also be an event that had potential for certain consequences. Furthermore, not all major incidents have the potential to impact the public. Section 2745.4 of these regulations requires facilities to determine release scenarios which have the potential for offsite consequences. Kern requests that Cal OES revise this paragraph to limit the requirement for the agency to publicly post investigation reports for major incidents to only those events in which a major incident resulted in an offsite consequence or could have reasonably impacted the public. Additionally, Kern requests that a reasonable duration for the public posting be included in order the reports do not remain posted indefinitely.

T-13 Response

The authorizing statutes for the CalARP program emphasize the public's right to know about acutely hazardous materials accident risk and participate in decisions related to risk reduction

options. This portion of the regulation ensures that these statutory objections are carried out. Cal OES will take no action on this comment.

T-14 Comment

Section 2762.12 – Contractors

Kern has particular concerns about the applicability of this section to contract truck drivers, specifically those loading and unloading bulk tankers of finished petroleum products, feedstocks, blendstocks or other bulk liquids necessary for operating a refinery. Paragraph (a) details a number of services and tasks as examples of what types of activities in which the section does or does not apply. However, contract truck drivers, as explained here, are somewhat unique and do not seem to be explicitly addressed.

Kern is in a unique position given that its refinery loading rack is located within the refinery, as opposed to a separate terminal facility. Because of its small size and landlocked location, Kern receives a significant proportion of materials via truck, absent the same opportunities larger refineries have for shipments via rail, pipeline and barge. Therefore, Kern is highly dependent on trucks. Given the large volume of truck traffic in and out of the refinery, and the relatively low level of risk for routine transfers of relatively low-risk product, e.g. gasoline and diesel, application to truck drivers of the same standards that apply to contractors performing turnaround work appears unduly burdensome and unjustified.

T-14 Response

Truck drivers who load and unload would be covered under 2762.5. Further, any truck driver that interacts with the process unit needs to be covered by this provision. Cal OES disputes that transfers of products such as gasoline and diesel amount to a low-risk activity. Trucks can cause accidents that impact the public safety by damaging process equipment and thereby causing accidental releases. Truck drivers should undergo training to ensuring these the activities they conduct on the refinery premises are conducted safely. Cal OES will take no action on this comment.

T-15 Comment

Section 2762.13 – Hierarchy of Hazard Control Analysis, *Paragraph (b)(4)*

Kern disagrees with the proposed requirement, as written, for the agency to make HCA reports for new processes, new process units and new facilities available to the public by means of posting these documents on the agency website. These are highly technical reports, containing a significant amount of sensitive operating information. Kern requests that Cal OES revise this paragraph to provide alternate means by which he agency can make such documents available to interested parties, including the public. Additionally, Kern requests that a reasonable duration for the public posting be included in order the reports do not remain posted indefinitely.

T-15 Response

Cal OES only requires that HCA reports for new processes, new process units and new facilities be made available to the public by means of posting these documents on the agency website. The authorizing statutes for the CalARP program emphasize the public's right to know about acutely hazardous materials accident risk and to participate in decisions related to risk reduction options. The proposed regulatory language contains appropriate safeguards for sensitive information/trade secrets. Posting online is the most efficient and transparent method of disclosure. Cal OES will take no action on this comment.

T-16 Comment

Section 2762.14 – Process Safety Culture Assessment, *Paragraph (c)*

This paragraph details the composition of the team for conducting an effective Process Safety Culture Assessment (PSCA). Kern appreciates the need to have team members with knowledge of the refinery and its operation as well as inclusion of employee participation in the development of the assessment. However, the proposed regulation contains a provision for the consultation with individuals with expertise in assessing process safety culture in the refining industry. Kern understood from previous discussions about this new program element that the use of an outside firm was optional, but not intended as a requirement. To the small refiner, this represents a use of funds which could be put to more valuable use elsewhere within the program to effectuate real changes or equipment improvements.

T-16 Response

Again, Cal OES is sensitive to the commenter's concerns regarding the expenditure of resources. However, consultation with individuals with expertise in assessing process safety culture in the refining industry is a critical component. To the extent the commenter does not have someone on staff that meets the qualifications of this subsection, the team should consult with an outside firm as appropriate. Cal OES will take no action on this comment.

T-17 Comment

Section 2762.16 – Accidental Release Prevention Program Management System, Paragraph (e)(9)

Paragraph (e)(9) of this section imposes a new requirement that a MOC is required in order to change the completion dates associated with recommendations and corrective actions driven by the tasks within this subsection. Kern respects the intent here to avoid arbitrarily changing due dates for completion of associated tasks. However, a requirement to perform MOC procedures in order to do so is burdensome and will create more work in a situation where timeliness is already driving the need for the change. Kern respectfully requests this requirement be removed.

T-17 Response

Any alteration in the corrective action due date must be justified by an MOC. The individual refineries will work with their assigned UPA to determine the appropriate level of detail in an MOC required by this subsection. Cal OES will take no action on this comment.

COMMENTER U
Tom Jacob and John Urlrich – Chemical Industry Council of California (CICC)
Emailed dated September 15, 2016

U-1 Comment

Harmonize Regulations

While the changes to CalARP and CalPSM regulations are limited to petroleum refineries now, they could serve as the basis for changes in PSM and CalARP regulations that impact other California facilities. As mentioned earlier, we also understand that and this new CalARP Category 4 has been designed to potentially accommodate some additional types of facilities. Regardless of the application, there should be a thorough analysis to address and avoid duplication, inconsistent definitions and other conflicting provisions between the CalPSM and CalARP. If duplication and inconsistencies remain, it could create confusion, impact safety and undermine the goals of the regulatory updates.

U-1 Response

Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. In addition, consistent does not necessarily mean identical. If there are minor differences between the two regulations, but those differences do not lead to contradictory or significantly divergent requirements, then those differences would not render owners or operators "unable to…effectively comply with both regulatory schemes." Cal OES and DIR carefully evaluated the regulations and made a number of changes to enhance consistency where appropriate. Cal OES will take no further action on this comment.

U-2 Comment

Process for any Future Additions

As noted, we recognize that the mechanism chosen for adding the new CalARP standard has been to create a new category that is not inherently restricted to refineries. We therefore strongly urge that any consideration given in the future to incorporation of any additional types of facilities under the new CalARP provisions and/or through extension of these PSM standards be undertaken only after a deliberate and inclusive process.

It is essential to understand that the chemical industry in California is a specialty industry rather than a commodity industry. Individual chemistries and aspects of facilities and processes that are unique must be taken into account. Any process to extend the reach of these provisions to such facilities should include direct consultation with potentially effected industries and facilities, to assure that unique characteristics of such operations are specifically considered, with an eye toward accommodation under any applicable regulations.

U-2 Response

The CalARP Program 4 applies only to petroleum refineries as defined by NACIS code 324110. Cal OES will take no action on this comment.

COMMENTER V
David L. Ingram – Torrance Refining Company, LLC
Emailed dated September 15, 2016

V-1 Comment

General Comment

While we are pleased that OES has incorporated comments from the regulated community, we remain concerned that the proposed CalARP regulations, as currently written, fail to meet many of the minimum criteria required under California law. Too often, the proposed regulations would require refineries to take unnecessary or unwarranted actions that would produce little or no benefit in preventing accidental releases. A number of the draft CalARP regulations are inconsistent with the proposed CalPSM regulations and/or with federal law, with no explanation in the Initial Statement of Reasons ("ISOR") for the inconsistency. Some draft regulations are too vague or overbroad to be practically enforced, while still others would impose unnecessarily prescriptive or burdensome standards with no significant discussion of equally effective but less costly alternatives. If the draft regulations are left unchanged, we fear that the result w ill be a convoluted and conflicting set of regulations that serve only to impose burdens on regulated entities and regulators alike, with little advancement of the ultimate goals of promoting process safety and preventing accidental releases of hazardous materials.

V-1 Response

This is a general comment warranting no response. Cal OES will take no action on this comment.

V-2 Comment

The Proposed Definitions are Overbroad, Not Cost-Effective, and Far More Burdensome Than Equally Effective Alternatives

California law requires OES to adopt regulatory definitions that do not conflict with existing law and enforceable standards *(see* Cal. Gov. Code §§ l 1346.5(a)(l)(D), 11349, 11349.1), and to coordinate with DIR and OSHSB in enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials *(see* Cal. Health & Saf. Code §§ 25533(b), 25542). OES also must consider reasonable alternatives to these definitions which are "less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation." Cal. Gov. Code § l 1346.2(b)(4)(A); *see also id* § l 1346.5(a)(l3).

TORC is concerned that a number of key definitions in the proposed regulations, as currently worded, are overbroad and/or are difficult or impossible to implement. Perhaps most significantly, the definitions of "Major Change" and "Major Incident" (proposed section 2735.3(gg), (hh)), which trigger a number of additional requirements in the CalARP and CalPSM

regulations, are extremely broadly worded and could require facilities to prepare burdensome reports and analyses even for routine equipment changes, small releases posing no offsite risks, or even a purely ***precautionary*** shelter-in-place. For example, installing an aftermarket ultrasonic flow meter poses no additional risk of accidental release or process safety hazards, yet it could be captured as a "major change" as the definition is currently worded. Both definitions directly trigger a host of CalARP requirements concerning damage mechanism review, hierarchy of hazard controls, management of change, human factors, and public reporting (including submission of "major incident" information to the UPA within 90 days for public posting). OES has provided no explanation of why these definitions must be so broad, or whether "overdisclosure" of insignificant incidents with little or no risk of worker or public harm could potentially confuse the public as to what changes and incidents are truly "major." Thus, overbroad definitions of these terms could cause a fundamental departure from the central purpose of the regulations to prevent process safety and accidental release hazards, and instead impose a host of administrative burdens unrelated to actually improving worker and public protection. As detailed in the WSPA comments, the definition of "major change" should be tied to the introduction of a "new process safety hazard" or a change that "worsens an existing process hazard," and the definition of "major incident" should be revised to clarify that a "officially declared public shelter-in-place, or evacuation order," without an accompanying serious hazardous release, are not enough alone to trigger a "major incident."

Moreover, the definition of "employee representative" (proposed section 2735.3(t)) is defined expansively to arguably allow for even ***non-refinery employees*** with no direct knowledge of refinery operations or the CalARP requirements to serve as a “representative." As currently worded, refineries could be required to coordinate with and share audit and investigation reports with an "employee representative" who is neither an employee of the refinery nor necessarily familiar with the refinery's processes or safeguards against accidental releases. Yet this same person would be vested with the right to provide comments on CalARP-related reports, help develop a plan for employee participation in accidental release prevention at the refinery, and participate in performing a host of refinery reviews and investigations. This is counter to the purpose of ensuring ***informed*** and ***meaningful*** employee participation in refineries' on-site accidental release prevention process. This definition should be revised to require that the "employee representative" be an on-site and unit-qualified refinery employee.

Other definitions are currently drawn so broadly that they seem to capture activities OES does not intend to regulate. For example, proposed Section 2735.3(xx) defines "process" to include all “petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on- site movement." This wording is so broad that it might arguably include administrative and support buildings, maintenance shops, change rooms and other areas where highly hazardous chemicals are not directly handled in any significant quantity. The definition should expressly exclude these activities. Definitions of "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" (proposed section 2735.3(iii)) and "Utility" (proposed section 2735.3(yyy)) do not match their counterparts in the proposed CalPSM regulations, and appear to create an inconsistency where OES likely does not intend one. These definitions should be revised to be consistent with the CalPSM regulations.

TORC urges OES to review these and the other definitions cited in the WSPA comments, and to consider the recommended revisions that bring the regulatory language in line with OES' statutory purpose of preventing and mitigating accidental releases of hazardous materials.

V-2 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- The definition is designed to align with and clarify the existing definition under Cal ARP, and align with the new definition under the PSM regulations. It is not intended to substantially broaden the current Cal ARP definition. The definition of "major change" is intended to focus the attention of the owner or operator changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition is not intended to include unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately alters safe operating limits on a process so that it could routinely operate outside of the current existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." In particular, we do not believe that "the replacement of a minor piping flange" would be considered a major change under this definition.
- Similarly, the definitional scope of "major incident" properly encompasses those incidents in which human life is jeopardized.
- Regulatory changes were made to address the commenter's concerns regarding the definition of "employee representative." Note, for nonunion facilities, the employee representative must be on site and qualified for the task. Employee representatives from union shops may be whomever the union selects.
- Regulatory changes were made to address the commenter's concerns regarding the definition of "process."
- Changes were made to the PSM regulation to more closely align its definition of RAGAGEP with the CalARP Definition.
- The minor differences in the definition of "utility" reflect the differing aims of the two regulatory schemes.

V-3 Comment

OES Fails to Consider Equally Effective and Less Burdensome Alternatives for Costly Proposed Regulations That Create Little or No Benefit

As written, the proposed CalARP regulations would create requirements that would impose significant costs and administrative burdens on refineries with no corresponding benefit to prevention or mitigation of accidental releases. The most troubling example of this appears in proposed section 2762.16(e)(2)(C), which would prohibit operators from rejecting team recommendations for PHAs, DMRs, HCAs, incident investigations, compliance audits and SPAs if those recommendations are deemed infeasible "based solely on cost." California law expressly

requires OES to consider all cost impacts and the cost effectiveness of proposed CalARP requirements. *See, e.g.,* Cal. Gov. Code §§ 11346.3(e), 11346.5(a)(9), 11346.9(a)(4).1. OES cannot simply ignore cost or declare it to be beyond consideration, and the agency has no statutory authority to require inherent safety measures at ***any*** cost. On the contrary, OES must articulate a supported determination "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4); *see also* Cal. Gov. Code §§ 11346.2(b)(4)(A), 11346.2(b)(5)(A), 11346.3(a), 11346.5(a)(8), 11346.5(a)(9), 11346.5(a)(13). Put another way, if a less costly alternative exists that is at least as effective as a proposed recommendation, OES ***must*** allow sites to consider and adopt it. This proposed regulation would stand that rule on its head, adopting a rule that an equally effective but less costly alternative to an unnecessarily expensive recommendation can ***never*** be adopted. OES has no legal authority to pass regulations bypassing mandatory elements of the California statutes. OES must consider cost-effectiveness when adopting regulations governing the acceptability of team recommendations, and the proposed provision prohibiting findings of infeasibility "based solely on cost" should be deleted.

In another example of imposing unnecessary costs and work with no corresponding benefit to worker or public protection, proposed section 2762. l(a) would significantly expand refineries' obligation to assemble all "process safety information" - no matter its relevance to worker protection - and make that information "available to all refinery and contractor employees." As defined in existing regulations, "process safety information" (see section 2760.1) includes a wide range of information concerning the refinery's processes and products, including process chemistry, maximum intended inventories, and material and energy balances which often contain trade secrets, proprietary technical information and other confidential business information. Sharing such a wide range of information with "all refinery and contractor employees" (including potentially non-employee "employee representatives") would create significant burdens on the refinery to monitor and protect that sensitive information by enforcing confidentiality agreements with every individual with whom the information is shared. This could have the perverse effect of actually ***impeding*** timely employee and contractor access to relevant process safety information, as every party may have to first execute a confidentiality agreement detailing the information requiring protection.

As stated above, California law requires that OES consider alternatives to a proposed regulation that are equally effective but less costly or burdensome on the regulated party. Cal. Gov. Code § 11346.2(b)(4)(A); *see also id.* § 11346.5(a) (13). In this respect, OES must articulate a supported determination "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4); *see also id.* §§ 11346.2(b)(4)(A); 11346.5(a)(13). Here, OES has failed to explain why ***all*** process safety information must be shared with ***all employees*** and contractors, regardless of its actual relevance to informing those individuals about matters related to safety and prevention or mitigation of accidental releases.

OES should revise proposed section 2762.1 to require that only "relevant" process safety information be shared with affected employees, thereby offering the same degree of substantive protection to those individuals without creating intractable burdens on the refinery or slowing access to this information.

In other sections, OES' proposed regulatory language is imprecise and could allow for misinterpretation that could make it very burdensome or impossible for refineries to comply. For example, proposed section 2762.5(e)(6)(C) requires the damage mechanism review (DMR) for each process to include a "[d]etermination that the materials of construction are appropriate for their application and are resistant to potential damage mechanisms." As written, this language seems to imply that materials of construction must be "resistant to [all] potential damage mechanisms," ***without limitation.*** No material of construction is resistant to ***all*** potential damage mechanisms, yet the language could be construed to require refineries to find just such materials or risk noncompliance with the regulations. Refineries must be allowed to consider both the suitability of the damage resistance and the predictability of potential damage when determining proper materials of construction on a case-by-case basis. Thus, we believe OES should properly focus the proposed language by requiring refineries to include in the DMR a determination that materials of construction are appropriate for application "considering the potential damage mechanisms." This is consistent with the intent expressed in the ISOR.

Another draft section using imprecise and impracticable language is proposed section 2762.8(c), which would require refineries to prepare a written report of the three-year compliance audit that includes "questions asked to assess each program element along with answers and findings and recommendations of the compliance audit." OES is required to adopt regulations that are written so that the public and regulated parties can easily understand their meaning. *See* Cal. Gov. Code §§ 11349, 11349.1. The Initial Statement of Reasons (ISOR) explains that the intent of this section is to "ensure that refineries will adequately document details regarding the audit process, which will improve the refinery's internal compliance assurance programs and facilitate review by UPAs." ISOR, p. 37. However, the proposed regulatory language makes a distinction between "answers" and "findings" without explaining the purported difference, and does not explain whether <u>every</u> answer received to an audit question - even preliminary answers that may not be authoritative or complete - must be documented (and if so, why). Audits are designed to gather raw information and "answers" and distill them into "findings." If OES' intent is to ensure meaningful documentation of the audit process and review by UPAs, the regulation should require the report to document the ultimate audit "findings," not every preliminary "answer" to a question no matter its accuracy or relevance.

V-3 Response

Many of the commenter’s statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter’s specific comments as follows:

- The owner or operator is not permitted to reject a team recommendation where cost is the only determination of infeasibility. However, the proposed regulatory language permits an owner to *change* a recommendation where an alternative measure is equally safe or

safer, as long as that alternative measure is a 1st or 2nd order Inherent Safer recommendation when replacing a 1st or 2nd order Inherent Safer recommendation. This permits the owner or operator the flexibility needed to implement a more cost effective safety measure so long as the alternative measure is equally safe or safer.

- With regard to the commenter's concern regarding the provision of process safety information to employees and contractors, regulatory changes were made that allow the refinery to limit the information provided to contractors to relevant process safety information. The regulation permits the refinery to take appropriate action to protect proprietary and trade secret information.
- With regard to concerns regarding language in section 2762.5(e)(6)(C), the requirement that a DMR shall include determination that construction materials are "appropriate" and shall be "resistant to potential damage mechanisms" accounts for the commenter's concern. The regulatory language does not require that the construction is impervious to all damage mechanisms. Cal OES recognizes that no materials of construction are impervious to all damage mechanisms. However, it is essential that the owner or operator select materials that, considering their planned use (application), are appropriately resistant to the most likely damage mechanisms. The regulation does not require unrealistic materials perfection. Rather, it requires that the selection of appropriate materials include an evaluation of potential damage mechanisms and a determination that the materials selected are appropriate in light of those damage mechanisms.
- Regulatory changes have been made to address commenter's concern about subsection 2762.8(c).

V-4 Comment

The Proposed Regulations Create Unnecessarily Prescriptive Standards That Remove Flexibility Needed to Ensure Safety and Minimize Accidental Releases

Other CalARP regulations proposed by OES would create unnecessarily prescriptive standards that could actually result in less protection for workers and the public in an emergency. For example, proposed section 2762.3(b) would require refineries to implement a single set of predetermined emergency operating procedures to literally cover "any response" to equipment overpressuring or overheating, or handling of leaks, spills, releases or discharges. Every overpressuring, overheating, or release incident involves a unique set of facts and circumstances, making it impracticable to predict every possible risk and appropriate response. But because the current draft language requires approved procedures covering "any response," facilities would be put in the impossible position of having to predict and set a proper response in advance for virtually *any* kind of conceivable emergency. Even if refineries could anticipate and prepare for most types of incidents with recommended response actions, those responses may not be appropriate for ***every*** possible incident (and in some cases could actually result in <u>less</u> protection). The current language would deny facilities discretion to take the steps necessary to ensure safety in an unexpected or unpredictable emergency situation, and could require an Cal/OSHA procedural variance before the facility would be able to take such protective steps. Moreover, the proposed language would allow "only qualified operators" to initiate emergency operating procedures, and could prevent emergency responders from taking necessary actions to ensure safety (e.g., closing valves).

California law requires that OES consider alternatives to a proposed regulation that are equally effective but less costly or burdensome on the regulated party (Cal. Gov. Code § 11346.2(b)(4)(A); *see also id.* § 11346.5(a)(13)), and requires OES to "substitute[e] performance standards for prescriptive standards wherever performance standards can be reasonably expected to be as effective and less burdensome" (Cal. Gov. Code § 11340.l(a); *see also id.* §§ 11340(d), 11346.2(b)(4)(A)). Here, OES has a more effective and less burdensome alternative. Proposed section 2762.3(b) should instead give operators (and, where appropriate and necessary, emergency responders) discretion to take actions other than simple shutdown, equipment isolation, or other preset emergency operating procedures where necessary to ensure employee and public safety, taking into consideration the relevant factors and circumstances of the incident. Even OES recognized in pre-regulatory discussions with stakeholders that "in some cases, the safest action is to keep a process running while addressing a leak, spill or discharge." ISOR, p. 18. But neither refineries nor OES can predict in advance every possible release scenario and the corresponding safest response actions. Refineries must be allowed to exercise discretion in those unpredictable situations to take the response actions that ensure maximum safety for workers and the public.

V-4 Response

Nothing in the language as written precludes emergency responders from taking action (such as valve closure) in an emergency situation. The regulatory language allows the refiner to establish “criteria for handling leaks, spills, or discharges”. The language does not require that the refiner establish specific procedures for every possible occurrence. This contemplates an approach similar to the “emergency operations practice” suggested by the commenter. The owner or operator must, however, demonstrate that they have considered a wide range of potential leak, spill, or discharge scenarios and document a clear approach that defaults to isolation or shut-down unless it is reasonably clear that other options are equivalent or safer. Accordingly, Cal OES believes that this issue is addressed in the current language. Furthermore, the language of CalARP and PSM are identical except the order of the numbering. Cal OES will take no action on this comment.

V-5 Comment

The Proposed Regulations Appear to Go Beyond OES' Authority to Regulate Facilities and Fail to Harmonize with the Proposed Ca1PSM Regulations That Regulate Employers, Not Employees

Finally, OES' proposed CalARP Regulations exceed the agency's legal authority to regulate ***facilities*** with a potential for accidental hazardous releases, not their individual ***employees.*** First, by creating a host of requirements for a new "Program 4" presumably governing ***all*** processes at all stationary sources under NAICS Code 324110 *(i.e.,* petroleum refineries), the proposed CalARP regulations appear to go well beyond the statutory authority of OES to adopt regulations preventing and minimizing accidental releases of hazardous materials, and create unnecessary burdens unique to refineries. *See, e.g.,* Cal. Health & Saf. Code § 2553 l(b) (enabling statutes emphasize "the protection of the public from uncontrolled releases or explosions of hazardous

materials"). As written, the proposed regulations would impose significant additional requirements on many low-risk elements of refinery operations currently categorized as Program 1 processes, possibly requiring reassessment as Program 4 processes. This would substantially increase the burden on refineries to conduct Program 4 hazard assessments, including worst-case release scenario analysis, alternative release scenario analysis, and evaluation of population and environmental impacts, as well as general RMP reporting requirements. To date, OES has failed to explain how increasing paperwork requirements for low-risk processes otherwise qualifying for Program 1 treatment would produce any corresponding improvement in safety or in prevention of accidental releases. Rather, as WSPA has recommended, we believe the Proposed CalARP Regulations either should abandon the idea of a new program level solely for refineries, or allow lower-risk processes currently eligible for Program 1 to continue to be eligible under Program 1.

Moreover, OES proposes regulatory language that could be viewed as imposing direct personal liability on refinery employees to comply with the regulations. Proposed section 2762.14(g) mandates that the "stationary source manager, or his or her designee, shall serve as signatory to all process safety culture assessment reports and corrective action plans." Proposed section 2762.6(k)(5) requires that "[t]he petroleum refinery manager, or his or her designee, shall certify that the [Management of Organizational Change] assessment is accurate and that the proposed organizational change(s) meet the requirements of this section." Proposed section 2762.16(h)(2) requires that "[t]he stationary source manager or designee shall certify annually that the report [of site-specific process safety performance indicators] is current and accurate."

California law requires OES to coordinate with DIR and OSHSB in enforcing a consistent and harmonized set of requirements applicable to facilities handling hazardous materials. *See* Cal. Health & Safety Code §§ 25533(b), 25542. The California Occupational Safety and Health Act provides that all "occupational safety and health standards and orders promulgated under this code, are applicable to proceedings against ***employers*** for the exclusive purpose of maintaining and enforcing employee safety." Cal. Lab. Code § 6304.5 (emphasis added). OES cannot draft a proposed regulation that purports to directly and personally regulate a specific employee at a regulated party; it is empowered by law to regulate only the facility itself. Whether this was OES' intention in the drafting of the proposed regulation, this language nevertheless could be construed to impose personal liability on the refinery manager or his or her designee. We recommend that OES revise this regulation to clarify that the ***employer*** is responsible for certifying the sufficiency of the assessment, not the refinery manager personally.

V-5 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any

"person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority.

- The designation of the refinery manager as a person responsible for attesting to compliance with particular requirements is consistent with the PSM regulations.

Cal OES will take no further action on this comment.

COMMENTER W
Stephanie Williams – Phillips 66
Emailed dated September 15, 2016

W-1 Comment

Phillips 66 Company owns and operates multiple refining facilities in the state of California that will be regulated by new Section 5189.1 of the General Industry Safety Orders, Process Safety Management for Petroleum Refineries. As a Company, we have always placed worker safety and the safety of the surrounding communities as the highest priority.

Phillips 66 Company supports and adopts the attached comments submitted by the Western States Petroleum Association dated September 15, 2016.

W-1 Response

Cal OES notes and thanks the commenter for its input. Western States Petroleum Association's comments are addressed as Commenter S.

COMMENTER X
Ron Chittim – American Petroleum Institute (API)
Emailed dated September 15, 2016

X-1 Comment

API and AFPM believe that the entire proposal is legally defective and that it does not conform to the APA's rulemaking standards. It is, at best, questionable that CalOES is authorized by the Health and Safety Code to adopt the proposed standard, and even if it is, no showing has been made that the rule is "reasonably necessary to effectuate the purpose" of the Health and Safety Code. These are fundamental flaws that cannot be corrected through the notice and comment process.

X-1 Response

This comment is general and conclusory in nature. Cal OES will take no action on this comment.

X-2 Comment

DISCUSSION OF KEY CONCERNS

Government Code § 11342.2 provides that "[w]henever by the express or implied terms of any statute" a California agency has "authority to adopt regulations to implement, interpret, make specific or otherwise carry out the provisions" of that statute, "no regulation is *valid or effective* unless consistent and not in conflict with the statute" and "*reasonably necessary to effectuate the purpose* of the statute" (emphases added). On judicial review, a regulation "may be declared invalid" where the court finds that the "agency's determination that the regulation is reasonably necessary to effectuate the purpose of the statute is *not supported by substantial evidence*" (emphasis added).

Further, pursuant to Government Code § 11349.1(a), the California Office of Administrative Law (OAL) reviews all regulations adopted, amended, or repealed pursuant to the APA to ensure that such regulations satisfy six specified standards: "necessity," "authority," "clarity," "consistency," "reference," and "nonduplication." Each is a defined term. "Necessity," "clarity," and "non-duplication" are of the most relevance here.

"Necessity" is defined in terms that correspond in part to the provisions of Government Code § 11342.2. Specifically, "necessity" means that the "record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute, court decision, or other provision of law that the regulation implements, interprets, or makes specific, taking into account the totality of the record." For purposes of this standard, "evidence includes, but is not limited to, facts, studies, and expert opinion." The term "clarity" means that the regulation is "written or displayed so that the meaning of regulations will be easily understood by those persons directly affected by them." In addition, "nonduplication" is defined as follows:

"Nonduplication" means that a regulation does not serve the same purpose as a state or federal statute or another regulation. This standard requires that an agency proposing to amend or adopt a regulation must identify any state or federal statute or regulation which is overlapped or duplicated by the proposed regulation and justify any overlap or duplication. This standard is not intended to prohibit state agencies from printing relevant portions of enabling legislation in regulations when the duplication is necessary to satisfy the clarity standard in paragraph (3) of subdivision (a) of Section 11349.1. This standard is intended to prevent the indiscriminate incorporation of statutory language in a regulation.

In reviewing regulations, the OAL is "restrict[ed] . . . to the regulation and the record of the rulemaking proceeding." A regulation will be approved only if "it complies with the standards set forth in this section and with this chapter."

As discussed below, compared to these standards, the proposed CalARP regulations do not conform to California's administrative requirements and should be rejected by OAL unless CalOES re-proposes the standard to cure these deficiencies.

X-2 Response

This comment is largely general and conclusory in nature. To the extent the commenter suggests that the proposed Program 4 is not necessary to effectuate the purposes of the authorizing Health and Safety Code statutes, the stated purpose of the statute is to prevent accidental releases of extremely hazardous substances. In 2014, the Governor's Interagency Working Group on Refinery Safety issued a report entitled Improving Public and Worker Safety at Oil Refineries this document identified gaps in the current regulatory framework. The proposed changes to Program 4 are necessary to address these state-specific gaps in the existing risk management plan. Cal OES will take no action on this comment.

X-3 Comment

Coordination with the Occupational Safety and Health Standards Board's Proposed General Industry Safety Order § 5189.1 and with the Federal Revisions to the Occupational Safety and Health Administration Process Safety Management Regulations.

It is critical that CalOES and the California Occupational Safety and Health Standards Board (the Board) ensure consistency between the draft CalARP regulations and the Proposed General Industry Safety Order (GISO) § 5189.1 Process Safety Management for Petroleum Refineries - Version 5.0 (hereafter referred to as the draft CalPSM Regulation) currently under development by the Board. Otherwise, refinery owners and operators will be unable to implement consistent strategies and procedures to effectively comply with both regulatory schemes. When California Governor Jerry Brown formed an Interagency Working Group on Refinery Safety (Working Group) to examine ways to improve public and worker safety at refineries, that group issued an initial status report finding that:

Multiple regulatory agencies have responsibility for oversight of aspects of refineries, sometimes with overlapping jurisdiction. Agency actions and efforts to…avoid potential duplicative action are insufficient.8

The Working Group elaborated that "[i]mproved coordination, communication and oversight are essential and will result in smarter, more targeted enforcement, while avoiding the potential for inconsistent and unnecessary regulatory requirements."9

Unfortunately, as currently written, the draft CalARP regulations have elements that are inconsistent with the draft CalPSM Regulation to the point that the two regulatory schemes may be un-manageable when applied to the regulated community. For example, applicability of the draft CalARP regulations and the draft CalPSM Regulation could vary significantly between the rules. Similarly, companies would not be able to develop a single process hazard analysis (PHA) to satisfy both rules because the draft CalARP regulations requires a separate process for conducting safeguard protection analysis (SPA), while the draft CalPSM Regulation integrates the processes into a single element. There are other examples of inconsistent language and organization between the draft CalPSM Regulation and the draft CalARP regulations in their current form that are identified in the comments on the respective rules.

Similarly, federal OSHA is currently undertaking a process to revise its PSM regulations and has actively begun stakeholder outreach. On top of that, EPA is in the process of revising its RMP regulations and expects to issue those regulations by the end of the year. Both of these federal rules overlap with CalOES's proposed CalARP regulations, and regulated entities will be left to sort out the potential redundancies and conflicts. Moreover, the compliance process for the federal rules will lag the process for complying with the proposed standard, such that companies will have to undertake serial compliance processes and incur significant additional costs. At this point in time, CalOES should defer to the federal standards and the Cal/OSHA rulemaking and then once those rulemakings are completed, CalOES should evaluate any additional requirements that it can justify as necessary under the relevant provisions of the Government Code.

X-3 Response

The comment is largely general in nature and does not provide the level of specificity needed for Cal OES to formulate a response. Generally, Cal OES agrees that the CalARP regulation and the PSM standard should be harmonized and consistent wherever appropriate and the Department of Industrial Relations and Cal OES have taken actions to streamline their regulations wherever possible. However, the mandates of the two programs differ: PSM is focused on protecting worker health and safety, whereas CalARP is focused on protecting communities. For this reason, there are some critical differences between the two regulations that are justified and necessary. The commenter has not identified any particular provisions of concern between the CalARP regulations and either the PSM regulations or related federal rules. Cal OES will take no action on this comment.

X-4 Comment

Confusing Applicability Provisions.

The proposed standard retained a confusing applicability provision that states that the standard applies to "all portions of the petroleum refinery," except "process plant laboratories or laboratories that are under the supervision of a technically qualified individual," while at the same time also providing that "[t]his Article shall apply to processes within petroleum refineries." *See* 19 C.C.R. § 2762.0.1(b), (a). This approach is ambiguous, inconsistent, and unnecessary. The problem is that CalOES fails to appreciate that there are important distinctions reflected in the language used in subsections (a) and (b). That is, the application of CalARP provisions to "processes within petroleum refineries" (subsection a) is very different than an "applicability" provision that speaks to "all portions of the petroleum refinery" (subsection b). A literal reading of subsection (b) would not be limited to process-related portions of the refinery; instead, it significantly expands the scope beyond what is delineated in subsection (a).

The ISOR states that subsection (b) applies to portions of refineries "to the extent that they are part of a process."10 This, however, does not correspond to the literal language of subsection (b) as it is currently drafted. The ISOR's explanation provides critical context and therefore, the ISOR's language needs to be included explicitly in the text of the final rule itself. Otherwise, requiring the regulated community to review extraneous information in order to interpret the regulation will likely result in confusion and inconsistent application of the rule.

X-4 Response

Regulatory changes were made to both section 2762.0.1(b) and 2735.3(yy) to address the commenter's concerns.

X-5 Comment

Definitions of Key Terms Dramatically Expanding the Scope of Requirements.

A principal concern with the proposed standard is its use of certain defined terms that are so imprecise and so overly broad that the result would be that refinery operators would be required to undertake activities that, while costly and time-consuming to implement, would not result in any safety improvements. As noted above, while a safety process/requirement, such as a PHA, may be appropriate in theory, the key determination of reasonableness depends on when and how such requirements apply. The proposed definitions of "major change" and "major incident" are key examples. Used throughout the proposed standard, the terms serve as the trigger for requiring refinery operators to undertake a number of different activities such as Damage Mechanism Review, Hazard Controls Analysis, Management of Change, *etc.* Due to the over-breadth of these definitions and the fact that they are propagated throughout the proposed standard, a refinery will be forced to conduct extensive analyses for every piece of new process equipment or brief deviation from safe operating limits, without regard to whether there are actual implications for process safety. The result will be meaningless, if not

counterproductive, paper exercises that will divert critical process safety personnel from other duties that would actually improve process safety.

To illustrate the concern using the definition of "major incident," the proposal would define the term to mean:

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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public shelter-in-place, or evacuation order.11

This would significantly expand the standard beyond what was envisioned by state legislators, adding a multitude of events that could not reasonably lead to the types of releases that were intended to be covered. Such a result would be burdensome and overwhelming without resulting safety improvement. In fact, as proposed, the definition may negatively impact overall safety. The unmanageable nature of the proposed language is compounded by the definition of "process safety hazard," which is defined to mean a "characteristic of a process that, if unmitigated, has the potential to cause a fire, explosion, or release of a highly hazardous material which could result in death or serious physical harm or a major incident."12 In other words, a "process safety hazard" includes any hazard "that has the potential for causing" a "release of a highly hazardous material … which has the potential to result in death or serious physical harm." This further attenuates the likelihood of harm and dilutes the ability of refineries to focus finite resources on real process safety risks. There should at least be an "imminent" and "substantial" risk of death or serious physical harm, as Congress itself has recognized. By adopting the overbroad definition, CalOES would risk creating scenarios in which so many incidents must be addressed and evaluated that the refineries will have to divert limited resources away from those potential incidents that truly do present an imminent and substantial endangerment because they must address all that have "potential" for serious injury. It is possible that CalOES actually intends "potential" to mean "imminent and substantial endangerment," which include both a temporal (imminent, rather than at some point) component and a magnitude (substantial likelihood and impact, not merely possible). If that is the intent, CalOES should use that language instead.

In sum, rather than imposing onerous requirements through vaguely worded definitions, "major incident" must be limited to appropriately severe consequences in keeping with the intent of the standard, and should not include sweeping language regarding "potential" consequences. Otherwise, refinery process safety resources will be unable to focus on developing quality analysis and recommendations for hazards that pose true potential for major accidents, a stated goal of the proposed standard.

The proposed definition of "major change" provides another example of an overly broad provision that propagates throughout the regulation and expands its scope without providing corresponding benefits. Under the proposed standard, a "major change" may trigger a number of time-consuming and labor-intensive activities, including a "damage mechanism review," a "hazard controls analysis," a "management of change," and an analysis of human factors. See proposed 19 C.C.R. §§ 2762.5(e)(3); 2762.6(c); 2762.13(b)(2); 2762.15(b). Under the proposed

definition of “major change,” each of these activities will need to be conducted for routine or minor equipment changes, such as the replacement of a minor piping flange.

Specifically, the proposed “major change” definition would include:

1. Introduction of a new process; or
2. New process equipment, or new regulated substance that results in a change in safe operating limits; or
3. Any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

This definition is so overly broad that implementation of the many subsections incorporating this language will require more resources than currently exist at any refinery or within qualified hiring pools in the refining industry. At the same time, no improvement in process safety would result. For this reason, the proposed definition of “major change” would result in the proposal’s failing to “effectuate the purpose of the statute,” thus failing to meet the Government Code’s “necessity” standard.

The ISOR provides no explanation why defining “major change” to include all “new process equipment” or “any change in operation outside of established safe operating limits” is reasonably necessary to “effectuate the purpose” of the California Health and Safety Code. The ISOR states only that “Major Change” is “defined by section 2735.3, subsection (gg), as any of the following,” and then sets forth the regulatory definition verbatim with no further explanation. ISOR at 30. This is wholly inadequate under the APA. The ISOR also provides no explanation as to what it means to “increase” an existing process safety hazard. Moreover, in defining the term “change,” the proposal uses the term “any alteration” – without defining “alteration.” The first definition of “change” in Merriam-Webster’s Dictionary is “alter,” yet it is unclear what CalOES means by adding this word in subparagraph (3). The definition is also internally inconsistent in that the term is “major change” yet the items listed are far from “major,” encompassing “any” alteration in a process, process equipment, or process chemistry. The ISOR provides no explanation as to why the listed items in the subparagraphs are deemed to constitute “major” changes much less why these definitions are “necessary” for effectuating the statutory purpose.

It is essential that CalOES limit the circumstances that constitute a “major change” to where process safety is clearly implicated in a meaningful way. The ISOR does not explain why defining “major change” to include all “new process equipment” or “any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard” is reasonably necessary to “effectuate the purpose” of the California Health and Safety Code.

Similarly, the inclusion of “[a]ny change in operation outside of established safe operating limits” as a “major change” is inappropriate because such an event may not be a major change as commonly understood in the industry. Equipment may temporarily operate “outside established safe operating limits” due to a brief upset in a separate process unit before returning to normal operation. This scenario is already addressed under the CalARP’s *Operating Procedure* requirements, which requires procedures to establish “[s]teps required to correct or avoid

[operating limit] deviation." It is possible that CalOES would not interpret the phrase "any change in operation outside of established safe operating limits" in this manner, *e.g.*, intending it to apply only to intentional and permanent changes. If that is the case, the proposal requires clarity that it does not include temporary changes in order to satisfy "clarity" requirements. If CalOES does intend this interpretation, the proposed definition would fail to satisfy the Government Code's requirement for "non-duplication," under which regulations must not "serve the same purpose as … another regulation."

As discussed, the regulation uses the "major change" definition to trigger numerous substantive, time-consuming, and costly requirements, including a Damage Mechanism Review (DMR), an Hierarchy of Controls Analysis, an Management of Change, and human factors analysis.13 Again, it is unclear whether CalOES interprets the proposed "major change" definition to require that each of these activities be conducted for routine or minor equipment changes, such as the installation of a single piping flange, yet the proposed definition of "process equipment" and "process safety hazard" could create ambiguities. This lack of clarity is a fundamental flaw in the ISOR that must be cured, through re-proposal to provide the public with the required opportunity to comment on the regulations. If CalOES does not intend this interpretation, the proposal fails to meet the "clarity" and "necessity" standards.14

As another example, the lengthy requirements of a full Hierarchy of Hazard Controls Analysis (HCA) conducted on a minor equipment change would be very time-consuming but ultimately yield no process safety improvements. Fundamentally, the costs associated with this effort will not result in a material improvement in process safety and may actually hamper process safety improvement.

Similarly, the proposed standard's definition of "Highly Hazardous Material" (HHM) raises a separate key concern because this term dictates applicability of the entire standard. The proposal fails to employ a clear and straightforward definition of HHM; instead, it defines HHM as being comprised collectively of four other substances. These four terms are themselves defined individually, not by the proposed rule, but with reference to the Department of Industrial Relations' Hazard Communication Standard. This approach will significantly complicate the applicability analysis for California refineries attempting to determine coverage for various processes, resulting in an unmanageable and costly burden without any improvement in process safety.

X-5 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- The definitions of major change and major incident are appropriate in scope. Regulatory changes were made to provide additional clarity. Cal OES acknowledges that the proposed definition of "major change" is broader than the definition in other CalARP Programs, but disagrees that it is overly broad. The definition of "major change" is intended to encompass changes that are truly major and does not include routine or minor

changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition does not contemplate unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately altered safe operating limits so that it could routinely operate outside of the existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." Similarly, the definitional scope of "major incident" properly encompasses those incidents in which human life is jeopardized.

- With regard to the commenter's concern regarding the definition of "Highly hazardous material," incorporating by reference is a common practice and does not complicate the applicability analysis for California refineries.

X-6 Comment

Undefined Standards.

In numerous instances, the proposed standard includes language that appears aimed at allowing inspectors discretion to define a violation based on their own opinion. For example, the proposed CalARP regulations repeatedly impose requirements with the modifier "effective." Proposed § 2762.1(a) requires that information pertaining to the hazards of the process be "effectively communicated" to all affected employees. Proposed § 2762.2(a) requires employers to perform and document an "effective" PHA "appropriate to the complexity of each process." Proposed § 2762.2(c)(7) requires consideration of facility siting "in order to effectively protect employees and the public" from hazards. The list goes on. The ISOR provides no explanation as to how CalOES will enforce this "effectiveness" requirement and how companies complying with it will be judged or what barriers there will be to inspectors requiring additional steps of companies because in their estimation, the company's efforts are not "effective." Such an undefined standard fails the "clarity" requirement of the APA. There are numerous examples of this problem in the proposal which must be remedied before issuance of the rule. Moreover, because the proposed rule does not provide information regarding the intent of many of these terms, API and AFPM respectfully submit that a new ISOR must be issued that sufficiently explains the intent so that regulated entities can provide meaningful comment.

Further, some of the proposed standard contains provisions that are so poorly conceived that compliance with such provisions would be essentially impossible. One example of this is the proposed standard's requirement that refineries develop a system to "document" a lengthy list of information, including "recommendations to partially shut- down an operation or process," "partial or complete shut-down of an operation or process," and "written reports of hazards and the employer's response." Proposed § 2762.16. The terms employed by this provision are neither defined nor commonly understood by the refining industry, so the regulated community will be susceptible to potential liability for documenting interactions between its employees of which it is not aware. While a company can provide the system for reporting and encourage reporting, holding the employer responsible for documenting these interactions is impractical and likely to be unsuccessful. This provision plainly fails the "clarity" requirement.

X-6 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- Effective is used in this regulation according to its dictionary definition: "Adequate to accomplish a purpose; producing the intended or expected result". "Effective" does not mean "perfect," but it does mean that the activity is designed in such a way as to make it likely to succeed. For example, in Section 2762.16, the owner or operator is required to "develop and implement an effective written Accidental Release Prevention Program (ARP) Management System…" A system that addresses all of the issues described in that section of the regulation, is clear and well-documented, and that is regularly reviewed and updated, would meet this requirement. A system that does not contain all of the required elements, is confusing or poorly documented, does not function as described on paper, or is not up-to-date would fail to comply with the requirement to be effective. The term "effective" is necessary in the sections where it is used in order to ensure that the owner or operator does not simply create a program or system on paper and fail to fully implement it, or conversely does not partially implement a program or system without adequately documenting and updating it.
- Commenter fails to note which portion of 2762.16 it believes is unclear or impractical and the quoted language does not appear in the regulation. Given the vague and general nature of this comment, Cal OES cannot effectively respond. To the extent the commenter is concerned about documenting interactions with employees, Section 2712.16(e)(4) requires only that the owner or operator document and address formal, written comments. Cal OES will take no action on this comment.

X-7 Comment

Inappropriate Allocation of Responsibilities and Rights to Certain Employees.

Stationary Source Manager Responsibilities: Proposed § 2762.16(a) provides that the "stationary source manager shall be responsible for compliance with this Article." The intent of this provision is unclear, but to the extent it means to make the stationary source manager personally responsible in terms of liability and potential sanctions (including criminal sanctions), it is impermissible. The provision is incompatible with the provision's statutory basis and arbitrarily bestows responsibility for the most complex process safety regulatory scheme in history on a single individual without any analysis of how this will affect process safety. Furthermore, this requirement dangerously discourages involvement in granular safety issues at the highest levels.

In seeking to arbitrarily assign responsibility to an individual employee for compliance with all elements of CalARP, the provision runs counter to the regulation's enabling statute, which focuses on "owners and operators" of covered facilities. The provision further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills, training, and qualifications. Apart from being statutorily unauthorized, the requirement has not been shown to be "reasonably necessary" in any event.15 The ISOR does not provide any basis for this requirement, and in reality, the provision may in fact decrease effective accountability where qualified individuals will be discouraged from

accepting a role as "stationary source manager" based on a regulatory and legal responsibility that is disproportionate to the reality of managing an effective facility. API and AFPM respectfully submit that CalOES is without authority to impose such requirements on an individual.

X-7 Response

Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator or an employer. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. Cal OES will take no action on this comment.

X-8 Comment

Employee Representative Designation: We are also concerned with the definition of employee representative because it will not accomplish the goals that CalOES states it is trying to achieve. The proposed definition is:

A union representative, where a union exists, or an employee- designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.16

To achieve the results that CalOES believes would occur through increased participation of employee representatives and to avoid adverse consequences that are not intended by CalOES, the definition of "employee representative" needs to be limited to employees of the refinery and where there is a union, also local union members that are refinery employees. The proposed regulation has several elements where the "employee representative(s)" would be included, for example, "at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, Management of Organizational Change (MOOCs), Process Safety Culture Assessment (PSCAs), Incident Investigations, SPAs and PSSRs."17

API and AFPM understand that CalOES desires effective participation by employee representatives. To achieve that, CalOES must ensure that the selection of employee representatives is limited to people who can fulfill that role in practice. Because the proposed regulation would not allow the employer to control the selection of the employee representative(s), the regulatory language needs to ensure that minimum qualifications are met by such representatives.

API and AFPM are concerned that the proposal would allow non-local union personnel (and non-employees) to be selected as employee representatives. California refineries maintain positive relationships with local union employee representatives, who are appropriately

employees at the facility and generally reflect the positions of co-workers. As an example, allowing selection of a member of the "international union," who might not even be a refinery employee, for participation in process hazard analysis would be inappropriate because such individuals would have no understanding of the specific hazards associated with the process equipment at the facility. It is critical that the employee representative for PHAs be an actual employee of the refinery in order to ensure that the resulting analysis and recommendations are based on an understanding of the design, operation, and maintenance of the specific process equipment for which the PHA is being conducted. The same is true of Pre-Startup Safety Reviews, MOCs, Management of Organizational Changes, DMRs, and other PSM processes, which require familiarity with the particular facility and its operations to provide for "effective" participation. The statement in the definition that "employee representative" is to be "construed broadly" and the inclusion of the term "international union" at least suggests that CalOES is contemplating that a representative could be a person who has never set foot in the refinery. Given the nature of the processes in which the employee representative would be involved, this is inappropriate. Moreover, we are certain that it is not CalOES's intent to create a regulation that would allow a union to disrupt refinery operations for purposes other than improving safety. By not requiring that the employee representatives meet minimum qualifications to make them effective in their participation, the regulation would invite abuse in situations where an entirely separate dispute between management and a union (*e.g.*, overtime pay) is at issue. The potential negative impacts on facility management and reliability of refinery operations partially resulting from this definition are discussed in further detail in our comments regarding subsection 2762.10(a), Employee Participation. Given the policy underlying the National Labor Relations Act to protect equality of the collective bargaining process, the definition of "employee representative" must be limited to exclude a third party individual who is not connected with or affected by this process.18

The ability to designate non-employee "employee representatives" is also problematic because it risks inappropriate disclosure of confidential business information and trade secrets to persons who are not otherwise obligated to maintain confidentiality. For example, the proposed mechanical integrity provisions require that "procedures and inspection documents developed under this subsection shall be readily accessible to … employee representatives."19 Mechanical integrity data is highly confidential and proprietary information that has the potential to result in significant competitive harm if disclosed to the broader industry. As CalOES is aware, mechanical integrity information necessarily includes proprietary design data, maintenance strategies and scheduling, and material throughput information, all of which would allow competitors to avoid their own costly research and development while trading off the efforts of the refinery whose information was compromised. The regulation provides no limitations on the non- employee employee representatives' use or disclosure of this information, and the risks to employers of losing control of such information if contractor and international union members receive it is significant. CalOES has failed to establish why this unprecedented expansion of the "employee representative" is necessary to achieve the statutory purpose in light of the substantial risks created.

The ISOR is inadequate under the APA because it fails to explain why the definition of "employee representative" is necessary. Indeed, the ISOR contains no discussion at all as to why CalOES has chosen to define this term in this manner, stating only that "Employee

Representative" is defined by section 2735.3(t) "to mean" and then setting forth the regulatory definition verbatim with no further explanation.20 The APA demands more than this. Moreover, the ISOR fails to address the concerns regarding the dilution of quality in critical process safety systems like process hazard analysis due to a lack of training, qualification, and accountability. For this reason alone, the proposed rule fails to satisfy APA requirements and must be withdrawn and re-proposed (or at least revised and subjected to an additional 15-day comment period). Fundamentally, the definition must be revised to limit "employee representatives" to employees of the refinery in order to ensure that trained and qualified individuals participate in critical process safety systems, while also supporting an equalized collective bargaining process.

X-8 Response

Regulatory changes were made to address concerns that the employee representative be on site and qualified for the task. Employee representative does not need to be an expert on the process there to effectively communicate concerns. Employees and employee representatives participating in a specialized team pursuant to this Article shall be trained in the Program elements relevant to that team. Nothing in this subsection shall preclude the owner or operator from requiring an employee or employee representative to whom information is made available under subsection 2762.10(a)(3) to enter into a confidentiality agreement prohibiting him or her from disclosing such information.

X-9 Comment

Ability to Use Qualitative Methods for SPAs.

Proposed § 2762.2.1 provides that for each scenario in the PHA that identifies the potential for a major incident (which as discussed above, includes minor incidents as proposed), the employer shall perform an effective written SPA to determine the effectiveness of existing safeguards. Subsection (b) requires that all independent protection layers for each failure scenario shall be independent of each other and independent of initiating causes, and subsection (c) requires the use of a "quantitative or semi-quantitative method, such as Layer of Protection Analysis or an equally effective method to identify the most protective safeguards." It goes on to require that the risk reduction obtainable by each safeguard "be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system or human factor."

API and AFPM read proposed subsection (c) to require either a quantitative or semi- quantitative method to identify the most protective safeguards or an "equally effective method" to identify the most protective safeguards. We interpret this language to allow for purely qualitative methods where appropriate. This is important to ensure that employers have the most effective tools at their disposal to reduce risks pursuant to the SPA. Qualitative methods should be permitted in appropriate circumstances. Insofar as CalOES actually intends to prohibit purely qualitative methods, such a prohibition would be inappropriate in that it would not be possible to justify precluding these very effective methods as necessary to achieve legitimate goals of the regulations.

Indeed, determination of risk and weighing various options inherently includes qualitative analyses. As the regulatory language recognizes, quantitative analyses are not always practical because they utilize exact inputs and values that may not always be realistically assigned to the weight of various safeguards individually or combined. In contrast, qualitative analysis uses informed judgment by those who understand the process based upon information that may not be quantifiable because it is impossible to capture with numerical inputs, such as process knowledge, equipment history, subject matter expertise, and confidence in the various measurements that are utilized in quantitative analysis. A strong precedent exists for using qualitative analysis in the process safety context. For example, risk matrices often include qualitative descriptions of event likelihood, such as "unlikely to occur during the process lifecycle," as opposed to assigning it a quantitative value, such as "probability of occurrence is less than X." The value of this approach is that it may be more readily understandable to the team assessing risk to consider practical qualitative terms, and thus their analysis will be more effective.

By including such considerations as a method to approach SPA, CalOES improves the utility of the SPA and an employer's ability to make rational decisions regarding protective safeguards. For example, an operator may have a routine duty to periodically check that a block valve upstream of a pressure relief device ("PRD") is locked open. This is an administrative control that is a safeguard. The risk reduction coming from reduced likelihood of an overpressure event due to a blocked PRD can be best evaluated qualitatively. Furthermore, quantitative data does not exist for human performance evaluations, and inspection and maintenance safeguards do not lend themselves to quantitative analysis. Thus, it would have been inappropriate for CalOES to limit SPA teams' ability to utilize the most effective analysis in such a case because it would materially and negatively impact process safety at refineries.

The benefit of qualitative analysis becomes particularly evident in the context of processes or equipment that are not engaged in "traditional" hydrocarbon processing. For example, a SPA will be significantly more effective in considering safeguards and layers of protection for covered equipment whose primary material is water through a qualitative analysis, because the hazards associated with such equipment and processes will not be effectively reduced to numerical values and risk matrices. Because CalOES has included specific coverage of utilities under the proposed standard, the inclusion of qualitative analysis is even more critical. As a result, any final regulation must continue to include the ability to use other methods, like qualitative analysis, in addition to quantitative or semi-quantitative analysis.

We note that the ISOR states that the purpose of the SPA "is to determine the overall effectiveness of the safeguards for each of the failure scenarios that have the potential for a major incident."21 Protection layers are required to be independent of one another and initiating causes in order to "isolate safeguards and prevent sequential failure." The ISOR does not explicitly recognize that the regulation allows for other equally effective methods, but the ISOR should do so. Moreover, the FSOR should not elevate quantitative or semi-quantitative measures above qualitative measures that are effective, and if it were to do so, it would need to explain why it is necessary that the owner/operator use quantitative or semi-quantitative methods to identify safeguards and what benefits are derived from such a restriction.

X-9 Response

Cal OES has determined that, in this case, a qualitative analysis is not a high enough standard. To adequately prevent accidental releases, the UPA must require a quantifiable means of measuring how protective the safeguard is. The use of a semi-quantitative method, such as Layer of Protection Analysis, would be consistent with the requirements in this provision which explicitly allow for the use of semi-quantitative methods for compliance. Cal OES will take no action on this comment.

X-10 Comment

Overbroad Hazard Controls Analysis Provisions, Which Should Be Limited to the Design Phase.

Proposed Section 2762.13 requires a HCA as a standalone analysis for all existing processes on a set schedule; when a PHA team identifies the potential for a "major" incident (which, as defined, includes minor incidents); and as part of a MOC review, whenever a "major" change (which, as defined, includes minor changes) is proposed, *i.e.*, before the change is implemented. It also requires an HCA during the design phase of new processes, new process units, and new facilities, and their related process equipment.

API and AFPM oppose the requirement of a standalone HCA because it is redundant and unnecessary, and the suggestion that it will improve safety is unsupported by the record. Owners/operators will need to dedicate significant and costly resources to review existing processes that have already undergone robust risk analyses via other mechanisms. For example, PHAs have been implemented and honed by refiners for more than two decades to become a highly effective tool for assessing and reducing risk. By requiring refiners to perform a standalone analysis, CalOES limits the flexibility of what should be a performance-based rule without any commensurate increase in safety. The ISOR merely notes the HCAs "are to be performed in conjunction with the PHA schedule," ISOR at 49, but does not demonstrate how a standalone analysis is necessary to improve safety. The proposed requirement is not shown, therefore, to be "reasonably necessary."

API and AFPM are further concerned that the requirement's broad language will dilute HCAs such that the analyses will not offer any meaningful process safety improvement. The proposed rule requires owners/operators to conduct HCAs for PHA and incident investigation recommendations, as well as part of routine MOC review. Pursuant to Subsection (c), CalOES is also requiring that refiners revalidate an HCA in conjunction with the PHA schedule. These provisions are incompatible and undermine the effective strategy EPA and OSHA took when they established PHAs as scheduled safety analysis and MOCs as routine operational risk assessment requirements. Either an HCA is a standalone assessment that should be reviewed and considered broadly on a scheduled basis, or it is a day-to-day risk management tool.

API and AFPM are concerned that requiring an owner/operator to conduct HCAs in these circumstances is unsustainable and will result in superficial HCAs that do not offer any meaningful process safety improvements. PHAs, incident investigations, and MOCs are

frequently conducted, and we estimate the annual combined number of PHA and investigation recommendations and MOCs to be in the thousands. It is unreasonable that refiners be required to consistently complete a corresponding number of HCAs per year, given the extensive effort required to meet the CalOES's stated requirements. A structured and mandated HCA should not be required separately for established process safety systems, such as MOCs and incident investigation recommendations that already assess risk in a manner designed to eliminate hazards wherever possible.

API and AFPM further emphasize that an HCA will only cost-effectively drive safety improvement during the design phase for a new plant or process before fundamental construction and investments have been completed. Once a facility unit or process has been constructed and is in operation, the ability to effectively compare and implement a hierarchy of hazard controls is greatly reduced without demolishing the process or facility.

Given the foregoing, the HCA requirements as proposed fail the necessity requirement. And, as noted, because the definitions of "major change" and "major incident" are impermissibly vague, the HCA requirements also fail the clarity requirement.

X-10 Response

While the initial formation and design of a process is an ideal place to perform an HCA, an HCA is effective in all life cycle parts of a process. The second edition of the CCPS book Inherently Safer Chemical Process states that "*Inherently safer is a way of thinking and to successfully implement this thinking has to be continually employed whenever possible.*" HCA facilitates "out of the box" thinking and when properly implemented will reduce potential high hazard incidents by reducing hazardous situations. Also see response to Comment S-50.

X-11 Comment

Ability of Employer to Manage Facility Decision Making.

Related to the concerns discussed above regarding employee representatives, API and AFPM are concerned with Proposed § 2712.16(e)(4), which addresses the circumstances and process for accepting or rejecting a recommendation of a PHA, SPA, DMR, HCA, Incident Investigation, or Compliance Audit. CalOES's proposed requirement regarding documentation of team member comments is impractical and will stifle open and honest dialogue about recommendations. For example, PSSR items and HCA recommendations often number in the hundreds and are most effectively developed over multiple discussions during the engineering and design stages. Many recommendations may be informally discussed during process safety team meetings, and are inappropriate for formal documentation and tracking. Certainly, CalOES has failed to make any showing that such a burdensome requirement is "reasonably necessary."

Moreover, employees have expressed concern about retention and documentation of comments, and owners/operators should not be required to document conversations against the wishes of the employee. Employees will be reluctant to express true opinions out of fear of being second-guessed by the authorities at a later date. This may have a chilling effect on discussions

regarding recommendations, as well as general willingness to participate on process safety teams. Absent evidence that a lack of documentation of employee conversations in developing recommendations has contributed to process safety hazards, CalOES has failed to demonstrate a sufficient basis for this requirement.

As proposed, it is unclear whether employees would be allowed to remain anonymous during this process. This is a particularly salient ambiguity, in light of the practical employee dynamics at issue. In this regard, therefore, the proposal fails to satisfy the "clarity" standard as well.

We note that a determination of infeasibility is generally a multi-faceted decision. Rarely is an employer faced with a recommendation in which the *sole* basis for a determination of infeasibility would be cost. A situation may arise, however, when the flexibility to reject a recommendation due to cost is critical, particularly in the context of the separate HCA provisions. As noted above, API and AFPM expect that if an HCA team with varying levels of experience and expertise is asked to "analyze and document" inherent safety measures and safeguards from a wide array of untested sources and then attempt to "eliminate hazards to the greatest extent feasible," that team may develop recommendations that are inappropriate, untested, or impractically redundant. An employer would have almost no options for rejecting a process safety recommendation that is wholly redundant with other recommendations or existing safeguards. Ultimately, this will force a refiner to expend significant resources on layers upon layers of first and second order inherent safety measures that offer little to no increase in safety, while diverting resources away from large-scale investments or improvements that would meaningfully improve safety.

Ultimately, employers should be able to adopt alternative measures that provide sufficient risk reduction and decline recommendations that are unnecessary to protect employees. Under a literal reading of the proposed standard's language, the CalOES's requirement imposes potentially onerous costs on employers without any demonstrated benefit to safety.

X-11 Response

Section 2712.16(e)(4), requires only that the owner or operation communicate changed or rejected recommendations to onsite team members, therefore concerns regarding miscellaneous employee anonymity and "chilling effects" are unfounded. Further owners or operators are permitted to reject and change recommendations where justified and only formal, written comments need to be addressed. Commenter's concerns are unfounded. Cal OES will take no action on this comment.

X-12 Comment

Definition of Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).

Currently, the concept of RAGAGEP is aligned with the performance-oriented nature of process safety systems and provides flexibility to owners/operators in implementing industry guidance and internal practices applicable to individual operations. CalOES's inclusion of a prescriptive

definition for RAGAGEP is incompatible with process safety and may limit innovative development of maintenance practices under the proposed rule's mechanical integrity element. CalOES should not seek to prescriptively define the concept of RAGAGEP, which has been highly successful in driving innovation and improvements to process safety through flexible incorporation of recognized and generally accepted practices.

CalOES has failed to provide any rationale or explanation for the "necessity" that the regulation set forth a prescriptive definition of RAGAGEP.24 The ISOR states that RAGAGEP "has been the source of some confusion in existing regulations."25 However, a prescriptive RAGAGEP definition based on a limited list of industry standard-setting organizations will only serve to limit the ability of operators to address site-specific hazards, and will thereby create the potential to increase risks. While an operator or unlisted organization may identify a more advanced, safer maintenance strategy than any developed by CalOES selected organizations, this would not be considered RAGAGEP under the proposal due to the prescriptive, list-based approach.

It is unclear whether the CalOES's list of identified standard-setting organizations is intended to be exhaustive, preferred, or merely examples of potential sources of RAGAGEP. If it is intended to represent the exhaustive or preferred list of what CalOES views as RAGAGEP, it is clearly incomplete. Many other organizations develop and issue scientifically based methodologies for conducting technical engineering and maintenance activities at refineries. The proposed definition thus creates an ambiguity and thereby fails to satisfy the "clarity" standard.

Finally, not all industry codes and standards from one source can be considered "recognized and generally accepted" simply by virtue of their being issued by a well- known organization. Although newly drafted codes and recommended practices may form a starting point from which an operator derives its individual RAGAGEP based on engineering analysis, such documents do not become RAGAGEP until they have been the subject of broad industry review and acceptance. Accordingly, RAGAGEP should remain a flexible, performance-based concept that not only allows owners/operators to tailor process safety activities to the unique hazards and complexities of each facility but encourages them to do so. The record lacks justification for ignoring these important aspects of the performance-based RAGAGEP approach that has historically been successful.

X-12 Response

The definition of RAGAGEP is consistent between the two regulations. RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a

hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

X-13 Comment

Public Reporting of Major Incident Investigations.

Subsection (j) of Proposed 2762.9 provides that the Unified Program Agency (UPA) "shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt." API and AFPM strongly oppose this requirement. CalOES's statutory mandate is to "reduc[e] regulated substance accident risks." The ISOR explains that public posting of major incident investigation reports is "necessary for the purpose of demonstrating to the local community that a full investigation occurred, and that changes were made to prevent future incidents." This, however, is not within CalOES's statutory mandate. The ISOR does not explain how publishing the full report would enhance safety or prevent accidental releases, rather than to simply satisfy public curiosity. CalOES has neither demonstrated why this provision is "reasonably necessary to effectuate the purpose of the statute" nor how this requirement is even within its statutory authority.

X-13 Response

The authorizing statutes stress the need for public notification and opportunity to participate in decisions affecting public safety. The public has a right to know about risks that may affect their health and safety. Cal OES will take no action on this comment.

X-14 Comment

Independent UPA PSCA, Incident Investigation, Evaluation of ARP Management System, and Human Factors Analysis.

Subsection (n) of Proposed § 2762.9 authorizes the UPA to perform independent safety analyses. API and AFPM oppose this requirement as burdensome and costly without a demonstrated safety benefit. CalOES has not proposed any parameters on how a third- party process safety analysis would be conducted. The proposed rule lacks specificity regarding who would conduct the analysis, how and when it would be conducted, and it does not include limits on duration or cost.

Contrary to the assertions of the ISOR, owners and operators have the resources to ensure impartiality during the investigation of a major incident. Refiners have access to qualified, objective subject-matter experts with significant operational knowledge employed within the company. The CalOES proposal undervalues the role of an internal process safety analysis,

which provides valuable learning opportunities and fosters institutional, process-specific knowledge. Though third-party auditors can provide "fresh eyes," the same benefit can be achieved through use of cross-facility or cross-operational employee auditors. CalOES has not demonstrated that the potential benefits of an internal audit are outweighed by evidence that a third-party analysis is a necessary and more effective way to ensure worker safety. For this reason, it has not been shown that the requirement is "reasonably necessary."

Finally, it is hardly obvious that there is any statutory basis for the requirement that the owner or operator "shall pay the costs of the independent analysis" or that such a requirement is even lawful. In the ISOR, CalOES states simply that the "owner or operator must also pay the costs of the independent analysis" without otherwise identifying the statutory authority on which CalOES relies for imposing such a requirement. At a minimum, CalOES should identify its authority in a new 15-day notice and solicit comment on the issue so that the public can evaluate any identified statutory provision on which OES relies in promulgating such a requirement. Indeed, Health and Safety Code § 25535.5 provides that "[a]ny fee imposed on any stationary source to cover the administering agency's cost of implementing the accidental release prevention program pursuant to this article shall be imposed only through the single fee system established pursuant to Section 25404.5." In the FSOR, CalOES must explain how the requirement that owners and operators "shall pay the costs of the independent analysis" can be reconciled with the provisions of Section 25404.5.

X-14 Response

Regulatory changes have been made to address concerns regarding the costs of the independent analysis. With regard to the commenter's concern regarding the need administering agency's need to conduct an independent analysis, following a major incident, the public needs the assurance that the incident was fully investigated and there is appropriate oversight over remedial efforts.

X-15 Comment

Root-Cause Analysis Identification of "Management System Causes."

Subsection (e) of Proposed § 2762.9 specifies that the "incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident," and this "analysis shall include identification of management system causes, including organizational and safety culture causes." Any root cause requirement should be consistent with industry practices and the current regulatory requirement to evaluate the factors that contributed to an incident. It is inappropriate to include a presumption of management system and organizational and safety culture "causes" where the underlying cause of an incident may result from any number of issues. Such a presumption is counterintuitive and unsuitable, as the results of a root cause analysis may identify human factors as a primary cause. It is simply inappropriate to conclusively presume that a management system "cause" will always be implicated after an incident.

X-15 Response

In all major incidents, even where human factors were the primary cause, there is still a management system cause component. If the proximate cause is determined to be from human factors, there is a need to do additional investigation to determine what management system failures allowed this to occur. It is easy to identify human errors, but such errors are more or less likely to occur based on the management systems that are in place at a facility. Cal OES will take no action on this comment.

X-16 Comment

CalOES Lacks Statutory Authority to Issue the CalARP Program 4 Regulations.

Article 2 of Chapter 6.95 establishes the "accidental release prevention program," referred to as CalARP. Health and Safety Code §§ 25531 *et seq*. CalARP is California's analog to the federal risk management program (RMP) that addresses accidental releases of regulated substances as required under § 112(r) of the Federal Clean Air Act. 42 U.S.C
§ 7412(r).

CalOES relies on Health and Safety Code § 25531 and § 25534.05 as statutory support for its proposed Program 4 regulations. However, neither of these provisions, nor any other sections of Article 2 of Chapter 6.95, provides the requisite authority for CalOES' proposed Program 4 regulations.

Section 25531 explains the legislative goals of the CalARP program are "reducing regulated substances accident risks and eliminating duplication of regulatory programs." Health and Safety Code § 25531(e). The California Legislature determined the best way to achieve these goals was through "implementing the federal risk management program in the state, with certain amendments that are specific to the state." *Id*. Thus, the legislature enacted Article 2 of Chapter 6.95 to allow the state to "seek and receive delegation of the federal program for prevention of accidental releases of regulated substances established pursuant to Section 112(r) of the federal Clean Air Act . . . by implementing the federal program as promulgated by the Environmental Protection Agency, with certain amendments that are specific to the state." *Id*.

Section 25534.05(a) establishes the scope of permissible accidental release activity regulations. This universe is limited to five discrete areas: (1) stationary source registration; (2) RMP receipt, review, revision and audit; (3) resolution of disputes between stationary sources and local administering agencies; (4) providing for public availability of RMPs; and (5) technical assistance to stationary sources subject to the RMP program.

On its face, the plain language of § 25534.05(a) constrains Cal OES' authority to implementation of the federal RMP while accounting for circumstances "specific to" California. Health and Safety Code § 25531(e). *See also* Health & Safety Code § 25531.2 ("The legislature finds and declares that as the state implements the federal accidental release prevention program pursuant to this Article . . . .") Such amendments include ministerial changes such as replacing references to the U.S. EPA with CalOES and addressing concerns unique to California, such as seismic concerns. *See* Health and Safety Code § 25534.05(c). The statute does not otherwise authorize CalOES to unilaterally single out the refining industry – an industry that is *not* specific to

California– for additional regulation. Likewise, nothing in the federal RMP program gives CalOES authority to promulgate refining industry specific accidental release requirements. Only until U.S. EPA's proposed refinery-related RMP requirements should become final,32 will CalOES be authorized to adopt such refinery-specific requirements. *See e.g., In re Murray Energy Corp*., 788 F.3d 330, 334 (D.C. Cir. 2015) (Proposed CAA rules are not final agency action because they are not the "consummation of the agency's decision making process," and do not determine "rights or obligations," or impose "legal consequences.") (quoting *Bennett v. Spear*, 520 U.S. 154, 177-78 (1997)). At that time, CalOES should provide an opportunity for informed comment based on the final federal requirements.

Moreover, the accidental release prevention requirements of Chapter 6.95 apply to "regulated substances." *See, e.g.*, Health and Safety Code §§ 25532(i) (regulated substance definition); 25534(a) ("For any stationary source with one or more covered processes, the administering agency shall make a preliminary determination as to whether there is a significant likelihood that the use of *regulated substances* by a stationary source may pose a *regulated substances* accident risk.") (Emphases added). While it concedes that the CalARP program is intended to "prevent accidental releases of regulated substances," CalOES nonetheless admits that its proposed Program 4 regulations are "intentionally much broader" and are "designed to go beyond a list of regulated substances." *See* Initial Statement of Reasons at 7. CalOES offers no statutory support for this expansion because there is none.

The proposed Program 4 regulations also run afoul of the statutory mandate requiring coordination between the CalARP and Cal/OSHA PSM programs to ensure a "single, unified inspection and enforcement program." Cal. Health and Safety Code §§ 25404.2(a)(4), 25542. *See also* Health and Safety Code § 25533(b). The proposed Program 4 and refinery PSM programs are replete with inconsistences that prevent a single unified program. Fundamentally, the applicability of the two programs is inconsistent. Rather than adopt the approach used in the proposed PSM regulations and unequivocally say the proposed Program 4 regulations apply to processes within petroleum refineries, CalOES insists on muddying the waters by adding language attempting to identify areas excluded from the proposed Program 4 requirements. Proposed § 2762.0.1(b).

X-16 Response

The comment is conclusory and ignores the balance of the statutes and other applicable sections. For example, Health and Safety Code § 25531 (c) calls for the California "program" to "anticipate the circumstances" and "require the taking of necessary precautionary and preemption actions." The text of section 25531(e), as well as the federal program itself, specifically contemplates state-specific amendments that address state-specific needs. In 2014, the Governor's Interagency Working Group on Refinery Safety issued a report entitled *Improving Public and Worker Safety at Oil Refineries* this document identified gaps in the current regulatory framework. The proposed changes to Program 4 are necessary to address these state-specific gaps in the existing risk management plan.

X-17 Comment

CalOES Has Not Shown That the Proposed CalARP Regulations are Reasonably Necessary to Effectuate the Purpose of Health and Safety Code § 25531 and § 25534.05.

Assuming (notwithstanding the foregoing) that CalOES has express or implicit authority under the California Health and Safety Code to adopt the proposed standard as a final regulation, CalOES has failed to establish that the regulation is "reasonably necessary to effectuate the purposes" of the statute. For this reason, API and AFPM respectfully submit that CalOES should withdraw the proposal.

As was noted, in its July 15 Notice, CalOES stated that Health and Safety Code § 25531 "requires the adoption of standards that are at least as effective as the federal Risk Management Program (RMP) standards under the Clean Air Act 112(r), and Title 40 of the Code of Federal Regulations Part 68," and that the "proposed regulations implement, interpret, and make specific Government Code Section 8585 and Health and Safety Code Sections 25531 and 25534.05." CalOES cited no other statutory provision under which it is authorized to adopt the regulation.

As relevant here, Health and Safety Code § 25531(c) provides that the "Legislature finds and declares that the goals of reducing regulated substances accident risks and eliminating duplication of regulatory programs can best be accomplished by implementing the federal risk management program in the state" with "certain amendments that are specific to the state." Further, in relevant part, Health and Safety Code § 25534.05(a) provides that CalOES is to "adopt regulations" for the following specific activities: (1) stationary source registration; (2) RMP receipt, review, revision and audit; (3) resolution of disputes between stationary sources and local administering agencies; (4) providing for public availability of RMPs; and (5) technical assistance to stationary sources subject to the RMP program. In other words, the plain language of § 25534.05(a) constrains CalOES's authority to implementation of the federal RMP while accounting for circumstances "specific to" California. Health & Safety Code § 25531(e). See also Health & Safety Code § 25531.2 ("The legislature finds and declares that as the state implements the federal accidental release prevention program pursuant to this Article . . . .") CalOES's authority is limited to adopting the federal RMP. The only permissible deviations are "for amendments that are specific to the state." Health & Safety Code § 25531(e). Such amendments include ministerial changes such as replacing references to the United States Environmental Protection Agency with CalOES and addressing concerns unique to California, such as seismic concerns. *See* Health & Safety Code § 25534.05(c).

Thus, the California Legislature has, *by statute*, identified the specific regulatory provisions that the CalARP regulations are to contain. Given that the proposed standard departs so significantly from the plain terms of the Health and Safety Code in adding new regulatory elements for which there is no express statutory authorization, it is particularly important that CalOES demonstrate that the proposed regulation is "reasonably necessary to effectuate the purpose" of the statute and provide some explanation why the existing regulation is no longer sufficient to achieve that purpose. CalOES has neither made that demonstration nor provided such explanation.

To the contrary, in the ISOR, CalOES explains that the proposed standard is intended to "implement[] the recommendations" of the February 2014 report of the Governor's Interagency Working Group on Refinery Safety and are intended to "function in parallel with changes to the PSM program that are proposed by Cal/OSHA." ISOR at 3. Laudable as this goal is, the issue here is not whether the proposed standard effectively implements recommendations from the Governor's report or other outside experts. Instead, it is incumbent on CalOES to exercise *its own judgment* to determine that the various requirements that the new standard would impose are "reasonably necessary" to achieve the statutory purposes of the Health and Safety Code.

Assuming CalOES has made that determination, it is not reflected anywhere in the rulemaking record. Nor has CalOES adduced substantial evidence to support such a determination. Given this failure, API and AFPM have, at a minimum, been deprived of their opportunity to comment meaningfully on a fundamentally significant aspect of the proposed standard.

X-17 Response

Cal OES has determined that the proposed regulations are necessary to address the state-specific gaps identified by the Governor's Interagency Working Group on Refinery Safety in the report entitled *Improving Public and Worker Safety at Oil Refineries*.

X-18 Comment

Because the ISOR Provides Neither an Adequate Explanation of Why the Proposed Regulation Is Reasonably Necessary, a Proper Enumeration of the Benefits, Nor a Meaningful Explanation of the Alternatives that CalOES Considered, the Proposed Regulation Must Be Withdrawn.

During the workshop process for CalOES's proposed regulations, many comments had been submitted on the draft regulation, and it had been hoped that the proposed regulatory text and ISOR would either incorporate recommended changes or explain why CalOES's proposed regulatory provisions were preferable in at least some level of detail. Unfortunately, the ISOR contains little explanation of the rationale for the regulatory provisions or even explanation of how CalOES intends the proposed provisions to be interpreted.

As was noted previously, no regulation adopted by a California agency to "implement, interpret, make specific or otherwise carry out the provisions" of an authorizing statute will be deemed "valid or effective" unless such regulation is "consistent and not in conflict" with that authorizing statute and "reasonably necessary to effectuate" the statutory purposes. Government Code § 11342.2. To that end, Government Code §11346.2 further requires that a proposed regulation be accompanied by an ISOR, which initial statement shall include, at a minimum, a "statement of the specific purpose" of the rule, the "problem the agency intends to address," and the "rationale for the determination by the agency" that the regulation is "reasonably necessary to carry out the purpose and address the problem" for which the regulation is proposed." That is to say, the agency must do more than merely state that it has determined that the proposed regulation is "reasonably necessary." The agency must provide in the ISOR its "rationale" – i.e., a reasoned explanation – as to why it has so determined.

Further, where the proposed regulation requires the use of "specific technologies or equipment," or otherwise imposes "prescriptive standards," the agency must explain in the ISOR why such mandates or prescriptive standards are necessary. The agency must also consider alternatives to its proposed approach, providing in the ISOR a "description of reasonable alternatives" along with the agency's reasons for rejecting those alternatives. "Reasonable alternatives" that the agency must consider will include, but are not to be limited to, "alternatives that are . . . less burdensome and equally effective in achieving the purposes of the regulation," while at the same time "ensur[ing] full compliance with the authorizing statute."

In particular, the "imposition of performance standards shall be considered as an alternative" to a regulatory approach that "prescribe[s] specific actions or procedures." This comports with the California Legislature's explicit preference for performance standards over prescriptive standards.

Finally, the Agency is required in the ISOR to "enumerate the benefits anticipated from the regulatory action," including the "benefits or goals provided in the authorizing statute." These "benefits" may include "nonmonetary benefits such as the protection of the public health and safety" and "worker safety," but they must be specifically identified.

The ISOR accompanying the proposed standard fails to meet these basic requirements. As described in more detail below, for major elements of its proposed standard, CalOES provides at most only cursory assertions, which do not rise to the level of a true explanation or "rationale" for its determination that the particular regulatory approach reflected in a given provision is "reasonably necessary" to achieve the intended result. The ISOR's purported "enumeration" of the "benefits" that are said to result from the proposed regulation is similarly cursory. The ISOR asserts, without directly identifying any specific evidence for the assertion, that the "proposed regulations *will improve* safety at California refineries, *which will* in turn result in fewer major process incidents and fewer releases of hazardous materials from refineries."41 The ISOR then continues that, "[b]ecause the number of major refinery incidents *may* be reduced under the proposed regulation, it *could provide* safety and health benefits to workers and the public in nearby communities as well as other economic benefits for businesses." On its face, the ISOR appears on the one hand to assert (albeit without identifying the basis for the assertion) that the proposed regulation "will" improve refinery safety, but then on the other hand, goes on to suggest little more than that the regulation "may" reduce refinery incidents and releases, which then "could" result in benefits.

In any event, absent CalOES's providing any specific basis for its assertion that safety will be improved and incidents will be reduced, it is impossible to evaluate and ultimately credit such benefits to the proposed standard. Under Government Code § 11346.2(b)(3), the ISOR is required to set forth the "technical, theoretical, and empirical study, report, or similar document, if any" upon which the agency's proposed regulation relies. In apparent compliance with this requirement, the ISOR lists a series of materials on which CalOES purportedly relied. *See* ISOR at . Nowhere in the ISOR, however, does CalOES specifically draw on any information or analysis contained in any of those materials in support of a claim that a particular proposed regulatory provision can reasonably be assumed to achieve the desired result.

The ISOR relies on a flawed cost –benefit analysis prepared by RAND. The approach to estimate implementation costs of the proposed regulation by surveying refiners is flawed. The survey questionnaire is deficient and fails to correctly ascertain cost data. Uncertainty surrounding implementation and enforcement led to a wide variation in survey responses and, likely an underestimate of regulatory costs. This is reinforced by RAND's $58 million best estimate for annual industry costs being significantly below estimated annual industry benefits of $220 million in avoided costs. RAND's methodological approach to measure economy wide impacts of the proposed regulation contains flawed results, and an overestimate of economy wide impacts because they appear to rely on a bad assumption related to upstream (oil and natural gas extraction) sectors. Simulating economic impacts with IMPLAN (2013 data) indicates around 36% of economy wide impacts reported by RAND are related to upstream segments. It is a bad assumption that upstream industry segments will experience these negative impacts resulting from an unplanned refinery outage.

In summary, industry has indicated large variability in implementation costs and the range and point estimates calculated by RAND are likely too low. The economy wide benefits are likely overestimated, as the impacts reported by RAND rely on a bad assumption. Making directional changes to the estimates for costs and benefits, all else equal, would require a larger reduction to the risk of a refinery incident, than estimated by RAND at 7.3%, to make the proposed regulations economically justifiable.

Finally, the ISOR's treatment of the "alternatives" to the proposed standard that were considered by CalOES lacks credibility. Only two alternatives are cited: "maintain the status quo" and the so-called "safety case model." The latter alternative, which is described as an approach in which "facilities . . . explain what they will do in order to try to ensure their safety," and the "regulatory authority is charged with determining whether a facilities' explanation or effort is acceptable or effective," is rejected as requiring an undue commitment of resources, particularly on the part of the regulatory authority. ISOR at 74-75. (API and AFPM agree that the safety case should be rejected.)

Not found in the ISOR is any indication that CalOES considered the alternative of a regulatory approach that relies less on prescriptive standards and more on performance standards, for which the California Legislature has already expressed a preference, as noted above. With CalOES's having apparently not considered the application of performance standards in the development of the proposed regulation, it was in no position to assess whether the same ends could be achieved without resorting in the first instance to the prescriptive approach that is reflected throughout the proposed regulation.

X-18 Response

Cal OES maintains that the proposal and related rulemaking documents comply with statutory and legal requirements. The commenter has not indicated which portions of its rulemaking documents it deems insufficient. Cal OES also disputes the characterization of the regulations as overly prescriptive and the commenter has not indicated which portions of the regulatory language it deems overly prescriptive. The regulatory proposal sets safety performance standards for refinery employers and ensures that those standards are met through improvements in transparency, accountability, worker participation, and enforcement. To the extent commenter has concerns regarding the RAND analysis of industry costs and economic benefits, please see the response to Comments R-8 and S-1.

X-19 Comment

Conclusion

For at least the foregoing reasons, API and AFPM cannot support CalOES's Proposed New Article 6.5 of the California Accidental Release Prevention Program, *Program 4 for Petroleum Refineries.* In addition, CalOES should not interpret our silence on a particular issue or question as our agreement with Cal/OSHA's proposed changes.

API and AFPM share a common goal with CalOES in creating and maintaining safe workplaces for California's refinery employees and our surrounding communities, but we contend that this proposal will not only hamper efforts at improving safety, it will have the unintended consequence of driving the refining industry out of the State.

X-19 Response

This is a general comment. Cal OES will take no action on this comment.

COMMENTER Y
Michael Jerrett, PhD– UCLA Labor Occupational Safety and Health Program (UCLA-LOSH)
Emailed dated September 15, 2016

Y-1 Comment

The UCLA Center for Occupational and Environmental Health (COEH) appreciates the opportunity to provide comments to Cal/OES and California EPA on the proposed California Accidental Release Program (Cal/ARP) Prevention Program 4 for oil refineries. This standard is critically important given the occupational and environmental health and safety impact of refinery incidents on workers and the community as well as the broader social, public health and economic impact in the Southern California region and the state. A standard that strengthens California's capacity to prevent disasters can also serve as a model nationwide.

The COEH is comprised of faculty who conducts groundbreaking research and implements programs in the Environmental Health Sciences, Community Health Sciences, Nursing, Medicine and Epidemiology Departments. They are housed in the School of Public Health, the School of Nursing, School of Medicine, and the Law School. Faculty are also leaders in related UCLA Centers; namely, the Center for Public Health and Disasters, Sustainable Technology and Policy Program, Southern California NIOSH Education and Research Center, and the Labor Occupational Safety and Health Program.

COEH faculty and collaborating programs bring a multi---disciplinary perspective to disaster prevention, preparedness and response within the overarching framework of advancing public health goals. Relevant research, outreach and education activities include: (1) Expert testimony and presentations on Inherently Safer Design from a policy analysis and environmental law perspective, (2) Outreach, education and group interviews documenting PSM implementation challenges and successes with refinery PSM and Health and Safety worker representatives, and (3) Field data collection of exposure samples after the Porter Ranch gas leak.

The COEH will be hosting a symposium this fall on "Unnatural Disasters" at which we will examine opportunities for greater collaboration to prevent injuries and illness among workers and community members with potential exposure to chemicals, fires and explosions. We commend DOSH and the Standards Board for the efforts to date to advance this important policy and encourage consideration of language that will strengthen the standard to provide the greatest possible protection for workers and the community with the public health goal of preventing disasters and eliminating risks of exposure.

Southern California Region and beyond

Important contextual factors underscore the need for improved safety regulations for refinery operations:

- Incidents have occurred in California in recent years that could have been prevented; stricter Cal/ARP and Process Safety Management (PSM) standards would have reduced their likelihood of occurrence.
- Many refineries in Southern California are located in highly populated areas, including residential areas and areas with sensitive receptors; refinery incidents impact communities as well as workers.
- The local impacts of refineries in Southern California are concentrated mostly in low---income communities of color who already experience a disproportionate burden of environmental exposures and risks.
- Incidents result in high costs to refineries and the public.
- The proposed Cal/ARP and PSM regulations would significantly benefit the industry and the California economy, in addition to protecting the lives and health of workers and residents.

As you know, the Cal/ARP and PSM proposals are a direct result of the events at the Chevron, Richmond refinery in 2012, when a pipe carrying flammable liquids catastrophically failed, releasing a vapor cloud that engulfed 19 workers as it quickly expanded 100 yards in all directions, causing an explosion and a fire. Fortunately, workers were able to escape to safety. In the following days, some 15,000 people in the surrounding community sought medical attention for symptoms related to smoke exposure.

Refinery Incidents in Southern California

Recent refinery incidents in Southern California illustrate the need for strong Cal/ARP and PSM standards. On August 26, 2016, a Sulfur tank explosion occurred in the Tesoro Refinery located in the Carson/Wilmington area sending a cloud of chemicals, including sulfur, into the air. No injuries were reported, but members of the public were advised to stay indoors as a precaution. This 930---acre refinery is the largest refinery on the West Coast and produces gasoline, jet fuel, diesel and other fuels.

On February 18, 2015, the ExxonMobil oil refinery in Torrance, California, exploded, causing chemical ash to rain on the surrounding community for hours. Eight workers had to be decontaminated and four were sent to hospitals with minor injuries. The California Division of Occupational Safety and Health (Cal/OSHA) ordered ExxonMobil to shut down the unit until it could demonstrate safe operation. Cal/OSHA issued 19 citations for workplace safety and health violations at the Torrance refinery. The company was fined $566,600 in penalties in connection with the blast. The explosion resulted in the costliest disruption at a California refinery in the past 16 years, with motorists paying at least $2.4 billion in higher pump prices in the following six months.

The U.S, Chemical Safety Board investigated this explosion and found that one of the flying pieces of debris from the explosion narrowly missed a tank containing tens of thousands of pounds of modified hydrofluoric acid (modified HF).

Had the debris struck the tank, a rupture could have been possible, resulting in a potentially catastrophic release of extremely toxic modified HF into the neighboring community.

Torrance, California is a mixed---use city with industrial areas directly adjacent to residential communities. Within a three--- mile radius of the ExxonMobil refinery that houses 250,000 lb. of modified HF are 333,000 residents, 71 schools, and eight hospitals. In an area as heavily populated as Torrance, a significant release of modified HF stored at ExxonMobil has the potential to cause serious injury or death in the community. 6 CSB Chairperson Vanessa Allen Sutherland said, "Hydrofluoric acid (HF) can pose a severe hazard to the population and environment if a release occurs. After HF acid vaporizes it condenses into small droplets that form a dense low---lying cloud that will travel along the ground for several miles and can cause severe damage to the respiratory system, skin, and bones of those who are exposed, potentially resulting in death."

Concentration of Refineries in Southern California

California has a large oil refining capacity—over 2 million barrels per day (bpd) of crude oil refined in three regions. The largest refining capacity in the state is in the Los Angeles region (about 1.25 million bpd of crude oil refining), followed by the San Francisco Bay Area with about 860,000 bpd refining capacity, with another 150,000 bpd in the Center of California).

Wilmington/Carson in the LA region has the highest concentration of refineries in the state (about one third the state's capacity). About half Los Angeles' refining capacity is concentrated in the Wilmington/ Carson area (five refineries and about 650,000 bpd). Although heavily---industrialized, Wilmington and Carson are residential areas. Wilmington is home to 53,000 residents. In addition, many vulnerable receptors are in Carson and Wilmington. For example, Wilmington contains many schools including 6 elementary schools (grades K---5), 3 secondary schools (grades 6---12), 4 private schools, 3 continuation schools and two colleges and universities.

Disproportionate Impact of Refineries on Low---Income Communities of Color

The local impacts of refineries in Southern California are concentrated most in communities of color and low---income. The population in Wilmington is 85% Latino, with around 24% of families living below the national poverty level. This represents a clear example of environmental injustice, where a community of color in a lower socio---economic bracket is disproportionately impacted by refineries.

Process Safety Management Standard Comments – A Public Health Framework

The UCLA COEH asserts that strong Cal/ARP and PSM standard are important for workers, the community and society at large. Our comments are based on the overarching principles of public health – to prevent injury and illness and to promote health. These principles dictate that occupational health and safety (OSH) policies and programs **prevent** worker and community exposure to hazards, are **successfully implemented** in the workplace, and **are enforceable**.

Preventing Exposure

California's proposed Cal/ARP and PSM standards contain groundbreaking requirements based on key public health principles. Effective implementation can reduce the toll of death, injury and illness from chemical leaks, fires and explosions and serve as a model for the rest of the country. We recommend that the Scope and Purpose (Sect. a of the PSM standard) clearly specify the importance of "**preventing major incidents** and eliminating or minimizing process safety hazards…."

The comments below highlight several innovative Cal/ARP and PSM elements with the acknowledgment that their effective implementation is closely linked to requirements specified by the other Cal/ARP and PSM elements.

1) *Implement inherently safest solutions* --- A **Hierarchy of Hazard Controls Analysis** is a basic OSH tenet, requiring the elimination of hazards (First Order Inherent Safety Measure) followed by measures that reduce the severity of a hazard or the likelihood of a release without the use of add---on safety devises (Second Order Safety Measure). This fundamental approach replaces an over---reliance on engineering controls and operator procedures with one that integrates inherently safer designs, technologies and systems. Inherent safety as outlined in the standards provides an approach to refinery process analysis that relies on **preventing** disasters rather than **managing risk**.

Decisions about the most effective and inherently safest solutions are, importantly, informed by both: a) external expertise, Recognized and Generally Accepted Good Engineering Practices or RAGAGEP and b) a thorough assessment of the facility itself as specified in the comprehensive set of PSM elements in the standard. A Center for Chemical Process Safety (CCPS) document provides important guidelines for the industry. We recommend including the AIChE/CCPS in the definition of RAGAGEP .

2) *Ensure Integrity of equipment and structure* – Refineries utilize chemicals, high pressure and other processes that can corrode, erode, crack and otherwise damage equipment, leading to leaks and potentially catastrophic explosions. The **Damage Mechanism Review** can be an effective element of the PSM standard by including worker participation in the review process, complying with timelines, and integrating the review or conduct of a DMR with approval of process changes and incident investigations.

Implementation of DMR recommendations can address numerous workers' comments about over---reliance on use of clamps and other temporary measures that can ultimately fail. A few examples illustrating the importance of DMR emerged from group discussions with PSM and Health and Safety representatives during unit meetings in 2013 and at a recent USW Local 675---sponsored PSM training:

- Common use of clamps --- Use of clamps varies greatly by refinery. Some refineries use them as temporary fixes; others "are of the opinion that clamps can be used indefinitely

without fixing the underlying problem." Mechanisms to track the start and end dates are critical to halt the "trend to extend clamp lifespan"; otherwise "they stay on for years, requiring us to test for fugitive emissions." Indefinite use of clamps does not fix problems with corrosion and thin piping and can also mask further deterioration.

- Fin fan plug failure – Practice was to replace individual failures as they were identified; a reactionary process. During a full scale corrosion audit, 10% were randomly surveyed and many found deteriorating. A proactive inspection program was subsequently put in place to ensure fans functioned to prevent overheated pipes.

3) ***Analysis of Human Factors*** – Analysis of the human---work interface provides a necessary complement to requirements that ensure the integrity of physical structures. Understaffing, lack of training or experience, shiftwork, overtime and associated fatigue have been reported at all unit meetings with the potential for catastrophic errors. Human factors assessment should be implemented as soon as feasible, with worker participation in decisions about staffing levels, experience and training needs. Additionally, approaches that unduly rely on operator procedures should be replaced by fail---safe systems and inherently safer designs.

4) ***Root Cause Analysis*** *of incidents and corrective action*--- Timely analysis of incidents can identify system failures and inform the need for corrective actions in all elements of the Cal/ARP and PSM programs. Worker participation is critical to a comprehensive analysis that does not resort to simplistically highlighting worker error without considering human factors or taking a systems approach. Notifying affected workers (those in the area where the incident occurred) is likewise a critical component of the analysis and inspires confidence in the transparency and accountability of the program.

Effective Implementation and Enforcement

Effective **Employee Participation**, **Process Safety Culture Assessment, Transparency**, **Timely compliance with Corrective Actions**, **Public Disclosure**, and **Implementation** are critical aspects of the Cal/ARP and PSM standards. Comments from employee PSM and Health and Safety representatives highlight the importance of these elements of the standard.

1) The Stop Work procedures and the Process Safety Culture Assessment provide important avenues for employees to participate; that participation is stymied for several reasons:

Employee participation is constrained by fear of reprisal --- A PSM representative reported that employees do not participate in the written culture assessment surveys because identifying information is required before they can submit them. Another reported that an employee who reported an incident of working near an open flame issued an order to stop work; the employee was subsequently suspended for two days for insubordination

- Incentives to prioritize production over safety --- Employees who believe a task is hazardous feel enormous pressure, as do their supervisors, to maintain operations and

production. Supervisors who believe their promotion opportunities will be threatened by shutting down unsafe operations are reticent to do so and pressure employees to keep operations running despite the risks.

- Perverted interpretation of stop work procedures – employees report being blamed by supervisors for failing to stop work. This shift in interpretation is a perversion of the intent of the language. It is intended to give employees the *right* to stop unsafe work and instead is used to imply they are *obligated* to stop unsafe work – blaming them if they do not. This interpretation shifts management responsibilities to workers, carrying consequences for those who, on the one hand, fear reprisals if they stop work and, on the other hand, are blamed for any incidents that occur if they do not.

- Stop Work procedures should be implemented within the context of a Process Safety Culture Assessment to ensure that safety is the priority and that the effectiveness of stop work procedures is not constrained by conflicting messages and incentives that prioritize production over safety.

2) Transparent, timely corrective action based on employee recommendations:

- Employee comments indicate that they do not report problems when, based on experience, they expect no action; i.e. "reporting is a waste of time."

- It is critical that employers promptly respond to reports of hazards that "present the potential for death or serious harm" without delay and notify employees of action taken.

3) Public Disclosure based on community input received from community members:

- Effectively informing the public of Hazard Control Analyses conducted by a refinery for new construction before hearings or other meetings are scheduled for the construction project would be in alignment with the California Environmental Quality Act and would allow for meaningful public participation.
- Disclosing to the public Hazard Control Analyses conducted by a refinery for major event scenarios in the Process Hazard Assessment would be consistent with the recommendation of the Governor's Interagency Working Group on Refinery Safety pertaining to improved public disclosure.

4) Implementation

Effective implementation requires streamlined links between the various Cal/ARP and PSM elements such as PHA, Safeguard Protection Analyses and HCA to ensure that results and recommendations generated from one phase are efficiently and effectively integrated into subsequent analyses and decisions. Timelines are critical; in particular, the final regulation should require evaluation of inherent safety measures within six months of identifying serious hazards in the Process Hazard Analysis.

Feasibility

Notably, many of the above elements are already included in industry guidelines, such as the CCPS document on “Inherently Safer Chemical Processes” referenced above. Human Factors and other elements of the PSM standard are also integrated into the Contra Costa County Industrial Safety Ordinance.

Cost---Benefit Analysis of Proposed Standard Implementation

Research conducted by the RAND Corporation in 2016 found that refinery incidents result in high costs for industry and the general public, costs that can be avoided with stronger regulations. They assessed the costs and benefits of the proposed California Cal/ARP and PSM regulations that are designed to improve safety at oil and gas refineries in California. The report concluded that the proposed regulations would significantly benefit the industry as well as the California economy, in addition to protecting the lives and health of workers and residents.10

RAND concluded that, on average, a single major incident costs a California refinery about $220 million, while maintaining compliance with the proposed Cal/ARP and PSM regulations are likely to cost only $58 million per year.

In terms of impacts on the California economy, RAND found that the 2015 ExxonMobil explosion in Torrance caused a loss in fuel supply due to the refinery being shut down for 14 months and reduced the size of the California economy by $6.9 billion in the first six months following the explosion. In comparison, RAND evaluated the impact of refineries implementing the proposed Cal/ARP and PSM regulations on the California economy; the report spread the $58 million cost over the average annual California gasoline consumption of 14.5 billion gallons, and found it would lead to an increase in gasoline prices of only about $0.004 per gallon.

Summary

This proposed standard includes a number of groundbreaking elements that advance public health principles, the intent of recommendations made by the California Governor’s Working Group on Refinery Safety in its 2014 report, and Executive Order 13650: Improving Chemical Facility Safety and Security. We urge a clear and consistent focus on **preventing refinery incidents** and **eliminating or minimizing process safety hazards** in the Scope and Purpose and through all elements of the standard – with effective employee participation, a culture that prioritizes safety, public disclosure and timely and transparent implementation of recommendations.

The proposed Cal/ARP regulations represent the potential for an effective public health approach to prevent the recurring problem of catastrophic incidents in the refinery sector– in California and beyond. We have submitted the same recommendations to DIR for the PSM proposal, recognizing the importance of harmonizing the two standards. Thank you for your consideration of these comments.

Y-1 Response

Cal OES thanks the Commenter for its support. These comments are largely general in nature and do not require a response.

To the extent the following constitute specific recommendations we address those comments here:

1. We recommend including the AIChE/CCPS in the definition of RAGAGEP.

Response: The list of recommended practices included in the definition of RAGAGEP is not intended to represent a comprehensive list. To the extent a practice recommended by AIChE/CCPS is considered widely recognized, it would be considered RAGAGEP. Cal OES will take no action on this comment.

2. The final regulation should require evaluation of inherent safety measures within six months of identifying serious hazards in the Process Hazard Analysis

Response: Although the commenter is correct that there is no timeline specified in Section 2762.2, the requirement is not less effective or enforceable than the pre-regulatory draft. Cal OES has specified in this provision that an HCA must be conducted "in a timely manner" for all recommendations made by the PHA team for major incident scenarios but has intentionally refrained from prescribing a specific time frame. Cal OES intends for owners and operators to conduct the HCA within a reasonable amount of time, and recognizes that this may take longer than six months depending on the recommendations that may come out of the PHA. However, this change does not remove the owner or operator's obligation to complete the HCA quickly. Section 2762.2 (i) requires the owner or operator to follow the corrective action work process in section 2762.16 (d) and (e) "when resolving the PHA team's findings and recommendations, determining action items for implementation, tracking to completion, and documentation of closeout." Section 2762.16 (e) (10)-(13) does contain strict timelines, and the HCA must be completed prior to the corrective actions. In the case of PHA recommendations, the deadline is two and half years after completion of the PHA, or the next regularly scheduled turnaround. The combined effect of the two sections will impose a sufficiently strict timeline on the owner or operator for completion of the HCA. The longer the HCA takes, the less time remains for the implementation of the corrective action. These strict deadlines, benchmarked to the completion of the PHA, effectively remove any incentive for the owner or operator to delay completion of the HCA. Recognizing the concern expressed by the commenter, however, a change was made to require that the HCA be completed "in a timely manner." Cal OES will take no further action on this comment.

COMMENTER Z
Michael E. Coyle – Chevron U.S.A. Inc.
Emailed dated September 15, 2016

Z-1 Comment

General Comment

We are concerned that the Initial Statement of Reasons (ISOR) states that the CalOES has used the existing Contra Costa County Industrial Safety Ordinance (ISO) as a "proxy for the purpose of estimating" the benefits from the proposed GISO.1 "It is not unreasonable to assume," CalOES states, that "California refinery incident rates under the proposed regulation will be similar to or lower than those of ISO refineries."2 The concern with this conclusion is that the refining industry has steadily reduced average Total Recordable Incident Rate (TRIR) by 70% over the past 15 years, a performance that mirrors the reduction achieved by the three Contra Costa County ISO refineries, but was achieved in the absence of the County's ISO.3 Similarly, as also noted, the reduction in F/DAW (fatalities/days away from work) nationwide refinery performance also matches that achieved by the County's ISO refineries. That the rates for refineries subject to the ISO do not meaningfully differ from other refineries that are *not* subject to the ISO suggests that the conclusion that establishing a regulation modeled on the ISO will result in the benefits claimed is not accurate.

While the stated goals are laudable, the concern is that the proposed program will not actually achieve these goals. Specifically, the use of over-broad definitions that are also vaguely worded could trigger numerous responses and actions under the proposed program requiring the expenditure of resources with no resulting safety improvement. In some cases, the requirements may even prove to be counterproductive. Examples of this include, among others, the definitions of "major incident," "major change," and "highly hazardous material." The requirement to undertake a Damage Mechanism Review (DMR), a Hazard Controls Analysis (HCA), Management of Change (MOC), and other actions under the proposed program are driven by these definitions, underscoring the need that those definitions be precisely tailored and understandable. Thus, while the statement that a *major* incident or a *major* change implicating a *highly hazardous* material should trigger these activities is not necessarily controversial, as proposed, the definitions would embrace *minor* incidents and *minor* changes, indeed even trivial activities as well as materials that are *not highly hazardous.* Therefore, it is important to resolve these concerns before issuing a final regulation.

The consequence of not resolving these concerns would likely be that the program will be extraordinarily costly, requiring expenditure of resources on processes that have already been appropriately completed and will not contribute to improving safety. By requiring the highly skilled (and not widely available) personnel to spend time conducting these activities when they are not necessary, the program will actually impair safety. If the regulation is adopted, these limited resources will then be unavailable to work on what would be higher priority safety issues, since refiners will be forced to allocate resources to these regulatory requirements first and foremost. At the other extreme, certain provisions in the proposed program are so vague, and so lacking in the use of precise terminology, in common use and understood by the industry, that

the result is requirements with which compliance, as a practical matter, would be effectively impossible.

Some of our concerns might have been resolved by having an ISOR that provided meaningful explanation or rationale as to why particular requirements are necessary and thereby would provide indication that the interpretations of the requirements with which we are concerned are not appropriate. This is an issue that could be addressed through responses to comments that clarify the reasonable interpretation of the terms that we are concerned with and allowing additional comment on those issues. A more detailed rationale for the proposed program is the type of Administrative Procedure Act (APA) requirement (*e.g.*, clarity, necessity, non-duplication) that should be met in the ISOR and Final Statement of Reasons (FSOR) to satisfy the APA.

Z-1 Response

This is a general comment warranting no substantive response. Cal OES will take no action on this comment.

Z-2 Comment

KEY CONCERNS

Regulations in California need to be reasonably necessary to effectuate the purposes of the statute.4 As a matter of course, pursuant to Government Code § 11349.1(a), the California Office of Administrative Law (OAL) reviews all regulations adopted, amended, or repealed pursuant to the APA to ensure that such regulations satisfy six specified standards: "necessity," "authority," "clarity," "consistency," "reference," and "non-duplication." Each is a defined term. "Necessity," "clarity," and "non-duplication" are of the most relevance here.

"Necessity" is defined in terms that correspond in part to the provisions of Government Code § 11342.2. Specifically, "necessity" means that the "record of the rulemaking proceeding demonstrates by substantial evidence *the need for a regulation to effectuate the purpose of the statute*, court decision, or other provision of law that the regulation implements, interprets, or makes specific, taking into account the totality of the record."

For purposes of this standard, "evidence includes, but is not limited to, facts, studies, and expert opinion." The term "clarity" means that the regulation is "written or displayed so that the meaning of regulations will be easily understood by those persons directly affected by them." In addition, "non-duplication" is defined as follows:

"Non-duplication" means that a regulation does not serve the same purpose as a state or federal statute or another regulation. This standard requires that an agency proposing to amend or adopt a regulation must identify any state or federal statute or regulation which is overlapped or duplicated by the proposed regulation and justify any overlap or duplication. This standard is not intended to prohibit state agencies from printing relevant portions of enabling legislation in regulations when the duplication is necessary to satisfy the clarity standard in paragraph (3) of

subdivision (a) of Section 11349.1. This standard is intended to prevent the indiscriminate incorporation of statutory language in a regulation.
In reviewing regulations, the OAL is "restrict[ed] . . . to the regulation and the record of the rulemaking proceeding." A regulation will be approved only if "it complies with the standards set forth in this section and with this chapter."

As discussed below, the proposed CalARP regulations will face difficulty in meeting these standards, with the prospect of being rejected by OAL unless CalOES re-proposes the program to address the problems.

Z-2 Response

Cal OES disagrees that the proposed regulations are unnecessary to effectuate the purposes of the statute or that it fails to satisfy "clarity" or "non-duplication standards." This is a general comment warranting no substantive response. Cal OES will respond to specific concerns below.

Z-3 Comment

Coordination with the Occupational Safety and Health Standards Board's Proposed General Industry Safety Order § 5189.1 and with Federal Law.

CalOES and the California Occupational Safety and Health Standard Board (the Board) need to ensure consistency between the proposed CalARP regulations and the Proposed General Industry Safety Order (GISO) § 5189.1 Process Safety Management for Petroleum Refineries -Version 5.0 (proposed CalPSM Regulation) currently under development by the Board so that CUSA can implement consistent strategies and procedures to effectively comply with both regulatory schemes. As the Interagency Working Group on Refinery Safety (Working Group) initial status report explained:
Multiple regulatory agencies have responsibility for oversight of aspects of refineries, sometimes with overlapping jurisdiction. Agency actions and efforts to…avoid potential duplicative action are insufficient. The Working Group elaborated that "[i]mproved coordination, communication and oversight are essential and will result in smarter, more targeted enforcement, while avoiding the potential for inconsistent and unnecessary regulatory requirements."

In its current form, the proposed CalARP regulations have elements that are inconsistent with the proposed CalPSM regulation to the point that the two regulatory schemes may be un-manageable. For example, applicability of the proposed CalARP regulations and the proposed CalPSM regulation could vary significantly between the rules. Similarly, companies would not be able to develop a single process hazard analysis (PHA) to satisfy both proposals because the proposed CalARP regulations requires a separate process for conducting safeguard protection analysis (SPA), while the proposed CalPSM regulation integrates the processes into a single element. There are other examples of inconsistent language and organization between the two proposals that are identified in the comments on the respective rules.

Similarly, federal OSHA is currently undertaking a process to revise its process safety management (PSM) regulations and has actively begun stakeholder outreach. On top of that,

EPA is in the process of revising its risk management program (RMP) regulations and expects to issue those regulations by the end of 2016. Both of these federal rules will have significant degrees of overlap with CalOES's proposed CalARP regulations as well as potential redundancies and conflicts. Moreover, the compliance process for the federal rules will lag the process for complying with the proposed program, such that companies will have to undertake serial compliance processes and incur significant additional costs. CalOES should consider deferring to the federal standards and then once those are adopted, it should evaluate any additional requirements that it can justify as necessary under the relevant provisions of the Government and Health and Safety Codes.

Z-3 Response

CalOES and DIR have worked very closely to ensure, to the greatest extent possible, the Accidental Release Program (CalARP) and the Process Safety Management for Petroleum Refineries (CalPSM) regulations are consistent. Ultimately, however, the programs have different goals which require some deviation in program requirements.

With regard to the federal RMP requirements, Cal OES finds no conflict between its proposed regulations and the current federal requirements. Given continued events in the state of California, it is imperative that Cal OES promulgate new CalARP program regulations for petroleum refineries to address the concerns and recommendations identified by the Governor's Interagency Working Group on Refinery Safety. Cal OES will take no action on this comment.

Z-4 Comment

Confusing Applicability Provisions.

The proposed program has a confusing applicability provision that states that the program applies to "all portions of the petroleum refinery," except "process plant laboratories or laboratories that are under the supervision of a technically qualified individual," while at the same time also providing that "[t]his Article shall apply to processes within petroleum refineries." The problem is that CalOES fails to appreciate that there are important distinctions reflected in the language used in subsections (a) and (b). That is, the application of CalARP provisions to "processes within petroleum refineries" (subsection a) is very different than an "applicability" provision that speaks to "all portions of the petroleum refinery" (subsection b). A literal reading of subsection (b) would not be limited to process-related portions of the refinery; instead it significantly expands the scope beyond what is delineated in subsection (a).

The ISOR states that subsection (b) applies to portions of refineries "to the extent that they are part of a process." This, however, does not correspond to the literal language of subsection (b) as it is currently drafted. The ISOR's explanation provides critical context and therefore the ISOR's language needs to be included explicitly in the text of the final rule itself.

Z-4 Response

Regulatory changes have been made to address this comment. Section 2762.0.1 is amended to clarify that Program 4 requirements apply to "all processes of the petroleum refinery."

Z-5 Comment

Definitions of Key Terms Dramatically Expanding the Scope of Requirements.

A principal concern with the proposed program is its use of certain defined terms that are overly broad. While a process safety requirement, such as PHAs may be appropriate in theory, the key determination of reasonableness depends on when and how such requirements apply. The proposed definitions of "major change" and "major incident" are key examples. Used throughout the proposed program, the terms serve as the trigger for requiring refinery operators to undertake a number of different activities – *e.g.*, DMR, HCA, MOC. Due to the over-breadth of these definitions, and the fact that they are propagated throughout the proposed program, a refinery will be forced to conduct extensive analyses for every piece of new process equipment or brief deviation from safe operating limits, without regard to whether there are actual implications for process safety. The concern is that this will result in meaningless, if not counterproductive, paper exercises that will divert critical process safety personnel from other duties that would actually improve process safety.

To illustrate the concern by using the definition of "major incident," the proposal would define the term to mean:

> 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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public shelter-in-place, or evacuation order.

This would significantly expand the program, adding a multitude of events that could not reasonably lead to the types of releases that were intended to be covered. The concern with the proposed language is compounded by the definition of "process safety hazard," which is defined to mean a "characteristic of a process that, if unmitigated, has the potential to cause a fire, explosion, or release of a highly hazardous material which could result in death or serious physical harm or a major incident."16 In other words, a "process safety hazard" includes any hazard "that has the potential for causing" a "release of a highly hazardous material … which has the potential to result in death or serious physical harm." This further attenuates the likelihood of harm and dilutes the ability of refineries to focus on real process safety risks. There should at least be an "imminent" and "substantial" risk of death or serious physical harm as Congress itself has recognized. Adopting an overbroad definition risks creating scenarios in which so many incidents need to be evaluated that refineries will not be able to devote substantial resources to those incidents that truly do present an imminent and substantial endangerment. It is possible that CalOES actually intends "potential" to mean "imminent and substantial endangerment," which include both a temporal (imminent, rather than at some point) component and a magnitude

(substantial likelihood and impact, not merely possible). If that is the intent, a clarification would be helpful.

In sum, “major incident” needs to be limited to appropriately severe consequences, in keeping with the intent of the program, and should not include sweeping language regarding “potential” consequences.

The proposed definition of “major change” provides another example of an overly broad provision that propagates throughout the regulation and expands its scope without providing corresponding benefits. The implementation of the subsections incorporating this language will require more resources than currently exist at any refinery or within qualified hiring pools. Under the proposed program, a “major change” may trigger a number of activities, including a DMR, HCA, MOC, and an analysis of human factors.17 Under the proposed definition of “major change,” each of these activities will need to be conducted for routine or minor equipment changes, such as the replacement of a minor piping flange.

Specifically, the proposed “major change” definition would include:
1. Introduction of a new process; or
2. New process equipment, or new regulated substance that results in a change in safe operating limits; or
3. Any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

This definition is so overly broad that implementation of the many subsections incorporating this language will require more resources than currently exist at any refinery or within qualified hiring pools in the refining industry. At the same time, no improvement in process safety would result, and thus it is not necessary.

The ISOR does not explain why defining “major change” to include all “new process equipment” or “any change in operation outside of established safe operating limits” is reasonably necessary to “effectuate the purpose” of the California Health and Safety Code. The ISOR states only that “Major Change” is “defined by section 2735.3, subsection (gg), as any of the following,” and then setting forth the regulatory definition verbatim with no further explanation.18 This is inadequate under the APA. The ISOR also does not explain to what it means to “increase” an existing process safety hazard. Moreover, in defining the term “change,” the proposal uses the term “any alteration” – without defining “alteration.” The first definition of “change” in Merriam-Webster’s Dictionary is “alter,” yet it is unclear what CalOES means by adding this word in subparagraph (3). The definition is also internally inconsistent in that the term is “major change” yet the items listed are far from “major,” encompassing “any” alteration in a process, in process equipment, or process chemistry. The ISOR provides no explanation as to why the listed items in the subparagraphs are deemed to constitute “major” changes much less why these definitions are “necessary” for effectuating the statutory purpose. It is essential that CalOES limit the circumstances that constitute a “major change” to those where process safety is clearly implicated in a meaningful way. The ISOR does not explain why defining “major change” to include all “new process equipment” or “any alteration in a process, process equipment, or

process chemistry that introduces a new hazard or increases an existing hazard" is reasonably necessary to "effectuate the purpose" of the California Health and Safety Code.

Similarly, the inclusion of "[a]ny change in operation outside of established safe operating limits" as a "major change" is inappropriate because such an event may not be a major change as commonly understood in the industry. Equipment may temporarily operate "outside established safe operating limits" due to a brief upset in a separate process unit before returning to normal operation. This scenario is already addressed under the CalARP's *Operating Procedure* requirements, which requires procedures to establish "[s]teps required to correct or avoid [operating limit] deviation." It is possible that CalOES would not interpret the phrase "any change in operation outside of established safe operating limits" in this manner, *e.g.*, intending it to apply only to intentional and permanent changes. If that is the case, the proposal requires clarity that it does not include temporary changes in order to satisfy clarity requirements. If CalOES does intend this interpretation, the proposed definition would fail to satisfy the Government Code's requirement for "non-duplication," under which regulations cannot "serve the same purpose as … another regulation."

The regulation uses the "major" change definition to trigger numerous substantive, time-consuming, and costly requirements, including a DMR, HCA, MOC, and human factors analysis. Again, it is unclear whether CalOES interprets the proposed "major change" definition to require that each of these activities be conducted for routine or minor equipment changes, such as the installation of a single piping flange, yet the proposed definition of "process equipment" and "process safety hazard" could be read to require this. This lack of clarity is a fundamental flaw that needs to be cured, through re-proposal to provide the public with the required opportunity to comment. If CalOES does not intend this interpretation, the proposal does not meet the "clarity" standard. If CalOES does intend this interpretation, the proposal does not establish that it is "necessary."

As another example, the lengthy requirements of a full HCA conducted on a minor equipment change would be very time-consuming, but ultimately yield no process safety improvements. Fundamentally, the costs associated with this effort will not result in a material improvement in process safety, and may actually hamper process safety improvement.

Similarly, the proposed program's definition of "Highly Hazard Material" (HHM) raises a separate key concern because this term dictates applicability of the entire program. The proposal fails to employ a clear and straightforward definition of HHM; instead, it defines HHM as being comprised collectively of four other substances. These four terms are themselves defined individually, not by the proposed program, but with reference to the Department of Industrial Relations' Hazard Communication Standard. This approach will significantly complicate the applicability analysis.

Z-5 Response

Regulatory changes were made to provide additional clarity. The definition is designed to align with and clarify the existing definition under CalARP, and align with the new definition under the PSM regulations. It is not intended to substantially broaden the current CalARP definition.

The definition of “major change” is intended to focus the attention of the owner or operator on changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition is not intended to include unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately alters safe operating limits on a process so that it could routinely operate outside of the current existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute “major changes.” In particular, we do not believe that “the replacement of a minor piping flange” would be considered a major change under this definition.

We therefore conclude that the definition of major change is appropriately narrow to focus on changes that have the potential to increase process safety hazards and therefore this definition serves as an appropriate trigger to activities under the regulation.

Similarly, the definitional scope of “major incident” properly encompasses those incidents in which human life is jeopardized.

With regard to the commenter’s concern regarding the definition of “Highly hazardous material,” incorporating by reference is a common practice and does not complicate the applicability analysis for California refineries.

Z-6 Comment

Undefined Standards

In numerous instances, the proposed program includes language that is too subjective. For example, the proposed CalARP regulations repeatedly impose requirements with the modifier “effective.” Proposed § 2762.1(a) requires that information pertaining to the hazards of the process be “effectively communicated” to all affected employees. Proposed § 2762.2(a) requires employers to perform and document an “effective” PHA “appropriate to the complexity of each process.” Proposed § 2762.2(c)(7) requires consideration of facility siting “in order to effectively protect employees and the public” from hazards. The ISOR provides no explanation as to how CalOES will enforce this “effectiveness” requirement and how companies complying with it will be judged. Such an undefined standard does not meet the clarity requirement of the APA.

Further, some of the proposed program’s provisions are so unclear that compliance would be essentially impossible. One example is the proposed program’s requirement that refineries develop a system to “document” a lengthy list of information, including “recommendations to partially shut-down an operation or process,” “partial or complete shut-down of an operation or process,” and “written reports of hazards and the employer’s response.” The terms employed by this provision are neither defined nor commonly understood by the refining industry, and so the regulated community will be placed in the position of potentially being liable for documenting interactions between its employees of which it is not aware. While a company can provide the system for reporting, and encourage reporting, holding the employer responsible for documenting these interactions is impractical and the provision does not meet the clarity requirement.

Z-6 Response

Effective is used in this regulation according to its dictionary definition: "Adequate to accomplish a purpose; producing the intended or expected result." For the purposes of this regulation, "effective" does not mean "perfect," but it does require that the activity be designed in such a way as to make it likely to succeed. For example, in Section 2762.16, the owner or operator is required to "develop and implement an effective written Accidental Release Prevention Program (ARP) Management System…" A system that addresses all of the issues described in that section of the regulation, is clear and well-documented, and that is regularly reviewed and updated, would meet this requirement. A system that does not contain all of the required elements, is confusing or poorly documented, does not function as described on paper, or is not up-to-date would fail to comply with the requirement to be effective. The term "effective" is necessary in the sections where it is used in order to ensure that the owner or operator does not simply create a program or system on paper and fail to fully implement it, or conversely does not partially implement a program or system without adequately documenting and updating it.

It is unclear which portions of the proposed regulatory language the commenter is asserting lack clarity in the second portion of his comment. Cal OES will take no action on this comment.

Z-7 Comment

Inappropriate Allocation of Responsibilities and Rights to Certain Employees.

Stationary Source Manager Responsibilities: Proposed § 2762.16(a) provides that the "stationary source manager shall be responsible for compliance with this Article." The intent of this provision is unclear, but to the extent it means to make the stationary source manager personally responsible in terms of liability and potential sanctions (including criminal sanctions), it is impermissible. The provision is incompatible with the provision's statutory basis and bestows responsibility for the most complex process safety regulatory scheme in history on a single individual without any analysis of how this will affect process safety. Furthermore, this requirement discourages involvement in granular safety issues at the highest levels.

In seeking to assign responsibility to an individual employee for compliance with all elements of CalARP, the provision runs counter to the regulation's enabling statute, which focuses on "owners and operators" of covered facilities. The provision further overburdens one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills, training, and qualifications. Apart from being statutorily unauthorized, the requirement has not been shown to be "reasonably necessary." The ISOR does not provide a basis for this requirement, and CUSA respectfully submits that CalOES is without authority to impose requirements on an individual.

Employee Representative Designation: We are also concerned the definition of employee representative will not accomplish the goals CalOES states it is trying to achieve. The proposed definition is:

A union representative, where a union exists, or an employee-designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.

To achieve the results that CalOES believes would occur through increased participation of employee representatives and to avoid adverse consequences that are not intended by CalOES, the definition of "employee representative" needs to be limited to employees of the refinery and where there is a union, also local union members that are refinery employees. The proposed regulation has several elements where the "employee representative(s)" would be included, for example, "at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, Management of Organizational Change (MOOCs), Process Safety Culture Assessment (PSCAs), Incident Investigations, SPAs and PSSRs."

To achieve participation by employee representatives, CalOES needs to ensure that the selection of employee representatives is limited to people who can fulfill that role in practice. Because the regulation does not allow the employer to control the selection of the employee representative(s), the regulatory language needs to ensure that minimum qualifications are met by such representatives.

The proposal would allow non-local union personnel (and non-employees) to be selected as employee representatives. California refineries maintain positive relationships with local union employee representatives, who are appropriately employees at the facility and generally reflect the positions of co-workers. As an example, allowing selection of a member of the "international union," who might not even be a refinery employee, for participation in process hazard analysis would be inappropriate because such individuals would have no understanding of the specific hazards associated with the process equipment at the facility. It is critical that the employee representative for PHAs be an actual employee of the refinery in order to ensure that the resulting analysis and recommendations are based on an understanding of the design, operation, and maintenance of the specific process equipment for which the PHA is being conducted. The same is true of PSSRs, MOCs, MOOC, DMRs, and other PSM processes, which require familiarity with the particular facility and its operations to provide for "effective" participation. The statement in the definition that "employee representative" is to be "construed broadly" and the inclusion of the term "international union" at least suggests that CalOES is contemplating that a representative could be a person who has never set foot in the refinery. Given the nature of the processes in which the employee representative would be involved, this is inappropriate. Likewise, given the policy underlying the National Labor Relations Act to protect equality of the collective bargaining process, the definition of "employee representative" needs to be limited to exclude a third party individual who is not connected with or affected by this process.

The ability to designate non-employee "employee representatives" is also problematic because it risks inappropriate disclosure of confidential business information and trade secrets to persons who are not otherwise obligated to maintain confidentiality. Mechanical integrity information necessarily includes proprietary design data, maintenance strategies and scheduling, and material throughput information, all of which would allow competitors to avoid their own costly research and development while trading off the efforts of the refinery whose information was

compromised. The regulation provides no limitations on the non-employee employee representatives' use or disclosure of this information, and the risks to employers of losing control of such information if contractor and international union members receive it is significant. CalOES has failed to establish why this unprecedented expansion of the "employee representative" is necessary to achieve the statutory purpose in light of the substantial risks created.

The ISOR discussion of this definition is problematic because it does not explain why the definition of "employee representative" is necessary. Indeed, the ISOR contains no discussion at all as to why CalOES has chosen to define this term in this manner, stating only that "Employee Representative" is defined by section 2735.3(t) to mean" and then setting forth the regulatory definition with no further explanation. Moreover, the ISOR does not address the concerns regarding the dilution of quality in critical process safety systems like process hazard analysis due to a lack of training, qualification, and accountability. For this reason alone, the proposed program fails to satisfy APA requirements and needs to be re-proposed (or at least be revised and subjected to an additional 15-day comment period). Fundamentally, the definition needs to be revised to limit employee representatives to employees of the refinery in order in order to ensure that trained and qualified individuals participate in critical process safety systems, while also supporting an equalized collective bargaining process.

Z-7 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- Regulatory changes have been made to address the portion of the comment regarding Stationary Source Manager Responsibilities. Proposed section 2762.16(a) has been revised to state, "The owner or operator shall identify the refinery manager as the person with authority and responsibility for compliance with this section…" Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator or an employer. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance.

- Regulatory changes have been made that, in part, address commenter concerns regarding employee representatives. The purpose of the employee representative is to designate a clear point of contact for an employee wishing to report concerns. Employees are entitled to select representatives of their choosing where a union exists. In the absence of a union, employee-designated representatives must be onsite and qualified for the task. Employees and employee representatives must meet the qualifications provided for under

the various subsections of the proposal. The proposed regulatory language has appropriate protections for confidential and proprietary information.

Z-8 Comment

Ability to Use Qualitative Methods for SPAs.

Proposed § 2762.2.1 provides that for each scenario in the PHA that identifies the potential for a major incident, the employer shall perform an effective written SPA to determine the effectiveness of existing safeguards. Subsection (b) requires that all independent protection layers for each failure scenario shall be independent of each other and independent of initiating causes and subsection (c) requires the use of a "quantitative or semi-quantitative method, such as Layer of Protection Analysis, or an equally effective method to identify the most protective safeguards." It goes on to require that the risk reduction obtainable by each safeguard "be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system or human factor."

CUSA reads proposed subsection (c) to require either a quantitative or semi-quantitative method to identify the most protective safeguards, or an "equally effective method" to identify the most protective safeguards. CUSA interprets this language to allow for purely qualitative methods where appropriate. This is important to ensure that employers have the most effective tools at their disposal to reduce risks pursuant to the SPA, qualitative methods should be permitted in appropriate circumstances. Insofar as CalOES actually intends to prohibit purely qualitative methods, it would be unworkable in that it would not be possible to justify precluding these very effective methods as necessary to achieve legitimate goals of the regulations.

Indeed, determination of risk and weighing various options inherently includes qualitative analyses. As the regulatory language recognizes, quantitative analyses are not always practical because they utilize exact inputs and values that may not always be practically assigned to the weight of various safeguards individually or combined. In contrast, qualitative analysis uses informed judgment by those who understand the process based upon information that may not be quantifiable because it is impossible to capture with numerical inputs, such as process knowledge, equipment history, subject matter expertise, and confidence in the various measurements that are utilized in quantitative analysis. A strong precedent exists for using qualitative analysis in the process safety context. For example, risk matrices often include qualitative descriptions of event likelihood, such as "unlikely to occur during the process lifecycle," as opposed to assigning it a quantitative value, such as "probability of occurrence is less than X." The value of this approach is that it may be more readily understandable to the team assessing risk to consider practical qualitative terms so their analysis may be more effective.

By including such considerations as a method to approach SPA, CalOES improves the utility of the SPA and an employer's ability to make rational decisions regarding protective safeguards. For example, an operator may have a routine duty to periodically check that a block valve upstream of a pressure relief device (PRD) is locked open. This is an administrative control that is a safeguard. The risk reduction coming from reduced likelihood of an overpressure event due

to a blocked in PRD can be evaluated best qualitatively. Furthermore, quantitative data does not exist for human performance evaluations, and inspection and maintenance safeguards do not lend themselves to quantitative analysis. Thus, it would have been inappropriate for CalOES to limit SPA teams ability to utilize the most effective analysis in such a case because it would materially and negatively impact process safety at refineries.

The benefit of qualitative analysis becomes particularly evident in the context of processes or equipment that are not engaged in "traditional" hydrocarbon processing. For example, a SPA will be significantly more effective in considering safeguards and layers of protection for covered equipment whose primary material is water through a qualitative analysis because the hazards associated with such equipment and process will not be effectively reduced to numerical values and risk matrices. Because CalOES has included specific coverage of utilities under the proposed program, the inclusion of qualitative analysis is all the more critical. As a result, any final regulation needs to continue to include the ability to use other methods, like qualitative analysis, in addition to quantitative or semi-quantitative analysis.

We note that the ISOR states that the purpose of the SPA "is to determine the overall effectiveness of the safeguards for each of the failure scenarios that have the potential for a major incident." Protection layers are required to be independent of one another and initiative causes in order to "isolate safeguards and prevent sequential failure." The ISOR does not explicitly recognize that the regulation allows for other equally effective methods, and the FSOR should do so. Moreover, the FSOR should not elevate quantitative or semi-quantitative measures above qualitative measures that are effective. If it were to do so, it would need to explain why it is necessary that the owner/operator use quantitative or semi-quantitative methods to identify safeguards and the benefits derived from such a restriction.

Z-8 Response

Cal OES has determined that semi-quantitative and quantitative methods will provide more reliable conclusions. The Contra Costa ISO allows qualitative methods, but these evaluations are subjective and may differ from refinery to refinery. Contra Costa works very closely with each refinery in the review of the PHAs and SPAs and also uses the Safety Plan Guidance document to provide a level of consistency. To be consistent with general practice, inspection and maintenance are not considered to be safeguards, although a purely qualitative analysis could allow a refinery to select these as safeguards. To guard against the selection of less effective or ineffective methods as safeguards, an analysis that is at least semi-quantitative is required. Cal OES will take no action on this comment.

Z-9 Comment

Overbroad Hazard Controls Analysis Provisions, Which Should Be Limited to the Design Phase.

Proposed Section 2762.13 requires HCA hierarchy as a standalone analysis for all existing processes on a set schedule and also when a PHA team identifies the potential for a "major" incident (which, as proposed, includes minor incidents) and as part of a MOC review, whenever

a “major” change (which, as proposed, includes minor changes) is proposed, *i.e.*, before the change is implemented. It also requires an HCA during the design phase of new processes, new process units, and new facilities, and their related process equipment.

The requirement of standalone HCA is redundant and not “reasonably necessary,”28 and the suggestion that it will improve safety is unsupported by the record. Owners/operators will need to dedicate significant resources to review existing processes that have already undergone robust risk analyses via other mechanisms. For example, PHAs have been implemented and honed by refiners for more than two decades to become a highly effective tool for assessing and reducing risk. By requiring refiners to perform a standalone analysis, CalOES limits the flexibility of what should be a performance-based rule without any commensurate increase in safety. The ISOR merely notes the HCAs “are to be performed in conjunction with the PHA schedule,” but does not demonstrate how a standalone analysis is necessary to improve safety.

The requirement’s broad language may potentially dilute HCAs such that the analyses will not offer any meaningful process safety improvement. The proposed program requires owners/operators to conduct HCAs for PHA and incident investigation recommendations, as well as part of routine MOC review. Pursuant to subsection (c), CalOES is also requiring that refiners revalidate an HCA in conjunction with the PHA schedule. These provisions are incompatible and undermine the effective strategy EPA and OSHA took when they established PHAs as scheduled safety analyses and MOCs as routine operational risk assessment requirements. Either an HCA is a standalone assessment that should be reviewed and considered broadly on a scheduled basis, or it is a day-to-day risk management tool.

A structured and mandated HCA should not be required separately for established process safety systems, such as MOCs and incident investigation recommendations that already assess risk in a manner designed to eliminate hazards whenever possible. An HCA will only cost-effectively drive safety improvement during the design phase for a new plant or process, before fundamental construction and investments have been completed. Once a facility unit or process has been constructed and is in operation, the ability to effectively implement a hierarchy of hazard controls is greatly reduced without demolishing the process or facility.

Given the foregoing, the HCA requirements as proposed fail the necessity requirement. And, because the definitions of “major change” and “major incident” are impermissibly vague, the HCA requirements also fail the clarity requirement.

Z-9 Response

CalOES generally agrees with the commenter that HCAs are most likely to generate actionable recommendations that include first order inherent safety measures if they are performed during the design phase. For this reason, such HCAs are required and must also be made publicly available to assure the public that first order inherent safety measures were fully considered and employed to the greatest extent feasible during the early design phase of new process units or major modifications. Inherent safety and an HCA, however, can be effective at other times. The second edition of the CCPS book Inherently Safer Chemical Process on page 4 states that “*Inherently safer is a way of thinking and to successfully implement this thinking has to be*

continually employed whenever possible." -- In other words at all stages of a process life cycle. CalOES recognizes that HCAs performed on existing processes may identify second order inherent safety measures or other measures lower on the hierarchy of hazard control as the only feasible alternatives. Such a finding, if supported by the analysis, would be acceptable. The findings and recommendations of all of the required HCAs cannot be predicted in advance for each process and each refinery. For this reason, it would be premature and inappropriate to attempt to assign costs to hypothetical outcomes of these analyses.

Z-10 Comment

Ability of Employer to Manage Facility Decision-making.

Proposed § 2712.16(e)(4) addresses the circumstances and process for accepting or rejecting a recommendation of a PHA, SPA, DMR, HCA, Incident Investigation, or Compliance Audit. CalOES's proposed requirement regarding documentation of team member comments is impractical and will stifle open and honest dialogue about recommendations. It is impractical to require this level of communication for each changed recommendation. For example, PSSR items and HCA recommendations often number in the hundreds and are most effectively developed over multiple discussions during the engineering and design stages. Many recommendations may be informally discussed during process safety team meetings, and are inappropriate for formal documentation and tracking. Certainly, CalOES has failed to make any showing that such a burdensome requirement is "reasonably necessary."

Moreover, employees may have concerns about retention and documentation of comments, and owners/operators should not be required to document conversations against the wishes of the employee. Employees will be reluctant to express true opinions out of fear of being second guessed by the authorities at a later date. As drafted, it is unclear whether employees would be allowed to remain anonymous during this process. This is a particularly salient ambiguity in light of the practical employee dynamics at issue. In this regard, the proposal fails to satisfy the "clarity" standard as well. This may have a chilling effect on discussions regarding recommendations, as well as general willingness to participate on process safety teams. Absent evidence that a lack of documentation of employee conversations in developing recommendations has contributed to process safety hazards, CalOES has failed to demonstrate a sufficient basis for this requirement.

A determination of infeasibility is generally a multi-faceted decision. Rarely is an employer faced with a recommendation in which the *sole* basis for a determination of infeasibility would be cost. A situation may arise, however, when the flexibility to reject a recommendation due to cost is critical, particularly in the context of the separate HCA provisions. The concern is that an employer would have very limited options for rejecting a process safety recommendation that is wholly redundant with other recommendations or existing safeguards. Ultimately, this will force a refiner to expend significant resources on layers upon layers of first and second order inherent safety measures that offer little to no increase in safety, while potentially diverting resources away from large-scale investments or improvements that would meaningfully improve safety.

Ultimately, employers should be able to adopt alternative measures that provide sufficient risk reduction and decline recommendations that are unnecessary to protect employees. Under a literal reading of the proposed program's language, the CalOES's requirement imposes potentially onerous costs on employers without any demonstrated benefit to safety.

Z-10 Response

Many of the commenter's statements are general and conclusory in nature and require no response. Cal OES has made every effort to respond to each of the commenter's specific comments as follows:

- Section 2712.16(e)(4), requires only that the owner or operator communicate changed or rejected recommendations to onsite team members, therefore concerns regarding miscellaneous employee anonymity and "chilling effects" are unfounded. Further owners or operators are permitted to reject and change recommendations where justified and only written comments need to be addressed. Commenter's concerns are unfounded. Cal OES will take no action on this comment.

- The owner or operator is not permitted to reject a team recommendation where cost is the only determination of infeasibility. However, the proposed regulatory language permits an owner to *change* a recommendation where an alternative measure is equally safe or safer. This permits the owner or operator the flexibility needed to implement a more cost effective inherent safety measure so long as the alternative inherent safety measure is equally safe or safer or a safeguard measure so long as the alternative safeguard measure is equally safe or safer. Eliminating or reducing a hazard is always preferable to additional layers of protection. Cal OES will take no action on this comment.

Z-11 Comment

Definition of Recognized and Generally Accepted Good Engineering Practices (RAGAGEP).

Currently, the concept of RAGAGEP is aligned with the performance-oriented nature of process safety systems and provides flexibility to owners/operators in implementing industry guidance and internal practices applicable to individual operations. CalOES's inclusion of a prescriptive definition for RAGAGEP is incompatible with process safety and may limit innovative development of maintenance practices under the proposed program's mechanical integrity element. CalOES should not seek to prescriptively define the concept of RAGAGEP, which has been highly successful in driving innovation and improvements to process safety through flexible incorporation of recognized and generally accepted practices.

CalOES has failed to provide any rationale or explanation for the "necessity" that the regulation set forth a prescriptive definition of RAGAGEP.31 The ISOR states that RAGAGEP "has been the source of some confusion in existing regulations."32 However, a prescriptive RAGAGEP definition based on a limited list of industry standard-setting organizations will only serve to limit the ability of operators to address site-specific hazards, and thereby create the potential to

increase risks. While an operator or unlisted organization may identify a more advanced, safer maintenance strategy than any developed by CalOES selected organizations, this would not be considered RAGAGEP under the proposal due to the prescriptive, list-based approach.

It is unclear whether the CalOES's list of identified standard-setting organizations is intended to be exhaustive, preferred, or merely examples of potential sources of RAGAGEP. If it is intended to represent the exhaustive or preferred list of what CalOES views as RAGAGEP, it is incomplete. Many other organizations develop and issue scientifically based methodologies for conducting technical engineering and maintenance activities at refineries. The proposed definition thus creates an ambiguity and thereby fails to satisfy the "clarity" standard.

Finally, not all industry codes and standards from one source can be considered "recognized and generally accepted" simply by virtue of their being issued by a well-known organization. Although newly-drafted codes and recommended practices may form a starting point from which an operator derives its individual RAGAGEP based on engineering analysis, such documents do not become RAGAGEP until they have been the subject of broad industry review and acceptance. Accordingly, RAGAGEP should remain a flexible, performance-based concept that not only allows owners/operators to tailor process safety activities to the unique hazards and complexities of each facility, but encourages them to do so. The record lacks justification for ignoring these important aspects of the performance-based RAGAGEP approach that has historically been successful.

Z-11 Response

The definition of RAGAGEP is consistent between the two regulations. RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

Z-12 Comment

Public Reporting of Major Incident Investigations.

Subsection (j) of Proposed 2762.9 provides that the Unified Program Agency (UPA) "shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt." CalOES's statutory mandate is to "reduc[e] regulated substance accident risks." The ISOR explains that public posting of major incident investigation reports is "necessary for the purpose of demonstrating to the local community that a full investigation occurred, and that changes were made to prevent future incidents." This, however, is not CalOES's statutory mandate. The ISOR does not explain how publishing the full report would enhance safety or prevent accidental releases. It has not been demonstrated why this provision is "reasonably necessary to effectuate the purpose of the statute" or how this requirement is even within CalOES's statutory authority.

Z-12 Response

The authorizing statutes stress the need for public notification and opportunity to participate in decisions affecting public safety. The public has a right to know about risks that may affect their health and safety. Cal OES will take no action on this comment.

Z-13 Comment

Independent UPA PSCA, Incident Investigation, Evaluation of ARP Management System, and Human Factors Analysis.

Subsection (n) of proposed § 2762.9 authorizes the UPA to perform independent safety analyses. This requirement is burdensome and costly, without a demonstrated safety benefit. CalOES has not proposed any parameters on how a third-party process safety analysis would be conducted. The proposed program lacks specificity regarding who would conduct the analysis, how and when it would be conducted, and it does not include limits on duration or cost.

Contrary to the statements in the ISOR, owners and operators have the resources to ensure impartiality during the investigation of a major incident. Refiners have access to qualified, objective subject-matter experts with significant operational knowledge employed within the company. The proposal undervalues the role of an internal process safety analysis, which provides valuable learning opportunities and fosters institutional, process-specific knowledge. Though third-party auditors can provide "fresh eyes," the same benefit can be achieved through use of cross-facility or cross-operational employee auditors. The proposal has not demonstrated that the potential benefits of an internal audit are outweighed by evidence that a third-party analysis is a necessary and more effective way to ensure worker safety. For this reason, it has not been shown that the requirement is "reasonably necessary."

Finally, in the ISOR, CalOES states that the "owner or operator must also pay the costs of the independent analysis," without otherwise identifying the statutory authority on At a minimum, CalOES should identify its authority in a new 15-day notice and solicit comment on the issue so

that the public can evaluate any identified statutory provision on which OES relies in promulgating such a requirement. Indeed, Health and Safety Code § 25535.5 provides that "[a]ny fee impose on any stationary source to cover the administering agency's cost of implementing the accidental release prevention program pursuant to this article shall be imposed only through the single fee system established pursuant to Section 25404.5." In the FSOR, CalOES needs to explain how the requirement that owners and operators "shall pay the costs of the independent analysis" can be reconciled with the provisions of Section 25404.5.

Z-13 Response

Regulatory changes have been made to address concerns regarding the costs of the independent analysis. With regard to the commenter's concern regarding the administering agency's need to conduct an independent analysis, following a major incident, the public needs the assurance that the incident was fully investigated and there is appropriate oversight over remedial efforts.

Z-14 Comment

Root-Cause Analysis Identification of "Management System Causes."

Subsection (e) of proposed § 2762.9 specifies that the "incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident," and that this "analysis shall include identification of management system causes, including organizational and safety culture causes." Any root cause requirement should be consistent with industry practices and the current regulatory requirement to evaluate the factors that contributed to an incident. It is inappropriate to include a presumption of management system, and organizational and safety culture "causes" where the underlying cause of an incident may result from any number of issues. Such a presumption is counterintuitive and inappropriate, as the results of a root cause analysis may identify human factors as a primary cause. CalOES cannot conclusively presume that a management system "cause" will always be implicated.

Z-14 Response

In all major incidents, even where human factors were the primary cause, there is still a management system cause component. If the proximate cause is determined to be from human factors, there is a need to do additional investigation to determine what management system failures allowed this to occur. It is easy to identify human errors, but such errors are more or less likely to occur based on the management systems that are in place at a facility. Cal OES will take no action on this comment.

Z-15 Comment

THE PROPOSED CALARP REGULATIONS ARE NOT REASONABLY NECESSARY TO EFFECTUATE THE PURPOSE OF HEALTH AND SAFETY CODE §§ 25531 AND 25534.05.

Assuming that CalOES has express or implicit authority under the California Health and Safety Code to adopt the proposed program as a final regulation, CalOES has failed to establish that the regulation is "reasonably necessary to effectuate the purposes" of the statute. For this reason, CalOES should withdraw the proposal.

In its July 15 Notice, CalOES stated that Health and Safety Code § 25531 "requires the adoption of standards that are at least as effective as the federal Risk Management Program (RMP) standards under the Clean Air Act 112(r), and Title 40 of the Code of Federal Regulations Part 68," and that the "proposed regulations implement, interpret, and make specific Government Code Section 8585 and Health and Safety Code Sections 25531 and 25534.05." CalOES cites no other statutory provision under which it is authorized to adopt the regulation.

As relevant here, Health and Safety Code § 25531(c) provides that the "Legislature finds and declares that the goals of reducing regulated substances accident risks and eliminating duplication of regulatory programs can best be accomplished by implementing the federal risk management program in the state," with "certain amendments that are specific to the state." Further, in relevant part, Health and Safety Code § 25534.05(a) provides that CalOES is to "adopt regulations" for the following specific activities: (1) stationary source registration; (2) RMP receipt, review, revision and audit; (3) resolution of disputes between stationary sources and local administering agencies; (4) providing for public availability of RMPs; and (5) technical assistance to stationary sources subject to the RMP program. In other words, the plain language of § 25534.05(a) constrains CalOES's authority to implementation of the federal RMP while accounting for circumstances "specific to" California. Health & Safety Code § 25531(e). See also Health & Safety Code § 25531.2 ("The legislature finds and declares that as the state implements the federal accidental release prevention program pursuant to this Article . . . .") CalOES's authority is limited to adopting the federal RMP. The only permissible deviations are "for amendments that are specific to the state." Health & Safety Code § 25531(e). Such amendments include ministerial changes such as replacing references to the United States Environmental Protection Agency with CalOES and addressing concerns unique to California, such as seismic concerns. *See* Health & Safety Code § 25534.05(c).

Thus, the California Legislature has, *by statute*, identified the specific regulatory provisions that the CalARP regulations are to contain. Given that the proposed program departs so significantly from the plain terms of the Health and Safety Code in adding new regulatory elements for which there is no express statutory authorization, it is particularly important that CalOES demonstrate that the proposed regulation is "reasonably necessary to effectuate the purpose" of the statute, and provide some explanation why the existing regulation is no longer sufficient to achieve that purpose. CalOES has neither made that demonstration nor provided such explanation.

To the contrary, in the ISOR, CalOES explains that the proposed program is intended to "implement[] the recommendations" of the February 2014 report of the Governor's Interagency Working Group on Refinery Safety, and are intended to "function in parallel with changes to the PSM program that are proposed by Cal/OSHA." The issue here is not whether the proposed program effectively implements recommendations from the Governor's report or other outside experts. Instead, it is incumbent on CalOES to exercise *its own judgment* to determine that the various requirements that the new program would impose are "reasonably necessary" to achieve the statutory purposes of the Health and Safety Code.

Assuming CalOES has made that determination, it is not reflected anywhere in the rulemaking record and there is not substantial evidence to support such a determination.

Z-15 Response

Cal OES has determined that the proposed regulations are necessary to achieve the purposes of the Health and Safety Code and to address the state-specific gaps identified by the Governor's Interagency Working Group on Refinery Safety in the report entitled *Improving Public and Worker Safety at Oil Refineries*.

Z-16 Comment

BECAUSE IT FAILS TO COMPLY WITH THE APA, THE PROPOSED REGULATION NEEDS TO BE REVISITED IF THE CALOES WISHES TO ISSUE A RULE OF THIS TYPE.

No regulation adopted by a California agency to "implement, interpret, make specific or otherwise carry out the provisions" of an authorizing statute will be deemed "valid or effective" unless such regulation is "consistent and not in conflict" with that authorizing statute and "reasonably necessary to effectuate" the statutory purposes. Government Code § 11342.2. To that end, Government Code § 11346.2 further requires that a proposed regulation be accompanied by an "initial statement of reasons" (ISOR) that, at a minimum, includes a "statement of the specific purpose" of the rule, the "problem the agency intends to address," and the "*rationale for the determination* by the agency" that the regulation is "*reasonably necessary* to carry out the purpose and address the problem" for which the regulation is proposed." That is to say, the agency needs to do more than merely state that it has determined that the proposed regulation is "reasonably necessary." The agency needs to provide in the ISOR its "rationale" – *i.e.*, a reasoned explanation – as to why it has so determined.

Further, where the proposed regulation requires the use of "specific technologies or equipment," or otherwise imposes "prescriptive standards," the agency needs to explain in the ISOR why such mandates or prescriptive standards are necessary. The agency needs to also consider alternatives to its proposed approach, providing in the ISOR a "description of reasonable alternatives" along with the agency's reasons for rejecting those alternatives. "Reasonable alternatives" that the agency needs to consider will include, but are not to be limited to, "alternatives that are . . . less burdensome and equally effective in achieving the purposes of the regulation ," while at the same time "ensur[ing] full compliance with the authorizing statute."

In particular, the "imposition of performance standards shall be considered as an alternative" to a regulatory approach that "prescribe[s] specific actions or procedures." This comports with the California Legislature's explicit preference for performance standards over prescriptive standards.

Finally, the agency is required in the ISOR to "enumerate the benefits anticipated from the regulatory action," including the "benefits or goals provided in the authorizing statute." These "benefits" may include "nonmonetary benefits such as the protection of the public health and safety" and "worker safety," but they need to be specifically identified.

The ISOR accompanying the proposed program does not meet these requirements. CalOES does not provide an explanation or "rationale" for its determination that the particular regulatory approach reflected in a given provision is "reasonably necessary" to achieve the intended result. The ISOR's purported "enumeration" of the "benefits" that are said to result from the proposed regulation is similarly lacking. The ISOR states, without directly identifying any specific evidence for the assertion, that the "proposed regulations *will improve* safety at California refineries, *which will* in turn result in fewer major process incidents and fewer releases of hazardous materials from refineries." The ISOR then continues that, "[b]ecause the number of major refinery incidents *may* be reduced under the proposed regulation, it *could provide* safety and health benefits to workers and the public in nearby communities as well as other economic benefits for businesses."

On its face, the ISOR appears on the one hand to assert that the proposed regulation "will" improve refinery safety, but then, on the other hand, goes on to suggest little more than that the regulation "may" reduce refinery incidents and releases, which then "could" result in benefits.

In any event, absent CalOES's providing any specific basis for its assertion that safety will be improved and incidents will be reduced, it is impossible to credit such benefits to the proposed program. Under Government Code § 11346.2(b)(3), the ISOR is required to set forth the "technical, theoretical, and empirical study, report, or similar document, if any" upon which the agency's proposed regulation relies. In apparent compliance with this requirement, the ISOR lists a series of materials on which CalOES purportedly relied.49 Nowhere in the ISOR, however, does CalOES specifically draw on any information or analysis contained in any of those materials in support of a claim that a particular proposed regulatory provision can reasonably be assumed to achieve the desired result.

Finally, the ISOR's treatment of the "alternatives" to the proposed program that were considered by CalOES does not withstand analysis. Only two alternatives are cited: "maintain the status quo" and the so-called "safety case model." The latter alternative, which is described as an approach in which "facilities . . . explain what they will do in order to try to ensure their safety," and the "regulatory authority is charged with determining whether a facilities' explanation or effort is acceptable or effective," is rejected as requiring an undue commitment of resources, particularly on the part of the regulatory authority.

Not found in the ISOR is any indication that CalOES considered the alternative of a regulatory approach that relies less on prescriptive standards and more on performance standards, for which the California Legislature has already expressed a preference, as noted above. With CalOES's having apparently not considered the application of performance standards in the development of the proposed regulation, it was in no position to assess whether the same ends could be achieved without resorting in the first instance to the prescriptive approach that is reflected throughout the proposed regulation.

Based on the above, if CalOES intends to proceed with this program, it needs to issue a new ISOR that meets the procedural requirements imposed by the Government Code.

Z-16 Response

This is a general comment. Cal OES will take no action on this comment.

Z-17 Comment

Section 2762.0.1 – Applicability – No definition for "Effective"

The use of "effective" as a modifier throughout the proposed rule has the practical effect of granting California Environmental Protection Agency ("CalEPA") inspectors an undue level of discretion. For example, proposed Section 2762.1(a) requires that information pertaining to the hazards of the process be "effectively communicated" to all affected employees. Proposed Section 2762.2(a) requires employers to perform and document an "effective" process hazard analysis ("PHA") "appropriate to the complexity of each process. Proposed Section 2762.2(c)(7) requires consideration of facility siting "in order to effectively protect employees" from hazards.

During pre-rulemaking meetings on the propose California Refinery Process Safety Management ("PSM") standard, the California Department of Industrial Relations ("DIR") indicated that "effective" is a legal term of art. Neither the proposed rule nor the Initial Statement of Reasons ("ISOR"), however, provides an explanation as to how the California Office of Emergency Services ("CalOES" or "Agency") will define or enforce this "effectiveness" requirement. Moreover, it is unclear how a company will comply or when an inspector will determine that a company's efforts are "ineffective."

In this way, the proposal does not meet the Government Code's requirements for a lawful regulation. All regulations must satisfy certain minimum standards for "clarity." Gov't Code § 11349.1. A regulation meets this "clarity" standard only when it is "written or displayed so that the meaning … will be easily understood by those persons directly affected by them." Gov't Code § 11349(c). The Government Code also requires that regulations satisfy a standard for "necessity," with "necessity" being defined to mean that the "record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute … taking into account the totality of the record." Gov't Code § 11349(a). A corresponding provision states that "[w]henever by the express or implied terms of any statute a state agency has authority to adopt regulations to implement, interpret, make specific or otherwise carry out the provisions of the statute," a regulation adopted is not "valid or effective

unless consistent and not in conflict with the statute" and "reasonably necessary to effectuate the purpose of the statute." Gov't Code § 11342.2.

The ISOR also does not conform with the provisions of the Government Code, which specify that an ISOR "shall include, but not be limited to" a "statement of the specific purpose" of the rule; the "problem the agency intends to address;" the "rationale for the determination by the agency" that the rule is "reasonably necessary to carry out the purpose and address the problem for which it is proposed;" and an "enumera[tion] [of] the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute." Gov't Code § 11346.2(b).

Z-17 Response

See response to comment Z-6.

Z-18 Comment

Section 2762.0.1 – Applicability

Proposed language:
"(a) This Article shall apply to processes within petroleum refineries.
(b) All portions of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory."

CUSA Comments and Recommendations
CUSA opposes these provisions as ambiguous, inconsistent, and unnecessary. The underlying problem is that the CalOES does not appreciate that there are important distinctions between subsections (a) and (b). That is, the application of CalARP provisions to "processes within petroleum refineries" (subsection a) is very different than an "applicability" provision that speaks to "all portions of the petroleum refinery" (subsection b). A literal reading of subsection (b) would not be limited to process-related portions of the refinery; instead it significantly expands the scope beyond what is delineated in subsection (a).

The ISOR states that subsection (b) applies to portions of refineries "to the extent that they are part of a process."1 This, however, does not correspond to the literal language of subsection (b) as it is currently drafted. The ISOR's explanation provides critical context and therefore the ISOR's language needs to be included explicitly in the text of the final rule itself. Otherwise, requiring the regulated community to review extraneous information in order to interpret the regulation will likely result in confusion and inconsistent application of the rule.
Moreover, the genesis of this language appears to be an excerpt, taken out-of-context, from at least one local ordinance. The Contra Costa Industrial Safety Ordinance ("ISO"), for example, states:

> (b) The following are exempt from the provisions of this chapter except Sections 450-8.016(c) and (e), and 450-8.018(f) and (g): … (3) Activities in process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in Section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory[.]

Unlike the CalARP language, the ISO does not preface its exemption with broad, ambiguous statements about applicability. More broadly, CalOES has not demonstrated why this provision is necessary or effective on a statewide level.

Due to this requirement's ambiguity and lack of demonstrable improvement to safety, the provision fails the California Administrative Procedure Act's ("APA's") clarity standard, which requires regulations to be clear enough to allow its meaning to be "easily understood" by those "directly affected" by it.

Z-18 Response

Regulatory changes were made to both section 2762.0.1(b) and 2735.3(yy) to address the commenter's concerns.

Z-19 Comment

Section 2735.3 - Definitions

Proposed language:
"(t) "Employee Representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site."

CUSA Comments and Recommendations
To achieve the results that CalOES believes would occur through increased participation of employee representatives in RMP processes and to avoid adverse consequences that are not intended by CalOES, the definition of "employee representative" needs to be limited to employees of the refinery (not including contractors) and where there is a union, also local union members that are refinery employees. The proposed regulation has several elements where the "employee representative(s)" would be included, for example, "at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, Management of Organizational Change (MOOCs), Process Safety Culture Assessment (PSCAs), Incident Investigations, SPAs and PSSRs." WSPA is concerned that as proposed, the definition could actually undermine process safety.

WSPACUSA understands that CalOES desires effective participation by employee representatives in certain RMP processes. To achieve that, CalOES must ensure that the selection of employee representatives is limited to people who can fulfill that role in practice. Because the

regulation does not allow the owner/operator to control the selection of the employee representative(s), the regulatory language needs to ensure that minimum qualifications are met by such representatives.

CUSA is concerned that the proposal would allow selection of non-local union personnel (and non-employees) to be selected as employee representatives. California refineries maintain positive relationships with local union employee representatives, who are appropriately employees at the facility and generally reflect the positions of co-workers. As an example, allowing selection of a member of the "international union," who might not even be a refinery employee, for participation in process hazard analysis would be inappropriate because such individuals would have no understanding of the specific hazards associated with the process equipment at the facility. It is critical that the employee representative for PHAs be an actual employee of the refinery in order to ensure that the resulting analysis and recommendations are based on an understanding of the design, operation, and maintenance of the specific process equipment for which the PHA is being conducted. The same is true of PSSRs, MOCs, MOOC, DMRs, and other process safety systems, which require familiarity with the particular facility and its operations to provide for "effective" participation. The statement in the definition that "employee representative" is to be "construed broadly" and the inclusion of the term "international union" at least suggests that CalOES is contemplating that a representative could be a person who has never set foot in the refinery. Given the nature of the processes in which the employee representative would be involved, this is inappropriate. Moreover, we are certain that it is not CalOES's intent to create a regulation that would allow a union to disrupt refinery operations for purposes other than improving safety. By not requiring that the employee representatives meet minimum requirements to make them effective in their participation, the regulation would invite abuse in situations where an entirely separate dispute between management and a union (e.g., over pay) is at issue. The potential negative impacts on facility management and reliability of refinery operations partially resulting from this definition are discussed in further detail in our comments regarding Employee Participation. Given the policy underlying the National Labor Relations Act to protect equality of the collective bargaining process, the definition of "employee representative" must be limited to exclude a third party individual who is not connected with or affected by this process.

The ability to designate non-employee "employee representatives" is also problematic because it risks inappropriate disclosure of confidential business information and trade secrets to persons who are not otherwise obligated to maintain confidentiality. For example, the proposed mechanical integrity provisions require that "procedures and inspection documents developed under this subsection shall be readily accessible to … employee representatives."6 Mechanical integrity data is highly confidential and proprietary information that has the potential to result in significant competitive harm if disclosed to the broader industry. As CalOES is aware, mechanical integrity information necessarily includes proprietary design data, maintenance strategies and scheduling, and material throughput information, all of which would allow competitors to avoid their own costly research and development while trading off the efforts of the refinery whose information was compromised. The regulation provides no limitations on the non-employee employee representatives' use or disclosure of this information, and the risks to owners/operators of losing control of such information if contractor and international union members receive it is significant. CalOES has failed to establish why this unprecedented

expansion of the "employee representative" is necessary to achieve the statutory purpose in light of the substantial risks created.

The ISOR is inadequate under the California Administrative Procedure Act ("APA") because it does not explain why the definition of "employee representative" is necessary. Indeed, the ISOR contains no discussion at all as to why CalOES has chosen to define this term in this manner, stating only that "Employee Representative" is defined by section 2735.3(t) to mean" and then setting forth the regulatory definition verbatim with no further explanation. The APA requires more than this. Moreover, the ISOR does not address the concerns regarding the dilution of quality in critical process safety systems like process hazard analysis due to a lack of training, qualification, and accountability. Fundamentally, the definition must be revised to limit employee representatives to employees of the refinery in order in order to ensure that trained and qualified individuals participate in critical process safety systems, while also supporting an equalized collective bargaining process.

Z-19 Response

Regulatory changes have been made that, in part, address commenter concerns regarding employee representatives. The purpose of the employee representative is to designate a clear point of contact for an employee wishing to report concerns. Employees are entitled to select representatives of their choosing where a union exists. In the absence of a union, employee-designated representatives must be onsite and qualified for the task. Employees and employee representatives must meet the qualifications provided for under the various subsections of the proposal. The proposed regulatory language has appropriate protections for confidential and proprietary information.

Z-20 Comment

Section 2735.3 - Definitions

Proposed language:
"(x) "Highly hazardous material" means a flammable liquid, flammable gas, toxic or reactive substance as those terms are defined: (1) flammable gas, as defined in California Code of Regulation (CCR) Title 8, §5194, Appendix B, (2) flammable liquid, as defined in CCR Title 9, §5194, Appendix B, (3) toxic substances as acute toxicity is defined in CCR Title 9, §5194, Appendix A, and (4) reactive substance as self-reactive chemical, as defined in CCR Title 9, §5194, Appendix B. Highly hazardous material includes all regulated substances listed in Tables 1, 2, and 3 of this Chapter."

CUSA Comments and Recommendations
The proposed rule defines "highly hazardous material" ("HHM") as a "flammable liquid or flammable gas, or a toxic or reactive substance." The definition of HHM is important because it dictates applicability of the entire standard. Specifically, the proposed rule provides that the rule applies to "processes" within petroleum refineries, and "process" is defined in the proposed rule as "[p]etroleum refinery activities … that involve a highly hazardous material." It is therefore imperative that the rule employ a clear and straightforward definition of HHM.

All regulations must satisfy certain minimum standards for "clarity." A regulation meets this "clarity" standard only when it is "written or displayed so that the meaning … will be easily understood by those persons directly affected by them." Rather than provide a definition of HHM that satisfies the "clarity" requirement, the proposal instead defines HHM as being comprised collectively of four other substances, each of which is itself a separately defined term under the regulation.

These four terms are themselves defined individually, not by the proposed rule, but with reference to the Department of Industrial Relations' ("DIR") Hazard Communication ("HazCom") Standard. As is explained below, this is an entirely separate regulatory scheme under which refiners are required to provide information to employees regarding potential personal safety hazards associated with chemicals they may handle. The HazCom Standard is unsuited to serve the role the proposed regulation assigns to it. Instead, the CalOES should set forth in an appendix a straightforward listing of "highly hazardous materials." This will make applicability of substances clear and avoid diversion of resources that could otherwise be spent addressing high priority substances to chemicals that have not been demonstrated to pose a process safety risk.

The Government Code also requires that regulations satisfy a standard for "necessity," with "necessity" being defined to mean that the "record of the rulemaking proceeding demonstrates by substantial evidence the need for a regulation to effectuate the purpose of the statute … taking into account the totality of the record."11 A corresponding provision states that "[w]henever by the express or implied terms of any statute a state agency has authority to adopt regulations to implement, interpret, make specific or otherwise carry out the provisions of the statute," a regulation adopted is not "valid or effective unless consistent and not in conflict with the statute" and "reasonably necessary to effectuate the purpose of the statute."12 As has been noted, however, the proposed rule does not specify threshold quantities, but instead incorporates by reference other regulatory provisions developed for entirely separate purposes. The ISOR does not explain the CalOES's rationale for determining that this particular approach is reasonably necessary, nor does it describe the problem this change purports to address. The proposed regulation thus does not satisfy the "necessity" standard.

At the same time, the ISOR does not conform with the provisions of the Government Code, which specify that an ISOR "shall include, but not be limited to" a "statement of the specific purpose" of the rule; the "problem the agency intends to address;" the "rationale for the determination by the agency" that the rule is "reasonably necessary to carry out the purpose and address the problem for which it is proposed;" and an "enumera[tion] [of] the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute."13 Here, and throughout the ISOR, CalOES does not provide this required information.

The "kitchen sink" cross-references employed by the proposed rule with respect to defining HHM would, if adopted, significantly (and unnecessarily) complicate the applicability analysis for California refineries attempting to determine coverage for various processes. The complex analyses that refineries would have to undertake would create an unmanageable and costly burden without any improvement in process safety. The rulemaking record is devoid of evidence

to suggest that the cost analysis on which the CalOES relies to justify the proposed regulation has taken this fact into account. Nor does it appear that the CalOES has considered that this approach to defining HHM could give rise to significant concerns for refineries seeking to ascertain the applicability of the standard and what legal requirements apply to them.

California's HazCom Standard "applies to any hazardous chemical which is known to be present in the work place in such a manner that employees may be exposed under normal conditions of use or in a reasonably foreseeable emergency resulting from work place operations." Furthermore, the California HazCom Standard does not itself contain any information regarding chemical classification. Rather, it refers to the Federal HazCom Standard's Appendices A and B, which together comprise approximately 30,000 words of complex classification criteria, formulas, guidance values, and other information relating to, among many other hazard categories, germ cell mutagenicity, carcinogenicity, and reproductive toxicity. This information is intended for use by chemical manufacturers, importers, and owners/operators involved in evaluating chemicals to determine potential health and physical hazards based on personal exposure. It does not, and is not intended to, address materials that pose a process safety risk of catastrophic release, nor does it provide a specific list of chemicals that have been determined to pose such a risk. Requiring refineries to rely on this methodology as the basis for their process safety management program will undermine the safety improvements associated with a clear, time-tested listing of chemicals that represent a potential for serious incidents.

If it is the CalOES's goal to expand chemical coverage, the agency should develop and propose a scientifically defensible process and publish this pursuant to the California APA, giving the scientific and engineering community the opportunity to comment on the approach. A well-defined method should focus on objectively identifying those substances that are "highly hazardous" to process safety. For all of the reasons stated above, the CalOES needs to provide a clear list of the materials it is covering with this proposed regulation, with opportunity to comment, in order to comport with APA requirements.

Z-20 Response

Cal OES maintains that the definition clearly specifies what constitutes a highly hazardous material. Incorporating by reference is a common practice and does not complicate the applicability analysis for California refineries. Cal OES will take no action on this comment.

Z-21 Comment

Section 2735.3 - Definitions

Proposed language:
"(gg) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard."

CUSA Comments and Recommendations
The definition of "major change" is overly broad such that implementation of the many subsections incorporating this language will require more resources than currently exist at any refinery or within qualified hiring pools in the refining industry.
It is imperative that the CalOES limit the circumstances that constitute a "major change" to where process safety is clearly implicated. Instead, CalOES only includes the "introduce[tion] of a new process safety hazard" and "increases an existing hazard" as one of three possible types of "major change." The ISOR provides no explanation why defining "major change" to include all "new process equipment" or "any change in operation outside of established safe operating limits" is reasonably necessary to "effectuate the purpose" of the California Health and Safety Code. The ISOR states only that "Major Change" is "defined by section 2735.3, subsection (gg), as any of the following," and then setting forth the regulatory definition verbatim with no further explanation.17 This is inadequate under the APA. The ISOR also provides no explanation as to what it means to "increase" an existing process safety hazard. Moreover, "alteration" is undefined (major change includes "any alteration" that introduces a new hazard or worsens an existing one). While the CalOES intends this language to provide clarity, it actually introduces more undefined terms that could be expansively interpreted in the future by inspectors or enforcement personnel sweeping in as a "major" change activities that are not "major."
Under the proposed rule, a "major change" (which CalOES defines to include minor activities) triggers numerous time-consuming and costly activities, including a DMR, an HCA, an MOC, and a human factors analysis.18 Would CalOES interpret the proposed "major change" definition to require that each of these activities be conducted for routine or minor equipment changes, such as the installation of a single piping flange? While this may not be the CalOES's intention, the overbreadth of the proposed "major change" definition gives rise to ambiguity about these types of activities. If CalOES does not intend this interpretation, the proposal does not meet the "clarity" standard. If CalOES does intend this interpretation, the proposal fails the "necessity" standard.

Similarly, the inclusion of "[a]ny change in operation outside of established safe operating limits" as a "major change" is inappropriate because such an event may not be a major change as commonly understood in the industry. Equipment may temporarily operate "outside established safe operating limits" due to a brief upset in a separate process unit before returning to normal operation. This scenario is already addressed under the CalARP's Operating Procedure requirements, which requires procedures to establish "[s]teps required to correct or avoid [operating limit] deviation." Again, it is possible that CalOES would not interpret the phrase "any change in operation outside of established safe operating limits" in this manner, e.g., intending it to apply only to intentional and permanent changes. If CalOES does intend this interpretation, however, the proposed definition would fail to satisfy the Government Code's requirement for "non-duplication," under which regulations must not "serve the same purpose as … another regulation."

The consequences of this overbroad definition are significant. A refinery may have to conduct extensive analysis pursuant to the DMR, HCA, MOC, and human factors requirements for every piece of "new process equipment" or brief deviation from safe operating limits regardless of whether there are actual implications for process safety. Rather than improving process safety at refineries (i.e., rather than being "necessary"), this will merely add paperwork exercises to the

refinery and will require diversion of critical process safety personnel from other duties that would actually improve process safety, meaning that the requirement would not only be unnecessary, but would also be counterproductive. For example, the lengthy requirements of a full HCA conducted on a minor equipment change would be very time consuming, but ultimately yield no process safety improvements. Quite simply, the costs associated with this effort will not be justified by a material improvement in process safety, and in fact may hamper the process safety improvement that CalOES seeks to drive. The rulemaking record does not indicate that the CalOES has taken this fact into consideration in its assessment of the respective costs and benefits of the proposal.

Z-21 Response

Regulatory changes were made to provide additional clarity. The definition is designed to align with and clarify the existing definition under Cal ARP, and align with the new definition under the PSM regulations. It is not intended to substantially broaden the current Cal ARP definition. The definition of "major change" is intended to focus the attention of the owner or operator changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition is not intended to include unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately alters safe operating limits on a process so that it could routinely operate outside of the current existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." In particular, we do not believe that "the replacement of a minor piping flange" would be considered a major change under this definition.

We therefore conclude that the definition of major change is appropriately narrow to focus on changes that have the potential to increase process safety hazards and therefore this definition serves as an appropriate trigger to activities under the regulation.

Z-22 Comment

Section 2735.3 – Definitions

Proposed language:
"(hh) "Major Incident" means 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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public shelter-in-place, or evacuation order."

CUSA Comments and Recommendations
The definition of "major incident" would arbitrarily and significantly expand the scope of the CalARP regulation beyond what was envisioned by state legislators the drafters of the Clean Air Act ("CAA") Amendments, adding a multitude of events that could not reasonably lead to catastrophic releases. Such a result would be burdensome and overwhelming without resulting safety improvements. In fact, as proposed, the definition may negatively impact overall safety. In order to avoid unintended consequences of misallocating critical safety resources, the CalOES should clearly limit the definition of "major incident" to incidents which result in actual harm.

The CalARP program is based on the U.S. EPA Risk Management Programs ("RMP"). The EPA RMP program, in turn, adopted its compliance audit provisions "directly from the OSHA PSM standard" and even made modifications "to ensure consistency with OSHA." Accordingly, both state and federal OSHA regulations can inform the meaning and purpose of CalARP's provisions. The existing California PSM Standard's introductory Scope and Purpose states: "[t]his section contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals." This language is not arbitrary, but rather reflects the fact that when California adopted its PSM Standard following the enactment of its federal predecessor, the enabling statute directed the California Standards Board to "give priority to facilities and areas of facilities where the potential is greatest for preventing severe or catastrophic accidents." This focus mirrored the goals of the CAA Amendment drafters when they directed federal OSHA and the U.S. Environmental Protection Agency (EPA) to develop a process safety management standard and risk management program rule, respectively. As a result, California adopted a definition of "major accident" that appropriately focused on incidents that resulted in actual, significant consequences, including events involving fire, explosion, or release of a substance covered by this section which result [ ] in a fatality or a serious injury (as defined by Labor Code Section 6302) to persons in the workplace."

Under a plain reading of the CalOES's definition, it is possible that the agency would consider minor events to be a "major incident." The ISOR would appear to suggest as much, stating that "in order to be considered a major incident, the incident must only have the potential to cause death or serious harm," so that "there is no requirement to have actual harm." If this interpretation is correct, not only would a PHA team have to identify and address all hypothetical minor spills throughout the refinery and develop relevant recommendations, the refinery may be forced to conduct full safeguard protection analysis ("SPA") and HCA for each hypothetical scenario. Such an approach would be inconsistent with federal EPA's definition of "catastrophic release," which would require a "major" "uncontrolled" release that "presents imminent and substantial endangerment to public health and the environment." Additionally, pursuant to the proposed rule's PHA requirement, the refinery could have to consider all "[p]revious major incidents in the. . .petrochemical industry sectors that are relevant to the process." Without a known, established means of reviewing investigations of minor material spills across the industry, there is no readily apparent means of complying with this requirement. Moreover, it would include incidents that are not "major" under the normally understood meaning of that word. For these reasons, the proposed definition, at a minimum, does not satisfy the Government Code's "clarity" standard. Beyond this, CalOES has proposed a regulation with which the regulated entity has no evident and reasonable means to comply.

The unmanageable nature of the proposed language is compounded by the definition of "process safety hazard," which is a "characteristic of a process that, if unmitigated, has the potential to cause a fire, explosion, or release of a highly hazardous material which could result in death or serious physical harm or a major incident." In other words, a "process safety hazard" includes any hazard "that has the potential for causing" a "release of a highly hazardous material. . .which has the potential to result in death or serious physical harm." This further attenuates the likelihood of harm and dilutes the ability of refineries to focus finite resources on real process safety risks. There should at least be an "imminent" and "substantial" risk of death or serious

physical harm as Congress itself has recognized. By adopting the overbroad definition, CalOES risks creating scenarios in which so many incidents must be addressed and evaluated that the refineries will not be able to devote substantial resources to those incidents that truly do present an imminent and substantial endangerment because they must address all that have "potential" for serious injury. It is possible that CalOES actually intends "potential" to mean "imminent and substantial endangerment," which include both a temporal (imminent, rather than at some point) component and a magnitude (substantial likelihood and impact, not merely possible). If that is the intent, CalOES should use that language instead.

Z-22 Response

The definitional scope of "major incident" properly encompasses those incidents in which human life is jeopardized. The definition does not capture every event in which there is a remote possibility that someone could have been injured in an improbable, one-off circumstance. The definition applies to the types of events that would have a reasonable likelihood of causing death or serious physical harm, not those that have a theoretical possibility of doing so. Minor changes were made to clarify the definition. No further action will be taken on this comment.

Z-23 Comment

Section 2735.3 - Definitions

Proposed language:
"(zz) "Process Safety Hazard" means a characteristic of a process that, if unmitigated, has the potential to cause a fire, explosion, or release of a highly hazardous material which could result in death or serious physical harm or a major incident."

CUSA Comments and Recommendations
The proposed rule would define "process safety hazard" to include a hazard that has the potential for causing a major incident, death, or serious physical harm. As discussed above, in combination with the incorporated term "major incident," a "process safety hazard" is defined to include any hazard "that has the potential for causing" an "event that that causes. . .release of a highly hazardous material and which has the potential to result in death or serious physical harm." As a result, the CalOES has disconnected the "hazard" from the actual realization of any "incident" by utilizing the catch-all term "potential" not once but twice. The CalOES has defined this key term so broadly as to render it, if not meaningless, then impossible to apply as a practical matter. Process safety team members will be provided no direction in terms of the hazards on which they should focus resources and time. As a result, the quality of process hazard analysis, safeguard protection analysis, and other important efforts will be diluted and ineffective. CalOES should instead define "major incident" and "process safety hazard" to include only those hazards that present imminent and substantial endangerment of actual, not merely hypothetical, harm, in keeping with the intent of the regulation.

CalOES has failed to demonstrate the "necessity" for defining the term in this way. Rather than provide clarity or demonstrate necessity, this language only serves to underscore the overbreadth of the proposed "process safety hazard" definition. Under the proposed definition, nearly any

equipment at any facility, no matter how safe, could constitute a "process safety hazard" on the theory that there would always exist a "potential" for a release of material that has the "potential" to result in harm, if, for example, it was struck by lightning. While this may not be the CalOES intent, the ISOR calls that into question and the CalOES has not adequately explained what it intends. Any final action needs to explicitly respond to these comments and actually clarify what is and is not covered by this definition, using language that allows a regulated entity to understand what is required by reading the regulatory text.

This overbroad definition fails the "clarity" standard.33 In practical effect, the result is a regulation with such open-ended reach as to does not apprise regulated entities of the applicable legal requirement.

Z-23 Response

The definition is intended to clarify terms to assist the owner or operator in understanding the intent and requirements of the regulation. Addressing potential hazards enables the identification of hazards proactively, allowing elimination or reduction of the risk of their occurrence. This requirement is not intended to significantly change the approach that the team takes in the PHA. In Program 3, the PHA requirements already include identifying the "hazards of the process". The fact that the term was previously undefined and is now defined does not mean that the intent or the meaning of the term has significantly changed. Minor changes were made to clarify the definition. No further action will be taken on this comment.

Z-24 Comment

Section 2735.3 - Definitions

Proposed language:
"(aaa) "Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize safety over competing goals in order to ensure protection of people and the environment."

CUSA Comments and Recommendations
The proposed "process safety culture" definition could be read to inappropriately expand the focus of the proposed rule beyond "process safety" itself to include issues of personal safety that are appropriately managed under separate regulatory schemes. Specifically, although the term being identified references "process safety," the proposed definition centers on a commitment to "emphasize safety over competing goals, in order to ensure protection of people and the environment." Without the qualification that this definition applies solely to "process" safety, CalOES's proposed language could be interpreted as intending a deviation from the express purpose of the relevant regulation. This stands in contrast to the Center for Chemical Process Safety's ("CCPS's") definition of process safety culture as, "the combination of group values and behaviors that determine the manner in which process safety is managed."

The ISOR states that "[e]valuating a refinery's safety culture (and the ways in which it changes over time) is an important way of gauging the degree to which managers are implementing new

safety requirements and prioritizing safety above other pressures, such as efficiency, costs, and competitiveness." The ISOR does not articulate why such an expansion is necessary as required by the APA. For this reason, the rulemaking record provides no "demonstrat[ion] by substantial evidence the need" for the regulation to "effectuate the purpose" of the California Health and Safety Code.

Furthermore, it is unclear what this definition/requirement is adding given that California has already implemented an effective regulation to address general safety culture at all places of employment: the Injury and Illness Prevention Program (IIPP). As the DIR describes on its online E-Tool for IIPP, this regulatory program is intended to drive "improved workplace safety and health [and] better morale" at all places of employment. Many of the requirements associated with the IIPP directly address general safety culture, including "recognition of employees who follow safe and healthful work practices, training and retraining programs, disciplinary actions,. . .any other such means that ensures employee compliance with safe and healthful work practices,. . . meetings, training programs, posting, written communications, a system of anonymous notification by employees about hazards, labor/management safety and health committees, or any other means that ensures communication with employees."39 In light of this, the proposed definition would result in a regulation that does not satisfy the "non-duplication" requirement.

As a result of CalOES's expansive definition, subsequent requirements relating to process safety culture assessment will fail to focus on relevant process safety related issues, with the result that refinery resources will be dedicated to low-consequence personal safety topics that are already addressed under the IIPP. CalOES should not create duplicative and potentially conflicting requirements regarding management of safety culture.

Z-24 Response

Regulatory changes were made to clarify that the emphasis is on process safety over competing goals. Process safety culture is aligned with the prevention strategies outlined in the Governor's Task Force Report**.** Cal OES will take no further action on this comment.

Z-25 Comment

Section 2735.3 - Definitions
Proposed language:
"(iii) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator."

CUSA Comments and Recommendations
Currently, the concept of RAGAGEP is aligned with the performance-oriented nature of process safety systems and provides flexibility to owners/operators in implementing industry guidance and internal practices applicable to individual operations. CalOES's inclusion of a prescriptive definition for RAGAGEP is incompatible with process safety and may limit innovative development of maintenance practices under the proposed rule's mechanical integrity element. CalOES should not seek to prescriptively define the concept of RAGAGEP, which has been highly successful in driving innovation and improvements to process safety through flexible incorporation of recognized and generally accepted practices.
CalOES has failed to provide any rationale or explanation for the "necessity" that the regulation set forth a prescriptive definition of RAGAGEP. The ISOR states that RAGAGEP "has been the source of some confusion in existing regulations." However, a prescriptive RAGAGEP definition based on a limited list of industry standard-setting organizations will only serve to limit the ability of operators to address site-specific hazards, and thereby create the potential to increase risks. While an operator or unlisted organization may identify a more advanced, safer maintenance strategy than any developed by CalOES selected organizations, this would not be considered RAGAGEP under the proposal due to the prescriptive, list-based approach.

It is unclear whether the CalOES's list of identified standard-setting organizations is intended to be exhaustive, preferred, or merely examples of potential sources of RAGAGEP. If it is intended to represent the exhaustive or preferred list of what CalOES views as RAGAGEP, it is clearly incomplete. Many other organizations develop and issue scientifically based methodologies for conducting technical engineering and maintenance activities at refineries. For example, the International Mechanical Code, Uniform Mechanical Code, Institute of Electrical and Electronics Engineers, National Association of Corrosion Engineers, American Welding Society, Fluid Controls Institute, Insulated Cable Engineers Association, International Fire Code, International Institute of Ammonia Refrigeration, and countless more, are all widely recognized as potential sources of RAGAGEP depending on the specific aspects of a process. The proposed definition thus creates an ambiguity and thereby does not satisfy the "clarity" standard.

Additionally, a static list of organizations may become inaccurate or inappropriate depending on advancements in technology and processes. This is why a performance standard approach is so valuable to improving safety. For example, any of the private organizations identified in the proposed definition may cease to exist or cease to provide sources of RAGAGEP at any time for a multitude of reasons. At the same time, another, unlisted organization may become a primary source of RAGAGEP. Thus, it is unwise to base such a key term for purposes of process safety and reliability on a list of organizations that may change at any moment for reasons that are not under CalOES control.

Finally, not all industry codes and standards from one source can be considered "recognized and generally accepted" simply by virtue of their being issued by a well-known organization. Although newly-drafted codes and recommended practices may form a starting point from which an operator derives its individual RAGAGEP based on engineering analysis, such documents do not become RAGAGEP until they have been the subject of broad industry review and acceptance. Accordingly, RAGAGEP should remain a flexible, performance-based concept that not only allows owners/operators to tailor process safety activities to the unique hazards and

complexities of each facility, but encourages them to do so. The record lacks justification for ignoring these important aspects of the performance-based RAGAGEP approach that has historically been successful.

Z-25 Response

The definition of RAGAGEP is consistent between the two regulations. RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

Z-26 Comment

Section 2735.3 - Definitions

Proposed language:
"(uuu)"Turnaround" means a planned process shutdown for the purpose of repair, maintenance, process modification, equipment upgrade or other significant process activity. This definition does not apply to Article 6.5.

"(vvv) "Turnaround" for purposes of Article 6.5 means planned total or partial shutdown of a petroleum refinery process unit or plant to perform maintenance, overhaul or repair of a process and process equipment, and to inspect, test and replace process materials and equipment. Turnaround does not include unplanned shutdowns that occur due to emergencies or other unexpected maintenance matters in a process unit or plant. Turnaround also does not include routine maintenance, where routine maintenance consists of regular, periodic maintenance on one or more pieces of equipment at a refinery process unit or plant that may require shutdown of such equipment."

CUSA Comments and Recommendations
CalOES must make the definition of "turnaround" consistent with the definition of "turnaround" in California Senate Bill ("SB") 1300, which is the basis for the definition. Within the context of the proposed standard, a divergent definition would become confusing and untenable.

SB 1300 requires refiners to "submit to the [DIR] a full schedule for the following calendar year of planned turnarounds," and defines "turnaround" as "a planned, periodic shutdown of a refinery process unit or plant to perform maintenance, overhaul, and repair operations and to inspect, test, and replace process materials and equipment." See Cal. Lab. Code § 7872 (emphasis added). This requirement and definition make clear that the law is focused on periodic, or cycle-ending, "scheduled" turnarounds, rather than unforeseen maintenance shutdowns.

If the definition of "turnaround" were interpreted to encompass targeted activities that may require a shutdown, but are clearly not turnarounds as understood in the refining industry, this would be inconsistent with existing law and cause significant challenges based on other provisions within the proposed standard. A refinery may plan discrete maintenance activities on equipment, and these activities may not necessarily be considered "routine maintenance," such that it would be excluded from the definition. These short-planned, targeted maintenance activities allow a refinery to quickly and safely address certain isolated issues without waiting until a turnaround. The refining industry does not consider this type of discrete activity to be a turnaround.

The definition in the proposed standard poses challenges because PHA recommendations must be implemented within thirty months or "during the first regularly scheduled turnaround of the applicable process." It is neither safe nor realistic to require an owner/operator to address all PHA recommendations during a targeted shutdown addressing an isolated issue. It also unsafe to force employers to wait until a turnaround to address discrete maintenance activities that require prompt attention. Accordingly, CalOES should revise the definition of "turnaround" to be consistent with existing California law under SB 1300. The ISOR does not describe a benefit that would be achieved through a broader definition than what has been enacted by the California Legislature, and therefore such a definition does not meet the requirements set forth in the APA, including, in particular, the "necessity" standard and the corresponding requirement that "no regulation is valid or effective unless … reasonably necessary to effectuate the purpose of the statute." See CAL. GOV'T CODE § 11349.1, § 11349(a); § 11342.2.

Z-26 Response

The broader definition of turnaround for purposes of the CalARP program is appropriate and necessary to capture the program goals. Nothing in the proposed regulatory language prevents employers from completing corrective actions in advance of the timelines provided in the regulation. The proposal is consistent with Labor Code section 7872.
Cal OES will take no action on this comment.

Z-27 Comment

Section 2762.1 – Process Safety Information

Proposed language:
"(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees."

CUSA Comments and Recommendations
The proposed revisions to the process safety information ("PSI") element are unnecessary and impose significant administrative burdens. CalOES's goal of ensuring that owners and operators maintain "[a]ccurate and comprehensive information about the process and about the hazards posed to the process" can be achieved through the existing provisions governing PSI. Additionally, CUSA is concerned that several of the proposed PSI element revisions will adversely impact safety.

The current CalARP regulation already contains requirements that PSI include (1) information pertaining to hazards of acutely hazardous and flammable materials used in the process, (2) information pertaining to the technology of the process, and (3) process equipment information, (4) documentation that equipment complies with RAGAGEP, (5) documentation that equipment is designed in accordance with standards that are no longer in use is designed, maintained, inspected, tested, and operated safely, and (6) employee participation. Because these are robust requirements for categories of information that must be maintained, CUSA believes that CalOES's goals can be more efficiently achieved through the existing regulation and, if needed, through guidance consistent with those regulations. For example, the proposed rule's new requirements with respect to timing (e.g., that facilities compile PSI before conducting PHAs, HCAs, SPAs, or DMRs) are confusing given that compilation of PSI is a continuing process. As a result, a recommendation to refinery owners/operators that PSI be available for purposes of conducting hazard analysis would be conveyed more appropriately through agency guidance, rather than formal rulemaking. Given that existing regulations already speak to this issue, promulgation of a formal rule covering the identical ground appears to be inconsistent with the "non-duplication" standard.

As discussed in the overview of comments document, the ISOR's explanation of this revision is inadequate under the APA. For example, the ISOR does not adequately explain why refiners must "actively communicate hazard-related information."46 The ISOR simply states "this change is necessary in order to ensure that employees are well-informed about process hazards

so they can better protect themselves," but proffers no evidence that employees are ill-informed about the hazards of process under the current statute.

Z-27 Response

The additional elements for PSI are necessary for petroleum refineries because there are additional hazards that exist at a petroleum facility that affect process safety. The petroleum industry presents unique hazards that justify the additional requirements. The requirements provide owners and operators with a standard for PSI development and maintenance and ensure the PSI has the information necessary to be useful. Employee participation, as defined, is valuable to ensure those with experience and who are closest to the process (front line workers) are able to provide input given their proximity to and familiarity with each process. Cal OES will take no action on this comment.

Z-28 Comment

Section 2762.1 – Process Safety Information
Proposed language:
"(B) California Permissible exposure limits (PELs);
[ ]
(b) Information pertaining to the technology of the process shall include at least the items specified in paragraphs (b)(1) – (b)(5). Safety Data Sheets meeting the requirements of section 5194(g) of Title 8 of CCR may be used to comply with this requirement to the extent they contain the information required by this subsection."

CUSA Comments and Recommendations
The proposed rule includes a requirement to maintain information regarding "California Permissible exposure limits (PELs)." However, the proposed provision does not explicitly describe what constitutes a "California PEL." For example, it is not clear whether the provision would be limited to those PELs listed in 8 C.C.R Section 5155, or whether there are other limits that could be included in this definition. The ISOR, not the regulation, "significantly expands" current law by stating that, "[t]his paragraph requires that the owner or operator compile not only the California Permissible Exposure Limit (PEL) as under current regulations, but also additional benchmarks relevant to chemical hazards: the American Conference of Governmental Industrial Hygienists (ACGIH) Emergency Response Planning Guideline values, U.S. EPA Acute Exposure Guideline Levels (AEGLs), and the California Office of Environmental Health Hazard Assessment (OEHHA) acute and eight-hour Reference Exposure Levels (RELs)." Despite the ISOR language, sub-paragraph (b) does not on its face "require" owners and operators to maintain information regarding these unrelated organizations' exposure limits. This "significant" expansion is not spelled out in regulatory requirements, which are left vague and open to multiple interpretations. Consequently, the proposed rule fails the APA's requirement that regulations be clear, and not subject to multiple interpretations.

Z-28 Response

The CalARP regulation focuses on community rather than worker health and safety. In the context of potential major incidents affecting communities, other benchmark numbers have been developed to gauge the risk associated with acute exposures. Numbers that are different from the PELs are important in this context because communities contain individuals with a range of vulnerabilities, including young children, the elderly, people with a range of serious underlying health conditions, pregnant women, and others who may be more susceptible to chemical exposures. Other community-relevant benchmarks include those developed by U.S. EPA, OEHHA, and ACGIH for emergency response purposes. Section 2762.1(b)(3) requires compilation of this information because the PHA team should be aware of these numbers and in some cases they are lower than the PELs, therefore they might influence decisions made by the PHA team. To reduce the burden of compiling the information, it is only required for the subset of highly hazardous materials that are "regulated substances" under CalARP. Cal OES will take no action on this comment.

Z-29 Comment

Section 2762.1 – Process Safety Information

Proposed language:
"(b)(5) The consequences of deviations, including chemical mixing or reactions that may affect the safety and health of employees or the public."

CUSA Comments and Recommendations
CUSA acknowledges the importance of protecting the public from any potential impacts of an incident, but opposes this provision as inappropriate and unnecessary. Specifically, the inclusion of "the public" will attenuate the consequences of deviation ("COD") analysis, without adding additional protection for either employees or the public.

CalOES misunderstands the purpose and scope of a COD analysis. A COD table is a targeted, technical document to help employees diagnosis, evaluate, and mitigate specific process- and equipment-related fluctuations. For example, the consequence of deviation might be described as a "temperature excursion" or "increased energy usage," and a corrective action be "adjust feed rate" or "operate on bypass/repair." Requiring a refiner to also include deviations that could affect the public would over-complicate what is intended as a succinct guide to modulating common process-related variables. A scenario in which a chemical mixing or reaction "deviation" affects the public is more appropriately assessed by an offsite consequence analysis, facility siting study, or PHA, and the corrective actions should be governed by emergency operating procedures, not by a COD table.

Reflecting the fact that CalOES fails to understand the purpose and scope of a COD analysis, the explanation CalOES gives in the ISOR for what it describes as a "slightly expanded" provision is that it is "viewed" to be simply a "clarifying change because it specifies what must be included in the information on the consequences of deviations."48 The ISOR adds that it is "likely that refineries are already collecting information on chemical mixing or reactions." Clearly, since

CalOES here is laboring under a fundamental misunderstanding of what a COD analysis actually does (and reasonably should) entail, it has made no effort to establish that this provision it mischaracterizes as a mere "clarifying change" is reasonably necessary, a failure that runs afoul of the APA.

Z-29 Response

When a refiner deviates from normal operation, then it must consider the consequences of that deviation and maintain that information. The main purpose of the CalARP regulation is to protect the public. A safety system may protect the workers but impact the community. This provision ensures that refineries consider potential community impacts as part of this analysis. Cal OES will take no action on this comment.

Z-30 Comment

Section 2762.2 Process Hazard Analysis

Proposed language:
"(c) The PHA shall address:
(2) Previous major incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;
(3) Damage Mechanism Review reports pursuant to subsection 2762.5(e) that are applicable to the process units;
(4) Hierarchy of Hazard Control Analysis reports pursuant to section 2762.13 that are applicable to process units;
(5) A review of Management of Change documents completed since the last PHA that apply to the process unit."

CUSA Comments and Recommendations
This provision exemplifies CUSA's concern about the overly broad definition of "major incident." Under a plain reading of the definition, it is possible that the agency would consider a minor spill of hydrocarbon from a piping flange to be a "major incident" because it was a "release of a highly hazardous material. . .which has the potential to result in. . .serious physical harm" had circumstances been different and an individual standing in the exact spot at the time. To meet this requirement, then, refineries will be saddled with somehow combing industry data to analyze minor incidents at other facilities. Without a known, established means of reviewing investigations of minor material spills across the industry, there is no readily apparent means of complying with this requirement. The uncertainty that is created here illustrates that the proposed provision does not satisfy the APA's "clarity" standard. At the same time, there is no evident means by which the regulated entity can anticipate the legal requirements that apply to it or readily comply.

Z-30 Response

Regulatory changes have been made to address this comment. The proposed regulatory language has been changed to require that the PHA address "publically documented incidents" in the petroleum refinery and petrochemical industry sector that are relevant to the PHA.

Z-31 Comment

Section 2762.2 Process Hazard Analysis

Proposed language:
"(f) For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct a Hierarchy of Hazard Control Analysis pursuant to section 2762.13."

CUSA Comments and Recommendations
CUSA opposes this requirement as an example of the problematic definition of "major incident." As noted above, the definition could be interpreted such that a minor spill of hydrocarbon from a piping flange is a "major incident." The PHA team, then, would be tasked with conducting HCAs for innumerable minor events in an attempt to comply with the regulation. This, in turn, would distract the PHA team from rigorously assessing and mitigating the most catastrophic hazards. Such a counterproductive outcome indicates that the proposed requirement, triggered by the overbroad definition of "major incident," reflects an unreasonable regulatory provision and lack of reasoned decision making.

Z-31 Response

As discussed above, our "major incident" definition is appropriately tailored to trigger this requirement when a major incident occurs. This requirement would not be triggered in case of a minor event. Cal OES will take no action on this comment.

Z-32 Comment

Section 2762.2.1 – Safeguard Protection Analysis

Proposed language:
"(a) For each scenario where a PHA identifies the potential for a major incident, the owner or operator shall have a SPA team perform a written SPA to determine (1) the effectiveness of existing individual safeguards; (2) the combined effectiveness of all existing safeguards for each failure scenario in the PHA; (3) the individual and combined effectiveness of safeguards recommended in the PHA; and (4) the individual and combined effectiveness of additional or alternative safeguards that may be needed.
(b) All independent protection layers (IPLs) for each failure scenario shall be independent of each other and independent of initiating causes.
(c) The SPA shall use a quantitative or semi-quantitative method, such as Layer of Protection Analysis (LOPA) or an equally effective method. The risk reduction obtainable by each IPL shall

be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system, or human factor."

CUSA Comments and Recommendations

CUSA reads proposed subparagraph (c) to require either a quantitative or semi-quantitative method to identify the most protective safeguards, or an "equally effective method" to identify the most protective safeguards. CUSA interprets this language to allow for purely qualitative methods where appropriate. This ensures that owners/operators have the most effective tools at their disposal to reduce risks pursuant to the SPA.

Determination of risk and weighing various options inherently includes qualitative analyses. As the regulatory language recognizes, quantitative analyses are not always practical because they utilize exact inputs and values that may not always be practically assigned to the weight of various safeguards individually or combined. In contrast, qualitative analysis uses informed judgment by those who understand the process based upon information that may not be quantifiable because it is impossible to capture with numerical inputs, such as process knowledge, equipment history, subject matter expertise, and confidence in the various measurements that are utilized in quantitative analysis. A strong precedent exists for using qualitative analysis in the process safety context. For example, risk matrices often include qualitative descriptions of event likelihood, such as "unlikely to occur during the process lifecycle," as opposed to assigning it a quantitative value, such as "probability of occurrence is less than X." The value of this approach is that it is may be more readily understandable to the team assessing risk to consider practical qualitative terms, and so their analysis will be more effective.

Qualitative methods will improve the utility of the SPA and an employer's ability to make rational decisions regarding protective safeguards. For example, an operator may have a routine duty to periodically check that a block valve upstream of a pressure relief device (PRD) is locked open. This is an administrative control that is a safeguard. The risk reduction coming from reduced likelihood of an overpressure event due to a blocked in PRD can be evaluated best qualitatively. Notably, quantitative data does not exist for human performance evaluations, and inspection and maintenance safeguards do not lend themselves to quantitative analysis. Thus, it would have been inappropriate for CalOES to limit SPA teams ability to utilize the most effective analysis in such a case because it would materially and negatively impact process safety at refineries.

The benefit of qualitative analysis becomes particularly evident in the context of processes or equipment that are not engaged in "traditional" hydrocarbon processing. For example, a SPA will be significantly more effective in considering safeguards and layers of protection for covered equipment whose primary material is water through a qualitative analysis, because the hazards associated with such equipment and process will not be effectively reduced to numerical values and risk matrices. Because the CalOES has included specific coverage of utilities under the proposed regulation, the inclusion of qualitative analysis is all the more critical. As a result, any final regulation must continue to include the ability to use other methods, like qualitative analysis, in addition to quantitative or semi-quantitative analysis.

We note that the ISOR states that the purpose of the SPA "overall effectiveness of the safeguards for each of the failure scenarios that have the potential for a major incident."51 Protection layers are required to be independent of one another and initiative causes in order to "isolate safeguards and prevent sequential failure."52 The ISOR does not explicitly recognize that the regulation allows for other equally effective methods, and the Final Statement of Reasons ("FSOR") should do so. Moreover, the ISOR should not elevate quantitative or semi-quantitative measures above qualitative measures that are effective, and if it were to do so, it would need to explain why it is necessary that the owner/operator use quantitative or semi-quantitative methods to identify safeguards, and what benefits are derived from such a restriction.

Z-32 Response

Cal OES has determined that, in this case, a qualitative analysis is not a high enough standard to adequately prevent accidental releases. The use of a semi-quantitative method, such as Layer of Protection Analysis, would be consistent with the requirements in this provision which explicitly allow for the use of semi-quantitative methods for compliance. Cal OES will take no action on this comment.

Z-33 Comment

Section 2762.2.1 – Safeguard Protection Analysis

Proposed language:
"(f) The SPA team shall document the following: (1) potential initiating events and their likelihood and possible consequences, including equipment failures, human errors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction or other conditions that may lead to a loss of containment; (2) the risk reduction achieved by each IPL for each initiating event; (3) necessary maintenance and testing to ensure that all IPLs function as designed; and (4) recommendations to address any deficiencies identified by the SPA."

CUSA Comments and Recommendations
CUSA is concerned that the plain language of the requirement is inconsistent with the ISOR. The proposed regulation requires the SPA to document the likelihood and severity of potential initiating events, and does not require external events to be considered. Indeed, the words "external events," which had been included in the September 24, 2015 draft version of subsection (f), are shown as having been explicitly deleted in the July 5, 2016 proposal. The ISOR still notes, however, that potential initiating events include external events. If this continuing reference to "external events" in the ISOR is simply an oversight on CalOES's part, it should be corrected in the FSOR. Otherwise, requiring the regulated community to review extraneous information in order to interpret the regulation will likely result in confusion and inconsistent application of the rule. Accordingly, absent a correction/clarification by CalOES in the FSOR, this requirement would fail the California APA's clarity standard, which requires regulations to be clear enough to allow its meaning to be "easily understood" by those "directly affected" by it.

Z-33 Response

For purposes of the SPA, the initiating event is a failure of a piece of equipment, instrumentation or human error. As part of the determination of the probability of that initiating event, the refinery should consider external events. Therefore, under the SPA, the external event is not the initiating event, but rather a factor in determining the probability in an initiating event. Cal OES will take no action on this comment.

Z-34 Comment

Section 2762.3 – Operating Procedures

Proposed language:
"(b) The Operating Procedures shall include emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following:
(1) Shutdown and depressurize all process operations where a leak, release or discharge is occurring; or
(2) Isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring; or
(3) Follow established criteria for handling leaks, spills, or discharges that are designed to provide a level of protection that is functionally equivalent to, or safer than, shutting down or isolating the process."

CUSA Comments and Recommendations
The proposed requirements for emergency procedures are overly expansive and prescriptive. In order to promote effective and deliberate response to emergencies by employers, the regulations must provide the flexibility to respond to unique situations that may be made more dangerous by following a prescriptive procedure, even if another action may solve the problem more quickly. Because of the inherently unpredictable nature of emergencies, any provisions governing emergency procedures should recognize the limitations of written procedures so that owners/operators are not limited by "one-size-fits-all" requirements in responding to these incidents safely. CUSA understands that CalOES seeks to prevent leaks, releases, or discharges of highly hazardous materials. However, detailed requirements that do not consider unique emergency circumstances may actually increase the danger for employees. Given this practical reality, the proposal has not been demonstrated to be "reasonably necessary."55 To the contrary, with respect to promoting employee safety, the proposed regulation could prove counterproductive.

Further, CalOES's general requirement regarding procedures for emergency operations is overly broad at its highest level. The phrase "any response" is vague and could be interpreted in a manner that would effectively eliminate operator discretion in choosing an appropriate response for emergency situations. CalOES must consider the potential consequences of a prescriptive

requirement that forces operations personnel into a series of procedural actions that may not have been developed with a full understanding of all potential emergencies that might be faced.
In particular, a leak or over-pressure incident will involve a unique set of facts and circumstances in each instance. CUSA believes that more general guidance or protocol document that asks the operator to consider relevant factors, examples, and actions would be safer and more beneficial to the employee charged with responding to the leak. A step-by-step procedure simply cannot account for all types of leak, spill, or overheating incidents. A list of considerations and example actions would be more consistent with the California Legislature's preference for performance standards over prescriptive standards. Such guidance would achieve CalOES's goal of preventing accidental releases during a leak, without hampering emergency response unnecessarily with detailed requirements for emergency procedures.

The ISOR states that the proposal's provisions for operating procedures are "necessary because investigation of recent incidents at refineries. . .revealed deficiencies in emergency operations and specifically identified failure to shut down a process in a timely manner during an emergency," but the ISOR does not provide any support for the Agency's prescriptive provisions. Here again, the ISOR's discussion of these provisions does not satisfy the requirement that a particular provision be shown to be "reasonably necessary," insofar as no explanation is given as to why it is necessary to require owners/operators to either define conditions for handling leaks, isolate the vessels, or shutdown and depressurize all process operations before allowing employees in the vicinity, or the precise benefits that can reasonably be expected to be derived from such a prescriptive approach as opposed to a performance based approach that gives operators the flexibility to respond to the incident appropriately. At the same time, it is readily imaginable that safety will not be enhanced but will suffer under a prescriptive approach.

For example, a refinery may develop an operating procedure for responding to certain leaks that dictates the operator install a clamp on the leak in order to stop it. However, this procedure may fail to consider corrosion or other damage mechanisms that have weakened the piping, resulting in a total failure of the pipe section when the clamp is installed. As a result, guidance or protocols that provide information to the responding personnel in considering the most effective and safest response is a more appropriate tool for such circumstances.

In sum, the record does not include evidence that shows performing one of its three listed activities increases safety in emergency circumstances. On the contrary, based on industry experience, developing prescriptive procedures for emergencies will likely have a detrimental effect on safety.

Z-34 Response

Cal OES recognizes that in many situations it is safer to continue to operate a piece of equipment where there is a leak than shutting down that piece of equipment. The proposed regulations allow the refinery operator to develop criteria to continue to handle leaks, spills or discharges, as long as the protection provided is functionally equivalent or safer than shutting down or isolating the process. After the August 2012 leak and fire that occurred at the Chevron

Richmond Refinery, Chevron developed a "Leak Response Protocol" that established criteria to consider on the appropriate response to a leak. The example given of routinely installing a clamp on a leaking pipe would likely fail the requirement in this section that the procedure be "functionally equivalent to, or safer than, shutting down or isolating the process".

Cal OES disputes the characterization of this requirement as overly prescriptive. Cal OES has not given a set of procedures to follow in an emergency, but rather is requiring refiners to develop emergency procedures that account for their unique circumstances. The operating procedures may be developed in a way that accounts for variable situations. Commenter provides no support for the assertion that developing prescriptive procedures for emergencies will likely have a detrimental effect on safety. Cal OES will take no action on this comment.

Z-35 Comment

Section 2762.5 – Mechanical Integrity

Proposed language:
"(e) Damage Mechanism Review
(2) A DMR shall be revalidated at least once every five (5) years.
(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change." (3) As part of an incident investigation pursuant to section 2762.9, where a damage mechanism is identified as a contributing factor, the owner or operator shall review the most recent DMR(s) that are relevant to the investigation. If a DMR has not been performed on the processes that are relevant to the investigation, the owner or operator shall conduct and complete a DMR prior to implementation of corrective actions pursuant to section 2762.16(d) and (e)."

CUSA Comments and Recommendations
The proposed damage mechanism review requirement is overbroad to the point that it will adversely impact refiners' ability to effectively analyze damage mechanisms on covered equipment. As discussed in more detail above, the definition of "major change" is incredibly broad, and could be read to include even minor equipment modifications. As a result, the incorporation of "major change" in the CalOES's proposed DMR provision would require an entire DMR to be performed even for routine or minor equipment changes, such as the replacement of a minor piping flange. This is obviously unwarranted. CalOES should instead continue to allow refiners to utilize the effective and appropriately-tailored MOC process to address any hazards associated with change.

As it is, the DMR provision would require the exclusive use of DMRs to assess risks associated with a major change. However, a robust MOC process, as currently implemented at California refineries, would accomplish the same level of review and hazard identification without creating inflexible and redundant requirements. Pursuant to the performance-based MOC requirement, a refinery would already review materials of construction, inspection strategies, and other safeguards to address any potential damage mechanisms associated with an equipment change. Given the in-depth review that already occurs through MOC when a change is made, it would be

redundant to require a DMR without any value to process safety. Thus, the proposed rule does not meet the non-duplication standard.

Furthermore, the inclusion of a five-year revalidation timeframe is not based on evidence that damage mechanism reviews become invalid after this point. The ISOR states only that this time limit is necessary "to ensure that damage mechanisms are identified in a timely manner." However, no explanation or basis is provided as to why five years is appropriate. For this reason, the proposed requirement has not been shown to be "reasonably necessary." If CalOES wishes to impose such a requirement, it is incumbent on it to conduct and publish for comment an analysis showing why a five-year revalidation cycle is necessary for all processes, regardless of individual characteristics and damage mechanisms.

The ISOR explains that the requirements for conducting DMRs under this section are "necessary to help prevent process failures that could cause employee injuries or incidents." However, as was noted, the proposed rule as written would require a DMR for routine or minor equipment changes. Unless a major change will materially affect the process flow diagram ("PFD"), a DMR is plainly not necessary to prevent process failures. For example, the CalOES's broad requirement of "major change" could be read to include installing a bypass around a valve. An MOC would ensure that the proper metallurgy is selected for the bypass and the inspection strategy for the bypass loop would be put in place. The MOC would address the conditions for which the bypass would be used.

Z-35 Response

As discussed above, a major change is intended to encompass changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition does not contemplate unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately altered safe operating limits so that it could routinely operate outside of the existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." Similarly, the definitional scope of "major incident" properly encompasses those incidents in which human life is jeopardized.

With regard to the five year update, commenter provides no insight as to why it believes the five year time frame is inappropriate. The DMR is necessary in order to inform the PHA team and the HCA team about damage mechanisms in the process, and that such mechanisms can change over time as new information emerges from events within the industry or due to changes in the process, therefore an update of the DMR is necessary every 5 years. If nothing has changed regarding damage mechanisms in the process over the 5 year period, the updated DMR should not be onerous. Cal OES will take no action on this comment.

Z-36 Comment

Section 2762.6 – Management of Change

Proposed language:
"(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective

training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change."

CUSA Comments and Recommendations
As discussed in more detail below in the context of the proposed rule's Contractors element, the requirement to provide MOC documentation to "contractors and employees of contractors" creates an overbroad and competitively damaging position for California refineries.
An MOC is required for any change to covered process equipment, with the exception of replacement in kind. MOC documentation necessarily often includes highly confidential and proprietary information that has the potential to result in significant competitive harm if disclosed to the broader industry. This may include proprietary design data, process and instrumentation diagrams, operating conditions, and chemical information, all of which would allow competitors to adjust operations or avoid their own costly research and development while trading off the efforts of the refinery whose information was compromised.
Under the Contractors element of the proposed regulation, third party supply services appear to have unfettered access to this proprietary information. In reality, such entities would have no need of MOC information based on services typically performed, and in any event, the owner/operator is in the best position to determine when such information is necessary to the contractor's work. However, the regulation provides no limitations on the supply services contractors' use or disclosure of this information, and the risks to owners/operators of losing control of such information is significant.

CalOES has failed to establish why this distribution of MOC documentation is necessary to achieve the statutory purpose in light of the substantial risks created to companies' intellectual property. CalOES should revise the proposed regulation to clarify that supply vendors are not covered by this position unless they are conducting work on a covered process.

Z-36 Response

Regulatory changes have been made to address this comment. The section has been narrowed to require that employees involved in the process merely be informed of and trained prior to implementation. Only those employees and contractors who are operating the process must be provided access to the MOC documentation.

Z-37 Comment

Section 2762.6 – Management of Change

Proposed language:
"(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions."

CUSA Comments and Recommendations
The proposal would expand the requirements relating to MOOC beyond what is currently performed as industry best practice or even possible given realistic personnel constraints. A requirement that MOOCs be performed with respect to "reducing staffing levels, reducing classification levels of employees, or changing shift duration or employee responsibilities" is vague and, depending on how it is interpreted, is overly broad. CalOES has not shown that there are sufficient, or any, industry safety performance problems associated with personnel decisions that would justify expanding the scope of organizational changes to this degree. For example, there is no reason to believe that inclusion of minor personnel changes, such as changes in individual staffing positions, in an MOOC requirement would support the statutory purposes. For the requirement to be shown to be "reasonably necessary,"63 the CalOES would need to develop additional analysis of the appropriate scope of an MOOC requirement in order to improve process safety if the agency decides to proceed with a proposed rule addressing this element.

For example, the provision that MOOCs be conducted prior to "reducing classification levels of employees" is vague, subject to differing interpretations, and therefore untenable. "Classification level" is not a consistently-used term in the regulated industry, and in any event there are no clear process safety hazards associated with an employee's demotion. To the extent CalOES is concerned that responsibilities significantly change for an employee, this would be redundant with other language in the proposed element.

Furthermore, given that minor changes in individuals' experience and responsibilities occur on a daily basis at complex facilities, CalOES must clarify that MOOCs should be conducted for "substantive" responsibility changes. Without a qualifier to make clear that the changes covered by the provision are "substantive," and that MOOC requirements apply to permanent changes affecting process safety, covered facilities will be paralyzed by administrative requirements to a degree that would prevent the owner/operator from effectively conducting ordinary operations and maintenance activities. Again, such a result, on its face, suggests arbitrary and capricious rulemaking. CalOES should modify its rule to reflect application to substantive organizational changes, as CalOES did during informal rulemaking.

Additionally, application to all changes "with a duration exceeding 90 calendar days" is arbitrary, not based on evidence or credible analysis, and in any event too short of a timeframe to provide any safety benefit in light of the administrative burdens that will be created. As a result, if the CalOES wishes to retain this new requirement, it must conduct an additional analysis regarding the appropriate scope of an MOOC requirement.

Z-37 Response

Regulatory changes have been made that address the commenter's concerns regarding "substantive" responsibility changes. As written, the proposed requirements reflect the intent of the regulations to require a MOOC assessment prior to reducing staffing levels, reducing classification levels of employees, or changing shift duration or employee responsibility. The 90 day timeline aligns with the duration of a schedule change for turnaround work. Health and

safety of employees is necessary to consider because it can have a direct or indirect effect on a process. Cal OES will take no further action on this comment.

Z-38 Comment

Section 2762.8 – Compliance Audits

Proposed language:
"(a) Every three (3) years, the owner or operator shall conduct an effective compliance audit and shall certify that the owner or operator has evaluated the procedures and practices developed under this Article to verify that the procedures and practices are in compliance with the provisions of this Article, and are being followed."

CUSA Comments and Recommendations
CUSA strongly opposes this certification requirement because it is antithetical to the purpose of a compliance audit and the intent of the regulations.

According to the ISOR, a "Compliance Audit is a certification process performed by the refinery to certify compliance with the new Program 4 requirements" and "[r]efineries currently perform these audits every three years to ensure the refinery is meeting all process safety requirements under the current regulations." This is plainly incorrect. The proposed regulation's provisions governing compliance audits are not consistent with the original intent of the CalARP program,. The CalARP program is based on the U.S. EPA Risk Management Programs ("RMP"). The EPA RMP program, in turn, adopted its compliance audit provisions "directly from the OSHA PSM standard" and even made modifications "to ensure consistency with OSHA." Accordingly, the federal OSH Act informs as to the meaning and purpose of CalARP's compliance audit provisions.

Based on the legislative history of the federal OSH Act, the purpose of a compliance audit provision is to assure that the employer is evaluating its compliance with the PSM program. It is a self-evaluation meant to function as an administrative audit for employers to measure the effectiveness of their PSM program. According to the PSM standard preamble, "[t]he audit can identify problem areas, and assist employers in directing attention to process safety management weaknesses." As a result, the federal PSM standard requires the employer to "certify that they have evaluated compliance with the provisions of this section…" (emphasis added).

The general purpose of an audit is to determine where deficiencies exist and create a plan to correct those deficiencies. This is a fundamental aspect of compliance assurance and continuous improvement. Intuitively, a compliance audit is intended to identify gaps so that owner/operators may correct any identified gaps. Thus, it is illogical to require an owner/operator to certify under penalty of the law that all aspects of the CalARP regulation are in full compliance in the same provision that the owner/operator is directed to audit its compliance with that standard and seek to close any compliance gaps. In fact, under the CalOES's proposed language, if a gap is identified as a result of meeting the compliance audit requirement, the owner/operator can be held in violation of its previous certification. At a minimum, this nonsensical result reflects a

lack of reasoned decisionmaking on the part of the CalOES. The proposed approach also raises certain due process concerns.

For these reasons, the appropriate certification language is that which has been developed by federal OSHA: "that it has evaluated compliance with the provisions of this Section." CalOES could also look to the DIR's proposed PSM standard, which states the employer must certify that they have "evaluated compliance with the provisions of this section to verify that the procedures and practices developed under this section are effective and being followed." As an aside, this provision exemplifies CUSA's concern about inconsistencies between the proposed regulation and the proposed PSM standard that are unrelated to jurisdictional differences. The explanation provided by CalOES in the ISOR is inadequate to establish why allowing for these inconsistencies is "reasonably necessary" to effectuate the purpose of the statute. If anything, as explained above, it is questionable whether the approach taken by CalOES is itself consistent with the statute's purposes.

CalOES's requirement that owners and operators conduct an audit and certify that they have "evaluated the procedures and practices. . .to verify that the procedures and practices are in compliance" with the rule does not comport with the drafters' intent with respect to compliance auditing.

Z-38 Response

Cal OES agrees with the commenter that "the purpose of a compliance audit provision is to assure that the employer is evaluating its compliance with the PSM program." CalOES also agrees with the commenter that "[t]he general purpose of an audit is to determine where deficiencies exist and create a plan to correct those deficiencies. This is a fundamental aspect of compliance assurance and continuous improvement. Intuitively, a compliance audit is intended to identify gaps so that owner/operators may correct any identified gaps." However, Cal OES disagrees that the purpose of the compliance audit is to determine if the procedures and practices are only effective, regardless of compliance. As the name of the section states, this is a compliance audit not an effective practice and procedure audit. If the audit reveals that some aspects of the refinery's program are not in compliance with the regulations or are not being followed, this procedure will give the owner or operator an opportunity to develop a plan and correct the deficiencies.

Z-39 Comment

Section 2762.8 – Compliance Audits

Proposed language:
"(f) As part of the compliance audit, the owner or operator shall consult with operators with expertise and experience in each process audited and shall document the findings and recommendations from these consultations in the audit report."

CUSA Comments and Recommendations
In the proposed regulation, CalOES would expand the compliance audit provision to require that owners/operators document the "findings and recommendations" made during required consultations with operators. The ISOR states this requirement "is necessary to ensure that at least one employee who routinely works on the process and understands the operating conditions is consulted in the audit."

CUSA believes that engagement with employees during all RMP processes is important. However, operators will not make "findings" or "recommendations" during audits, as this would undermine the important wall that exists between the audit team and personnel who have responsibility the audited process. The federal government considered appropriate compliance audit team makeup and input in great detail during the development of the initial PSM and RMP standards. Ultimately, the drafters of these rules determined that owners/operators should have responsibility for the audit process, and should avoid utilizing individuals assigned to the individual process unit or area that is the subject of the audit in developing the ultimate report, including findings and recommendations.

Furthermore, is not clear that listing every recommendation from all line-level operators will provide additional safety benefit, given that these employees are not necessarily trained in auditing or process engineering. For its part, CalOES has failed to demonstrate that such a requirement is "reasonably necessary." Indeed, such a requirement would present significant safety hazards if owners/operators are required to address "recommendations" from every interviewed employee. For example, although an employee may feel that a different relief valve may provide improved protection, this employee may not be aware of rare damage mechanisms associated with specific relief valve. However, the owner/operator may inadvertently act on the documented recommendation, putting the facility's employees and public at risk.

CUSA is unaware of compelling evidence that compliance audits have been ineffective due to a lack of operator input. As a result, if it wishes to retain this new requirement, CalOES must conduct a further analysis regarding the safety hazards that will likely accrue by requiring owners/operators to take action with respect to recommendations made by all interviewees.

Z-39 Response

Consultation with operators who have expertise and experience in each process that is audited provides direct, line-level knowledge of operation in the practical application of running a unit. The requirement to document these consultations ensures their input is included. Cal OES will take no action on this comment.

Z-40 Comment

Section 2762.9 – Incident Investigation

Proposed language:
"(a) The owner or operator shall develop, implement, and maintain effective written procedures for promptly investigating and reporting any incident that results in or could reasonably have resulted in a major incident.
(b) The written procedures shall include an effective method for conducting a thorough root cause analysis."

CUSA Comments and Recommendations
The incident investigation requirement is overbroad to the point that it will adversely affect process safety, due in part to the CalOES's adopted definition of "major incident," discussed above. Because both the triggering language for incident investigations and the definition of "major incident" include reference to "potential" scenarios, the requirement is expanded to apply to a multitude of events that could not reasonably lead to a catastrophic release. Such a result would be burdensome and overwhelming without evidence of improvement to process safety. The proposed regulation cannot therefore be said to be "reasonably necessary to effectuate the purpose" of the Health and Safety Code.

According to the ISOR, the proposed section "requires that refineries develop a process for conducting a systematic investigation, including a root cause analysis, of any incident that results in or could reasonably have resulted in a major incident," and "to promote a culture of learning from incidents and near-misses, and to create a more uniform, timely, and comprehensive approach to investigating incidents in order to prevent future incidents at refineries."76 However, under CalOES's proposed language, owners/operators appear to be required to utilize root cause analysis to investigate every situation that "results in or could reasonably have resulted in a major incident," defined as "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 (as defined in Labor Code section 6432(e)), or which results in an officially declared shelter-in-place, or an evacuation order."77 As discussed previously, such a requirement would be immensely burdensome, given that hypothetical, "potential" drips or miniscule spills could require "root cause analysis" investigations. Such a requirement would have extremely high costs without a corresponding safety benefit, particularly for owners/operators overwhelmed by other overbroad provisions of the CalOES's proposed rule. CUSA is therefore concerned that expanding the incident investigation requirement will be costly, unnecessary, and divert scarce resources from other process safety needs.

Furthermore, CalOES's proposed prescriptive requirement that each investigation utilize "root cause analysis" would diverge from the performance-oriented nature of process safety regulations that have successfully reduced risk and accidental releases across the industry, and which allows facilities to tailor investigations to the degree of incident. For example, minor drips or "near misses" may warrant some level of investigation, but not the use of the same resources as a potentially catastrophic incident. It also could shift focus away from continuous improvement and innovative investigation strategies, where requiring a "root cause analysis"

would exclude other methodologies that may be most appropriate in certain circumstances, such as the Failure Modes Effects Analysis ("FMEA"), 5-Why method, or the Fault Tree method. The proposed changes may stifle or, in some cases, reverse the continuous evolution of incident investigations that has occurred over the past twenty years.

Because of the variability among owner/operator processes and facilities, companies must have flexibility to select an appropriate investigation method for the individual need. Furthermore, establishing a limitation on the methodology used would ignore the important fact that incident investigation is a process constantly evolving with new best practices developed by owners/operators and industry experts. As a result, "one size fits all" approach based on current practice today may undermine effective incident investigation in the future. CalOES has not demonstrated that there is a need for prescriptive incident investigation requirements beyond what is included in the current CalARP regulation, and such requirements would only hinder the goal of "risk reduction" identified by CalOES in its ISOR.

Z-40 Response

Given the clarification of Cal OES's intent as to the meaning of the term major incident above, commenter's concerns regarding the scope of the incident investigation requirements are unfounded. Further, Cal OES disputes the requirement that refineries conduct a "root cause analysis" after a major incident as prescriptive. Owners or operators are granted latitude by this proposed regulatory language to develop their own written procedures. Cal OES will take no action on this comment.

Z-41 Comment

Section 2762.9 – Incident Investigation

Proposed language:
" (e) The incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident. The analysis shall include identification of management system causes, including organizational and safety culture causes."

CUSA Comments and Recommendations
Any root cause requirement should be consistent with industry practices and the current regulatory requirement to evaluate the factors that contributed to an incident. It is inappropriate to include a presumption of management system, and organizational and safety culture "causes" where the underlying cause of an incident may result from any number of issues. Such a presumption is counterintuitive and inappropriate, as the results of a root cause analysis may identify human factors as a primary cause. It is simply inappropriate to conclusively presume that a management system "cause" will always be implicated after an incident.

Z-41 Response

See response to Z-14. All major incidents, even where human factors were the primary cause, include a management system cause component. A root cause is a fundamental, underlying,

system-related reason why an incident occurred that identifies correctable failure in management systems. There is typically more than one root cause for every process safety incident. Root cause analysis allows the discovery of the underlying causes of incidents that will identify failures in management systems. Cal OES will take no action on this comment.

Z-42 Comment

Section 2762.9 – Incident Investigation

Proposed language:
"(h) The owner or operator shall submit a written report for major incidents to the UPA within 90 calendar days of the incident, unless the owner or operator can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report within five (5) months of the incident."

CUSA Comments and Recommendations
In addition to specific requirements regarding methodology, it is inappropriate to include a prescriptive time limit on the development of an incident investigation report without consideration of the complexity of the incident or the role of the regulator in potential delay. The proposed rule's 90-day and five month limitations create an unreasonable and arbitrary limitation on owners/operators in the context of complex investigations. CalOES has failed to explain why these time limitations are "reasonably necessary." Far from being "necessary," it is evidence that such limitations would prove counterproductive.

In the absence of compelling evidence that owners/operators have routinely failed to conduct timely investigations, this provision will prevent companies from fully conducting complex technical failure analysis and understanding the root cause of significant incidents. Additionally, the challenges of this section are compounded by existing requirements that regulatory agencies, including CalOES, participate in and approve activities associated with evidence collection and analysis, often involving lengthy consideration and engagement that delays the development and release of critical post-incident testing data until more than six months after an incident. CalOES relied on findings and recommendations of the U.S. Chemical Safety Board (CSB) in developing its proposed rule. That agency routinely takes between two and six years to develop and issue final investigation reports following chemical releases of all types and circumstances.

This requirement appears to have been driven by the DIR. The proposed PSM standard's ISOR states bluntly that this limitation "is necessary to allow Cal/OSHA time to review the report in advance of the six-month statute of limitations imposed by Labor Code section 6317." In short, California agencies are attempting to shortcut their own duty to investigate incidents by requiring refinery owners/operators to rush final investigation reports and provide admissions for the DIR in developing and issuing citations. CalOES and UPAs should not undermine the quality of incident investigations by forcing owners/operators to prematurely complete analysis of often complex, novel, and highly-technical issues associated with large incidents, and CalOES should not be complicit in this endeavor. This will have the effect of significantly decreasing the quality

of findings and recommendations, as well as the likelihood of preventing a recurrence. Moreover, this requirement conflicts with OSHA's explicit guidance against punishing owners/operators for identifying and correcting hazardous conditions. As noted above, the RMP program was designed "to ensure consistency with OSHA," so the federal OSH Act informs as to the meaning and purpose of CalARP's incident investigation provisions. OSHA does neither routinely request self-audit reports at the initiation of an inspection, nor issues a citation based on a hazardous condition identified in a self-audit if the owner/operator corrected the condition and has taken appropriate steps to prevent the recurrence of the condition. Notably, OSHA has reasoned that:

> If the violation has been permanently corrected on the employer's own initiative without the need for action or intervention by OSHA, the agency sees no need to spend its own limited enforcement resources addressing the problem. Further, as noted, evidence that the employer is finding and fixing problems on its own will weigh heavily in the employer's favor for purposes of good faith.

In short, due to the reality of complex process safety incidents and necessary engagement of multiple stakeholders, a requirement that incident investigations be completed within five months will frustrate the proposed rule's overall purpose that incident investigations "provide sufficient information" to avoid similar incidents in the future. CalOES should not include an impractical and dangerous time limitation on incident investigations, especially when the purpose of the requirement directly contradicts federal guidance.

Z-42 Response

Cal OES maintains that five months is sufficient to conduct an incident investigation. Prompt investigations are necessary to ensure that the cause of the incident is addressed and future incidents are prevented. Cal OES will take no action on this comment.

Z-43 Comment

Section 2762.9 – Incident Investigation

Proposed language:
"(j) The UPA shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt."

CUSA Comments and Recommendations
CUSA strongly opposes this requirement. CalOES's statutory mandate is to "reduc[e] regulated substance accident risks." The ISOR explains that public posting of major incident investigation reports is "necessary for the purpose of demonstrating to the local community that a full investigation occurred, and that changes were made to prevent future incidents." This, however, is not the Agency's statutory mandate. The ISOR does not explain how publishing the full report is would enhance safety or prevent accidental releases, rather than to simplify satisfy public curiosity. CalOES has neither demonstrated why this provision is "reasonably necessary to

effectuate the purpose of the statute" nor how this requirement is even within its statutory authority.

Z-43 Response

The authorizing statutes stress the need for public notification and opportunity to participate in decisions affecting public safety. The public has a right to know about risks that may affect their health and safety. Cal OES will take no action on this comment.

Z-44 Comment

Section 2762.9 – Incident Investigation

Proposed language:
(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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 shall be provided to employee representatives, and where applicable, contractor employee representatives."

CUSA Comments and Recommendations
As discussed in more detail below in the context of the proposed rule's Contractors and Management of Change elements, a requirement to provide proprietary documentation to "employee representatives" and "contractor employee representatives" creates an overbroad and competitively damaging position for California refineries based on the CalOES's overbroad definition of those terms.

Like MOCs, incident investigation reports often include highly confidential and proprietary information that has the potential to result in significant competitive harm if disclosed to the broader industry. This may include proprietary design data, process and instrumentation diagrams, operating conditions, maintenance and repair strategies, and chemical information, all of which would allow competitors to adjust operations or avoid their own costly research and development while trading off the efforts of the refinery whose information was compromised.

Under the Contractors element of the proposed rule, third-party supply services appear to have unfettered access to this proprietary information. Furthermore, under the broad definition of "employee representatives," non-refinery employees would also be provided access. The regulation provides no limitations on these individuals' use or disclosure of this information, and the risks to owners/operators of losing control of such information is significant. In contrast, third-party, non-employees would not need such information unless it directly addresses work they perform.

The proposed rule does not establish why this distribution of incident investigation documentation is "reasonably necessary" to achieve the statutory purpose in light of the

substantial risks created. CalOES should revise the proposed rule to clarify that supply vendors are not covered by this position unless they are conducting work on a covered process.

Z-44 Response

Regulatory changes have been made that clarify the conditions under which the owner or operator must provide investigation reports to employee representatives. The proposed regulatory language also contains appropriate protections for confidential and proprietary information.

Z-45 Comment

Section 2762.9 – Incident Investigation

Proposed language:
"(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis."

CUSA Comments and Recommendations
CUSA opposes this requirement as burdensome and costly, without a demonstrated safety benefit. CalOES has not proposed any parameters on how a third-party process safety analysis would be conducted. The proposed rule lacks specificity regarding who would conduct the analysis, how and when it would be conducted, and it does not include limits on duration or cost.

Contrary to the statements of the ISOR, owners and operators have the resources to ensure impartiality during the investigation of a major incident. Refiners have access to qualified, objective subject-matter experts with significant operational knowledge employed within the company. The Agency's proposal undervalues the role of an internal process safety analysis, which provides valuable learning opportunities and fosters institutional, process-specific knowledge. Though third-party auditors can provide "fresh eyes," the same benefit can be achieved through use of cross-facility or cross-operational employee auditors. CalOES has not demonstrated that the potential benefits of an internal audit are outweighed by evidence that a third-party analysis is a necessary and more effective way to ensure worker safety. For this reason, it has not been shown that the requirement is "reasonably necessary."

The proposed rule also has the potential for significant direct and transactional costs. Without established parameters, a third-party auditor could spend potentially limitless hours reviewing documents and information. Moreover, third-party companies will be incentivized to increase costs and promote their alleged expertise in every RMP-covered process even where they lack specific knowledge of a facility's particular process unit.

Finally, it is hardly obvious that there is any statutory basis for the requirement that the owner or operator "shall pay the costs of the independent analysis," or that such a requirement is even

lawful. In the ISOR, CalOES states simply that the "owner or operator must also pay the costs of the independent analysis," without otherwise identifying the statutory authority on which CalOES relies for imposing such a requirement. At a minimum, CalOES should identify its authority in a new 15-day notice and solicit comment on the issue so that the public can evaluate any identified statutory provision on which OES relies in promulgating such a requirement. Indeed, Health and Safety Code § 25535.5 provides that "[a]ny fee imposed on any stationary source to cover the administering agency's cost of implementing the accidental release prevention program pursuant to this article shall be imposed only through the single fee system established pursuant to Section 25404.5." In the FSOR, CalOES must explain how the requirement that owners and operators "shall pay the costs of the independent analysis" can be reconciled with the provisions of Section 25404.5.

Z-45 Response

Regulatory changes have been made that address commenters concerns about the costs of the analysis. Commenter's assertion that there are no controls regarding when this requirement is triggered is unfounded. The independent assessments discussed in this subsection are only implicated when there is a major incident pursuant to 2775.2.5. A UPA cannot arbitrarily decide to perform an independent assessment. Cal OES will take no further action on this comment.

Z-46 Comment

Section 2762.10 Employee Participation

Proposed language:
"(a) In consultation with employees and employee representatives, the owner or operator shall develop, implement and maintain a written plan to effectively provide for employee participation in Accidental Release Prevention elements, as required by this Article. The plan shall include provisions that provide for the following:

(1) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;

(2) Effective participation by affected operating and maintenance employees and employee representatives, at the earliest possible point, in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article."

CUSA Comments and Recommendations
CalOES's proposed requirement that employee representatives be included on process safety teams and be involved in the development of program elements is an expansive and unjustified addition which will significantly interfere with facility operations and maintenance. In general, CUSA supports positive workplace engagement between owners/operators and employees, as well as the development of a workplace environment in which all employees are empowered to stop unsafe acts. The CalARP program already requires employee participation. In fact, all

CUSA members implement robust employee participation policies based on programs appropriate to their operations and facilities. However, CalOES's addition of prescriptive requirements for RMP program elements into the performance-based management system approach will be counterproductive and costly. Further, it may adversely impact safety by forcing refineries to engage in administrative exercises rather than identifying and managing specific risks to their processes. In light of this, it is evident that such requirements are not "reasonably necessary."90

As written, the proposal currently mandates that owners/operators provide for participation by non-employees, and employees with responsibilities unrelated to the ongoing process safety systems. Specifically, the proposal requires consultation and participation by employee representatives. As discussed above, the term "employee representative" is currently defined so broadly that it will allow for participation of employees without relevant experience or process knowledge, and for participation of non-local union personnel and non-employees.

According to the ISOR:

> Employees are often in the best position to understand the details of day-to-day operation, and to know how procedures are actually carried-out in practice; for these reasons, active employee participation in Program 4 will help to assure that findings and recommendations developed on paper are aligned with actual practice. Employee involvement will also help assure that recommendations that require action by employees are actually carried out effectively. All of these aspects of employee participation will help to enhance safe operations.

The inclusion of employees with responsibilities unrelated to the ongoing process safety systems will significantly impede the normal operations and maintenance of a facility, while at the same time exponentially increasing compliance costs. Counter to CalOES's statement in the ISOR that this provision will "help to assure that findings and recommendations developed on paper are aligned with actual practice" the involvement of unqualified personnel on all process safety teams may significantly reduce the safety of plant personnel through ineffective implementation of process safety systems. CalOES can avoid this danger by redefining "employee representative" so that it applies to refinery employees only, and by providing flexibility in how they provide for employee participation.

As and in the discussion of the definition of "employee representative" above, the ISOR explanation for these changes is inadequate under the APA because it does not attempt to address how participation of a non-employee employee representative would ensure meaningful participation in decision-making or the quality of the analyses. More broadly, the ISOR does not describe what deficiencies in the current employee participation provisions the proposal seeks to address. Without more, the proposal does not satisfy California APA requirements.

Z-46 Response

Regulatory changes were made to address concerns that the employee representative be on site and qualified for the task. The employee representative does not need to be an expert on the process to effectively communicate concerns. Employees and employee representatives

participating in a specialized team pursuant to this Article shall be trained in the Program elements relevant to that team. Cal OES will take no action on this comment.

Z-47 Comment

Section 2762.10 Employee Participation

Proposed language:
"(a)(3) Access by employees and employee representatives to all documents or information developed or collected by the owner or operator pursuant to this Article, including information that might be subject to protection as a trade secret;"

CUSA Comments and Recommendations
The proposed rule's new provision granting access by employee representatives to all documents or information developed or collected to the owner/operator is problematic because it risks inappropriate disclosure of confidential information and trade secrets to persons who are not otherwise obligated to maintain confidentiality. The proposal provides no limitations on use or disclosure of this information, and the risks to owner/operator of losing control of such information as a result cannot be overstated.

The ISOR states explicitly that CalOES believes this requirement is "necessary to ensure that the recommendations of employees and employee representatives are afforded systematic and comprehensive attention by a refinery, and that refineries provide employees and employee representatives access to documents and information necessary for the employees to participate meaningfully in the safe operation of the refinery."94 However, despite a separate subsection merely allowing for confidentiality agreements, the above policy will significantly undermine laws protecting a company's control over confidential business information and trade secret data. Through the proposal's expansive definition of "employee representative," non-employees would have access to trade secret and security sensitive information without having to sign a confidentiality agreement. While many refineries require employees to sign trade secret/proprietary agreements upon employment, the company would appear not to be protected if access was given to third party "employee representatives" that request confidential data, citing the standard, and simply refusing to sign a confidentiality agreement. This could potentially undermine facility safety and implicate significant homeland security issues, based on the dissemination of data regarding chemical storage. Once again, the proposed regulation sets forth requirements that, far from being "reasonably necessary to effectuate the purpose" of the authorizing statute, would actually prove to be counterproductive and jeopardize safety.

Directly counter to CalOES's goals, such a policy could have a chilling effect on robust implementation of the process safety elements implicated by this section, such that process safety teams will hesitate to use all the information at their disposal in the development of program elements to avoid dangerous disclosures of such information to parties outside the refinery. Rather than enabling safe operation, such a policy could have widespread and incalculable negative effects on the development of process safety recommendations elements. In order to enable a free and meaningful exchange of information between employees and refineries,

CalOES must draft language that protects trade secrets and sensitive security information from the risk of dissemination.

At the very least, if CalOES has made a determination that the interest of allowing employee representatives access to any and all information developed by the owner/operator outweighs the interests of protecting trade secrets and sensitive safety information, this determination must be thoroughly explained, supported, and justified. The language in the ISOR does not even acknowledge the interests of protecting potential for trade secrets and sensitive security information, much less explain why it is reasonably necessary to put these interests at risk. For this reason, the proposal does not meet California APA requirements.

Z-47 Response

Nothing in this subsection shall preclude the owner or operator from requiring an employee or employee representative to whom information is made available under subsection 2762.10(a)(3) to enter into a confidentiality agreement prohibiting him or her from disclosing such information.

Z-48 Comment

Section 2762.10 Employee Participation

Proposed language:
"(b) In accordance with the collective bargaining agreement in effect with the stationary source, an authorized collective bargaining agent may select representative(s) to participate in overall Accidental Release Prevention program development and implementation planning and for person(s) to participate in each team-based activity pursuant to this Article."

CUSA Comments and Recommendations
CUSA is concerned that this provision could be interpreted to allow labor representatives to effectively re-assign refinery employees, or assign non-employees, to process safety work processes unrelated to their own roles and in unlimited numbers for reasons unrelated to process safety. As discussed above, this would be at odds the policy underlying the National Labor Relations Act, which is to maintain "equality of bargaining power between employers and employees" and to avoid "burdening or obstructing commerce. . . through concerted activities which impair the interest of the public in the free flow of such commerce."

Each refinery has in place a collective bargaining agreement between management and represented employees. Included in this contract agreement are provisions for Health and Safety participation and representation, including Process Safety, the number of representatives, and the selection process. Because these contract agreement provisions may change over time, and also vary from refinery company to company, the proposed rule's language should be revised to acknowledge explicitly the collective bargaining unit provisions and defer to the content of these agreements as basis for numbers of represented employees at the site and the selection process for the represented employees.

Without changing the purpose or goal of this provision, CalOES has an opportunity to add clarification and avoid costly disputes over the provision's meaning with this small alteration. Failure to do so would cause the proposed rule to fail to meet the APA's "clarity" standard.

Z-48 Response

This provision does not allow labor representatives to effectively re-assign refinery employees, or assign non-employees, to process safety work processes unrelated to their own roles and in unlimited numbers for reasons unrelated to process safety. Nothing in the proposed regulatory language prevents the refinery and union from bargaining over the process for selecting employees to participate in the program development. Cal OES will take no action on this comment.

Z-49 Comment

Section 2762.12 - Contractors

Proposed language:
"(a) Application. This section applies to contractors performing maintenance or repair, supply services, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply to contractors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery or other supply services."

CUSA Comments and Recommendations
CalOES's inclusions of third parties that perform "supply services" is overbroad and irresponsible. It is illogical to require that owners/operators provide trade secrets and proprietary information that are included in process safety documentation to supply vendors who do not have any involvement with process-related activities at the covered facility.

CalOES has failed to establish why the expansive definition of "contractor" is necessary to achieve the statutory purpose in light of the substantial risks created.99 The proposed rule does state that the section "does not apply to contractors providing incidental services that do not affect process safety, such as janitorial work, food and drink services, laundry, delivery and other supply services." This language, however, further confuses the issue because it implies there are other "supply service" contractors to whom the requirement would apply, without specifically identifying who those other contractors are. In order to satisfy the "clarity" standard, CalOES should revise the proposed rule to indicate that supply vendors are not covered by this position unless they are conducting work on a covered process,.

Z-49 Response

Regulatory changes have been made that narrow the scope of the information provided to contractors. Per 2762.12(b)(2), the owner or operator shall ensure that the contract owner or operator has informed contractors of the information necessary to safely perform work. Further, this provision specifies that it is only applicable to contractors performing work on or adjacent to

the process. For instance, companies that supply and install catalysts are a supply service that work on or adjacent to the process. Cal OES will take no action on this comment.

Z-50 Comment

Section 2762.13 – Hierarchy of Hazard Controls Analysis

Proposed language:
"(a) The owner or operator shall conduct an HCA for all existing processes. The HCA for existing processes shall be performed in accordance with the following schedule, and may be performed in conjunction with the PHA schedule:
(1) 50% of existing processes within three (3) years of the effective date of this Article;
(2) Remaining processes within five (5) years of the effective date of this Article.
(b) The owner or operator shall also conduct an HCA in the following instances:
(1) For all PHA recommendations for each scenario that identifies the potential for a major incident;
(2) Whenever a major change is proposed at a facility, the owner or operator shall conduct an HCA as part of a Management of Change review required by section 2762.6;
(3) When a major incident occurs, the owner or operator shall complete an HCA on the recommendations of the incident investigation report required by section 2762.9; and
(4) During the design and review of new processes, new process units, and new facilities, and their related process equipment. An HCA report prepared for this purpose shall be provided to the UPA. The UPA shall make these HCA reports available to the public by posting them on the UPA's website within 30 calendar days, with appropriate protections for trade secret information."

CUSA Comments and Recommendations
CUSA opposes the requirement of standalone HCA because it is redundant and unnecessary, and the suggestion that it will improve safety is unsupported by the record. Owners/operators will need to dedicate significant and costly resources to review existing processes that have already undergone robust risk analyses via other mechanisms. For example, PHAs have been implemented and honed by refiners for more than two decades to become a highly effective tool for assessing and reducing risk. By requiring refiners to perform a standalone analysis, CalOES limits the flexibility of what should be a performance-based rule without any commensurate increase in safety. The ISOR merely notes the HCAs "are to be performed in conjunction with the PHA schedule" but does not demonstrate how a standalone analysis is necessary to improve safety.

CUSA is further concerned that the requirement's broad language will dilute HCAs such that the analyses will not offer any meaningful process safety improvement. The proposed rule requires owners/operators to conduct HCAs for PHA and incident investigation recommendations, as well as part of routine MOC review. Pursuant to Subsection (c), CalOES is also requiring that refiners revalidate an HCA in conjunction with the PHA schedule. These provisions are incompatible and undermine the effective strategy EPA and OSHA took when they established PHAs as scheduled safety analysis and MOCs as routine operational risk assessment requirements. Either an HCA is

a standalone assessment that should be reviewed and considered broadly on a scheduled basis, or it is a day-to-day risk management tool.

CUSA is concerned that requiring an owner/operator to conduct HCAs in these circumstances is unsustainable and will result in superficial HCAs that do not offer any meaningful process safety improvements. PHAs, incident investigations, and MOCs are frequently conducted, and CUSA estimates the annual combined number of PHA and investigation recommendations and MOCs to be in the thousands. It is unreasonable that refiners be required to correspondingly complete a corresponding number of HCAs per year, given the extensive effort required to meet the CalOES's stated requirements. A structured and mandated HCA should not be required separately for established process safety systems, such as MOCs and incident investigation recommendations that already assess risk in a manner designed to eliminate hazards whenever possible.

CUSA further emphasizes that an HCA will only cost-effectively drive safety improvement during the design phase for a new plant or process, before fundamental construction and investments have been completed. Once a facility unit or process has been constructed and is in operation, the ability to effectively compare an implement a hierarchy of hazard controls is greatly reduced without demolishing the process or facility.

Z-50 Response

While the initial formation and design of a process is an ideal place to perform an HCA, an HCA is effective in all life cycle parts of a process. HCA facilitates "out of the box" thinking and when properly implemented will reduce potential high hazard incidents by reducing hazardous situations.

Z-51 Comment

Section 2762.13 – Hierarchy of Hazard Controls Analysis

Proposed language:
"(e) The HCA team shall:
(3) Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report.

CUSA Comments and Recommendations
CUSA opposes the proposed requirement regarding review of "inherent safety measures" because it is unsupported by available evidence, unnecessary, in conflict with the APA, lacks

clarity as to what is required (i.e., is void for vagueness), and would likely result in a potentially unsafe diversion of resources.

The proposed prescriptive requirement that an owner/operator analyze and document inherent safety measures and safeguards would require a significant expenditure of resources for little, if any, safety benefit. On a federal level, the EPA noted in the RMP Preamble that the "EPA does not believe that a requirement that sources conduct searches or analyses of alternative processing technologies for new or existing processes will produce additional benefits beyond what is accruing to the rule already."102 To our knowledge, CalOES has not collected any additional data demonstrating material safety benefits as a result of inherent safety measures or safeguards. Absent any such additional data, the proposed requirement cannot be said to be "reasonably necessary to effectuate the purpose" of the California Health and Safety Code.

The proposal ignores the fact that inherent safety analyses are performed on a case-by- case basis and are tailored to the unique process or system to be engineered. While inherently safer strategies are often utilized by the refining industry to eliminate hazards, many challenges are posed by the implementation of the concept as a regulatory requirement. For example, CCPS, which has developed guidance for consideration regarding inherent safety strategies, notes that "inherent safety should not be seen as an end in itself, or even the preferred strategy to reduce risk. Rather, it must be seen as one strategy to be employed to reach a risk reduction target."104 There is not a clear boundary between inherently safer design ("ISD") and other strategies. ISDs are relative and can only be described as inherently safer when compared to a different technology, including a description of the hazard or set of hazards being considered, their location, and the potentially affected population. Fundamentally, the concept of ISD is difficult to apply by comparison to other facilities, or to processes in other industries, due to the differences that exist amongst them, including surrounding populations, exposures, hazards, location, and technical and economic feasibility.

As discussed above, this requirement would also be redundant with existing mechanisms. ISD analysis is integrated into the existing RMP framework and is regularly considered through the PHA process. Application of good PHA techniques often reveal opportunities for continuous improvement of existing processes and operations without a separate analysis of alternatives. PHAs rigorously assess the hazards of a specific process and may choose between options for process design through a series of tradeoffs. For example, when selecting a design alternative, the team must consider the potential creation of new hazards or possible creation of environmental impacts. Inherent safety analysis is simply one portion of the hazard analysis and should not be made a standalone requirement. In doing so, the proposed regulation runs afoul of the "non-duplication" standard.

CalOES's proposal also creates a mechanism by which government agencies can circumvent the California APA, potentially producing "underground regulations." The proposed rule requires HCA teams to analyze and document inherent safety measures that have been recommended by any government entity (federal, state, or local) in a regulation or report. Government agencies routinely issue guidance, presentations, and other documentation that may be considered a "report." There is no requirement that such documents be peer-reviewed, based on sound engineering analysis, or even widely disseminated. For example, the U.S. Chemical Safety Board

("CSB") regularly issues reports relating to its investigations that may propose inherent safety technologies to individual companies. However, the CSB makes its recommendations explicitly without binding or regulatory enforcement authority, and thus is not subject to the rulemaking process that binds CalOES and other agencies that promulgate regulations. This provision – in conjunction with other provisions in the proposed rule that require the HCA team to develop effectively binding recommendations prioritizing "first order inherent safety measures" – would in essence side-step state and federal rulemaking requirements with respect to agency regulations.

A requirement to conduct searches and analysis regarding inherent safety implemented at, or recommended for, other facilities will require a refiner to expend significant resources in an effort that will likely not result in material process safety improvement, particularly since the rule makes no reference to a finite set of materials that a company can review to know that it has satisfied the requirement. It will be impossible for a refiner to know what has been "required or recommended" for this industry much less the undefined "related industrial sectors" – this language is the ultimate example of a regulation that fails the clarity requirement and leaves a company open to second-guessing based on obscure reports containing "recommendations" for improvements.

Finally, this requirement would be ineffective due to the design-specific nature of inherent safety analysis. An inherent safety measure effective at one refinery's Coker Unit may not be effective, and may actually result in safety risks, at another Coker Unit that experiences entirely separate process conditions. Full compliance with this requirement could never be achieved in practice, given that refineries do not publish their inherent safety measures, and regulated entities will face violations for failing to consider every possible design scenario that has ever been implemented within industry or recommended by regulators. In sum, regulated entities will be in the position of not being able to fully meet or anticipate regulatory requirements under the proposed language.

Z-51 Response

Regulatory changes have been made to address this comment. The HCA team shall identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards.

Z-52 Comment

Section 2762.13 – Hierarchy of Hazard Controls Analysis

Proposed language:
"(f) For each process safety hazard identified using the analysis required by subdivision (e), the team shall develop written recommendations to eliminate hazards to the greatest extent feasible using first order inherent safety measures. The team shall develop written recommendations to reduce any remaining hazards to the greatest extent feasible using second order inherent safety measures. If necessary, the team shall also develop written recommendations to address any remaining risks in the following sequence and priority order:

(1) Effectively reduce remaining risks using passive safeguards;
(2) Effectively reduce remaining risks using active safeguards;
(3) Effectively reduce remaining risks using procedural safeguards."

CUSA Comments and Recommendations

The proposed provision requiring refiners to "eliminate hazards to the greatest extent feasible" is unsustainable, unnecessary, and could result in significant unintended safety hazards. CalOES's requirement is both counterproductive and counter to the agency's statutory mandate because it creates a standard that can never be operationally achieved by the regulated community and potentially subjects refineries to unlimited liability. For example, in the case of any accident, the underlying cause would necessarily be defined by CalOES as a hazard that could have been eliminated by an inherently safer alternative, resulting in a violation for failure to eliminate hazards. As a result, this provision is flawed and fundamentally impossible for refiners to meet.

The proposal is also short-sighted and unmanageable because it will prevent refineries from making reasoned, risk-based business decisions, especially within the context of other proposed CalARP requirements. Specifically, the Implementation section prevents an owner/operator from basing a determination of feasibility solely on cost. If a process safety team with varying levels of experience and expertise is asked to "analyze and document" inherent safety measures and safeguards from an array of sources and then attempt to "eliminate hazards to the greatest extent feasible," that team may make recommendations that are inappropriate, potentially unsafe, or impractically redundant. In the latter circumstance, owner/operator might have no realistic option to reject a recommendation that provides negligible safety benefit due to existing safeguards. Ultimately, this could force a refiner to expend extensive resources on layers upon layers of first and second order inherent safety measures that only marginally improve safety, while potentially diverting resources away from large-scale investments or improvements that might meaningfully improve safety and environmental protection. Far from being "reasonably necessary" to effectuate the purpose of the authorizing statute, it is foreseeable that the proposed regulation would in reality frustrate the expectations of the California Legislature.

CUSA is further concerned that a broad inherent safety requirement will merely shift safety risks, resulting in potentially decreased overall safety based on less well-understood and well-controlled hazards. For example, minimizing the quantity of a stored chemical, a commonly cited "inherently safer" system, would result in increased deliveries of that chemical to the facility. This means increased truck and rail trips through communities resulting in an increased risk of spills and accidents occurring in the community or at the facility's loading process. Local Emergency Planning Committees ("LEPCs") have expressed this concern to EPA as part of that agency's RMP rulemaking. Similarly, the Department of Homeland Security quoted CCPS in stating that "[t]he decision process [regarding inherent safety] must consider the entire life cycle, the full spectrum of hazards and risks, and the potential for transfer of risk from one impacted population to another." CalOES's consideration of inherent safety requirements must be informed by risk tradeoffs that implicate potentially negative consequences for process safety.

Ultimately, CalOES does not acknowledge that processes and equipment used in every industry inherently involve risk associated with their operation. CalOES appears to have fallen victim to the mistake that the CCPS warned against in stating that "inherent safety should not be seen as

an end in itself, or even the preferred strategy to reduce risk." Refiners should be encouraged to exercise continuous improvement and utilize effective safety practices to reduce risk. CalOES's current focus on "feasibility" functionally prohibits refiners from operating and managing their facilities in a performance-based manner. For these reasons, CalOES has failed to demonstrate how this requirement will further its goal of improving process safety.

Z-52 Response

Regulatory changes have been made to include a definition for Hierarchy of Hazard Control, which provides the sequence and priority order for the HCA. The requirements in this subsection are consistent with the mandate from the Governor's Task Force Report to implement inherently safer systems.

Z-53 Comment

Section 2762.14 – Process Safety Culture Assessment

Proposed language:
"(b) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter. The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:
(1) The owner or operator's hazard reporting program;
(2) The owner or operator's response to reports of hazards;
(3) The owner or operator's procedures to ensure that incentive programs do not discourage reporting of hazards;
(4) The owner or operator's procedures to ensure that process safety is prioritized during upset or emergency conditions; and
(5) Management commitment and leadership."

CUSA Comments and Recommendations
CalOES has proposed vague requirements regarding evaluation of "process safety leadership" that seek to address "cultural" safety issues outside of the agency's statutory authority. This provision requires the "evaluation" of various "programs" and "procedures" that are not otherwise required by either the CalARP program or any other California regulatory scheme, but appear to have been cobbled together from federal OSHA guidance. The ISOR states that "California refineries with an effective PSCA program already in place that assesses progress in these five issue areas would already meet the requirements of this section." The ISOR, however, does not explain CalOES's statutory authority to depart from the prevention of accidental chemical releases and attempt to promulgate regulations that address worker safety issues, which are under the sole jurisdiction of the California Occupational Safety and Health Standards Board ("OSHSB"). The California Legislature has unequivocally stated that OSHSB "shall be the only agency in the state authorized to adopt occupational safety and health standards." At a minimum, CalOES must identify what it believes to be its source of statutory authority to adopt rules that address worker safety issues and issue a 15-day notice on the issue and also must identify this claimed authority and analysis of same in the FSOR.

Nowhere does the proposed CalARP rule explicitly mandate that owners/operators develop and implement a "hazard reporting program," "procedures to ensure that incentive programs do not discourage reporting of hazards," or "procedures to ensure that process safety is prioritized during upset or emergency conditions." However, owners/operators are required to "evaluate" these processes as part of each PSCA. It is therefore not clear whether the provision affirmatively requires that owners/operators affirmatively develop all procedures and programs listed by the agency in subsections (b)(1) through (b)(5), or merely requires that the PSCA evaluate such procedures and programs if they exist. As a result of the this ambiguity, the provision fails the APA's clarity standard, which requires regulations to be clear enough to allow its meaning to be "easily understood" by those "directly affected" by it.

Furthermore, this provision implicates issues that are generally outside of CalOES's rulemaking authority under the California Health and Safety Code provisions implementing the CalARP Program. Evaluation of "incentive programs" and "management commitment and leadership," in addition to being vague and confusing, appear to relate to issues of employee personal safety outside of CalOES's prescribed "goals of reducing regulated substances accident risks." Rather, CalOES has attempted to incorporate a variety of regulatory elements from other unaffiliated agencies with distinctly separate jurisdictions. For example, the proposed requirement to evaluate the "owner or operator's procedures to ensure that incentive programs do not discourage reporting of hazards" is taken directly from federal OSHA's recent Injury and Illness Reporting provision regarding incentive programs, which the agency has subsequently suspended based on a lawsuit by the industry. This indicates, at a minimum, that the proposed rule does not satisfy the "non-duplication" standard.

Subsection (b)(3) of this provision is inappropriately premised on the assumption that safety incentive programs "discourage reporting of hazards." In reality, such programs help owners/operators to prevent accidental releases and promote workplace safety, which is a key aspect of CalOES's stated goal. CalOES has provided no evidence that hazards are not already being accurately reported under existing programs and regulations. There is no reliable evidence to support the contention that any category of safety incentive programs lead to materially inaccurate reporting or underreporting of workplace hazards. Rather, all evidence available to CUSA indicates that incident-based employer safety incentive programs are the most effective tool getting employees and supervisors immediately invested in workplace safety. This indicates that the proposed requirement also reflects arbitrary and capricious rulemaking. Through these programs, employees are continuously motivated to improve their environment and to look out for their safety and the safety of others, and to eliminate unsafe behaviors. The result is a dramatic decrease in accident frequency and severity. Without these incident-based safety incentive programs, culture change is much more slow and difficult and seldom leads to the same dramatic reductions in serious accidents. In support of this, a 2012 Government Accountability Office ("GAO") report reviewed a number of studies evaluating incident-based employer safety incentive programs and concluded that such incentive programs in many cases reduced injuries.

Subsection (b)(4) is confusing and redundant with the CalARP program's requirement to develop operating procedures. This subsection requires that owners/operators evaluate "procedures to ensure that process safety is prioritized during upset or emergency conditions." However, owners

and operators are already required to develop operating procedures with respect to emergency shutdowns and abnormal conditions. It is dangerous to include a separate requirement that implicitly establishes a need for overlapping procedures, but which relate to amorphous and vague "prioritization" of "process safety" rather than how to address specific scenarios. In this respect, CalOES's failure to satisfy the "clarity" standard could prove counterproductive in practice, illustrating why the APA mandates the development of rules that are clear and easily understood by those on whom they impose requirements and responsibilities.

Subsection (b)(5), as mentioned above, requires owners and operators to "evaluate the effectiveness" of "management commitment and leadership." This language is vague to the point of being nonsensical. Owners/operators of covered facilities are not in a position to know what CalOES expects in terms of an evaluation of "management commitment and leadership" as it relates to the CalARP program. Commitment and leadership to what? Additionally, CalOES appears to have incorporated language from general workforce safety management guidance issued by federal OSHA designed to provide owners/operators with tips and recommendations regarding how to better engage with their workforce. However, CalOES has not articulated what the agency means by incorporating several of OSHA's words in its regulatory scheme, nor has the agency demonstrated that this information is relevant to its goals of reducing the risk of accidental chemical releases. Apart from the obvious "clarity" issue, the vagueness of the requirement raises due process concerns.

Oddly enough, the requirement articulated in subsection (b)(5), which focuses entirely on worker safety issues, does not exist in the DIR's proposed refinery PSM standard and is unique to the Proposed CalARP Regulation. As a result, it both encroaches on workplace safety issues appropriately within the jurisdiction of OSHSB and creates untenable inconsistency between the two standards. As a result of the above deficiencies, CalOES has failed to meet requirements set forth under the APA.

Z-53 Response

Cal OES takes issue, generally, with commenter's conflicting concerns about both "vagueness" and "overly-prescriptive" standards. With regard to the PSCA, the regulation permits flexibility and encourages the refiner to develop and maintain a program that addresses the listed elements. The goal of the CalARP PSCA is to address process safety hazards rather than evaluate personnel safety. The PSCA, if done well, will determine where there may be gaps in process safety, where there are weaknesses in the accidental release prevention programs, and the commitment of the leadership in making the accidental release prevention program a success. The items listed are indicators that the refinery has leadership committed to a successful accidental release prevention program. Cal OES will take no action on this comment

Z-54 Comment

Section 2762.14 – Process Safety Culture Assessment

Proposed language:
"(e) The owner or operator in consultation with the PSCA team shall develop corrective actions based on the PSCA Team recommendations and implement the corrective actions within twenty-four (24) months of the completion of the report."

CUSA Comments and Recommendations
CalOES's proposed language establishing a 24-month deadline for implementation of PSCA recommendations is overly prescriptive. The ISOR asserts as a basis for this requirement that in recent incidents "critically important recommendations relevant to process safety had never been acted upon or tracked to completion." However, the ISOR does not make clear that these "recommendations" were not cultural assessment recommendations, and are therefore irrelevant to the PSCA requirement.

This requirement is overly prescriptive and misunderstands the evolution of process safety culture at facilities. Refiners are already incentivized to prioritize and implement recommendations that will have the largest impact on process safety culture. Furthermore, CalOES does not appreciate that safety culture evolves slowly over time, and recommendations may take multiple years to implement. Prescriptive limitations, either temporal or process-based, are simply not realistic with respect to process safety culture. If strict limitations are placed on how quickly recommendations must be implemented, this will have the unfortunate effect of stifling innovative and far-reaching long-term cultural action items.

Moreover, without a grandfathering clause, this provision effectively eviscerates the progress made by refiners who have recently conducted a PSCA by forcing them re-do the assessment, develop new recommendations, and abandon recommendations developed prior to the effective date of the proposed rule.

For these reasons, the CalOES has failed to demonstrate how the timeframe for implementation of PSCA recommendations supports the agency's goal of improved process safety, and should be re-evaluated under the California APA.

Z-54 Response

A grandfathering provision was added to section 2762.14(b). Cal OES maintains that 24 months is an appropriate deadline to implement corrective actions. Cal OES does recognize that under normal conditions culture, in general, takes time to change. The exception may be a major change or accident that will change the culture drastically. Implementation means that a change process has begun and not that the change is complete. The 24 month timeline was established through stakeholder input and is a reasonable timeframe for implementing the requirement.

Z-55 Comment

Section 2762.15 – Human Factors Program

Proposed language:
"(b) The owner or operator shall include a written analysis of human factors where relevant in the design phase of a major change, incident investigations, PHAs, MOOCs, and HCAs. The analysis shall include a description of selected methodologies and criteria for their use."

CUSA Comments and Recommendations
The Human Factors element of the proposed rule illustrates CUSA's concern, discussed above, with the overly broad definition of "major change." The definition of "major change" currently encompasses the "introduction of a new process; new process equipment; new regulated substance that results in a change in safe operating limits; or any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard. As we noted above, if taken in conjunction with the proposed definitions of "process equipment" and "process safety hazard," this definition could be interpreted to require a human factors analysis for routine or minor equipment changes, such as the installation of a single piping flange.

Such an impractically broad requirement will place an immense administrative burden on refiners, without commensurate safety benefit, because Human Factors analysis provides no meaningful information for minor equipment changes. Additionally, CalOES must include a grandfathering clause that would exempt existing Human Factors analyses. Otherwise, the CalOES will force refiners to conduct costly, redundant, and unnecessary work, where many owners/operators are currently already conducting Human Factors analysis on a scheduled basis. If such is the CalOES intention, it has failed to show how such a requirement is "reasonably necessary."

Z-55 Response

As discussed above, a major change is intended to encompass changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs and the like. Our definition does not contemplate unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately altered safe operating limits so that it could routinely operate outside of the existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes."

All existing operating and maintenance procedures should have a human factors analysis conducted, not limited to shut down, start up and emergency shutdown procedures. Human factors analysis is especially important for temporary operating procedures, which are used under higher risk conditions. All new and revised operating and maintenance procedures, online and offline, benefit from human factors analysis to prevent accidental releases. Cal OES will take no action on this comment.

Z-56 Comment

Section 2762.15 – Human Factors Program

Proposed language:
"(e) The owner or operator shall develop a schedule for revising existing operating and maintenance procedures based on a human factors assessment. The owner or operator shall complete fifty (50) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years."

CUSA Comments and Recommendations
CUSA opposes a requirement that establishes a three- and five-year deadlines for Human Factors analysis because it is overly prescriptive and establishes an unreasonably short timeframe for completing this work. In keeping with the performance-oriented nature of the process safety regulations, owners/operators should be provided the flexibility to establish a schedule that fits the individual circumstances of a facility.

The ISOR does not address Subsection 2762.16(e). Accordingly, CalOES has failed to demonstrate why the above requirements are reasonably necessary to achieve improved process safety.

Z-56 Response

Commenter's concerns are conclusory and do not illustrate why the three and five year deadlines are unreasonably short. Cal OES maintains that these deadlines are appropriate. This subsection aligns with the mandate of the recommendations of the Governor's Task Force report. The proposed requirements ensure that Human Factors are assessed with other process safety risks. The US Chemical Safety and Hazard Investigation Board (CSB) identified Human Factor deficiencies as major contributors to the explosion and fatalities at the BP Texas City Refinery in March 2005. The Human Factor deficiencies included worker fatigue, poor human-system-interface design, poor radio and telephone communication, out-of-date and inaccurate operating procedures, and poor communication between workers across shifts. It is necessary that the employer integrates human factors analysis into the accidental release prevention program, justifying the requirements. Cal OES will take no action on this comment.

Z-57 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The stationary source manager shall be responsible for compliance with this Article, and shall maintain process safety goals that support continuous improvement.

CUSA Comments and Recommendations
The proposed rule's requirement that "[t]he stationary source manager shall be responsible for compliance with this Section" is incompatible with the provision's statutory basis and arbitrarily bestows responsibility for the most complex process safety regulatory scheme in history on a single individual without any analysis of how this will affect process safety. Furthermore, this requirement dangerously discourages involvement in granular safety issues at the highest levels.

The proposed rule seeks to arbitrarily assign responsibility to an individual employee for compliance with all elements of CalARP. This runs counter not only to the regulation's enabling statute, which focuses on "owners and operators" of covered facilities. The provision further seeks impractically to overburden one individual with sole responsibility for a complex and multifaceted program that is more appropriately divided among a broad team composed of members with relevant skills, training, and qualifications. Apart from being statutorily unauthorized, the requirement has not been shown to be "reasonably necessary" in any event.121

The ISOR does not provide any basis for this requirement, and in reality, the provision may in fact decrease effective accountability where qualified individuals will be discouraged from accepting a role as "stationary source manager" based on a regulatory and legal responsibility that is disproportionate to the reality of managing an effective facility.

Given the potentially significant negative process safety consequences associated with CalOES's proposed responsibility requirement, and the apparent lack of analysis conducted on what benefits will be realized, in order to retain such a requirement (assuming that it statutorily authorized), CalOES must conduct a further analysis to determine what the benefits and, more likely, detriments to process safety will result from this proposed requirement..

Z-57 Response

Regulatory changes were made to address the commenter's concerns.

Z-58 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(e)(2) The owner or operator may reject a team recommendation if the owner or operator can demonstrate in writing that one of the following applies:
(A) The analysis upon which the recommendation is based contains material factual errors;
(B) The recommendation is not relevant to process safety; or
(C) The recommendation is infeasible; however, a determination of infeasibility shall not be based solely on cost.

(e)(3) The owner or operator may change a team recommendation if the owner or operator can demonstrate in writing that an alternative inherent safety measure would provide an equivalent or higher order of inherent safety, or, for a safeguard recommendation, an alternative safeguard would provide an equally or more effective level of protection."

CUSA Comments and Recommendations
CUSA opposes the proposed requirement regarding rejection of CalARP recommendations because it is overly prescriptive, unnecessary, and would have significant negative consequences. CalOES's proposal would drive adoption of costly and potentially unsound recommendations with negligible or no improvement to safety. In short, the proposed requirement is not "reasonably necessary."

CUSA notes that a determination of infeasibility is generally a multi-faceted decision. Rarely is an owner/operator faced with a recommendation in which the sole basis for a determination of infeasibility would be cost. A situation may arise, however, when the flexibility to reject a recommendation due to cost is critical, particularly in the context of CalOES's separate HCA provisions. As noted above, CUSA expects that if an HCA team with varying levels of experience and expertise is asked to "analyze and document" inherent safety measures and safeguards from a wide array of untested sources and then attempt to "reduce. . .hazards to the greatest extent feasible," that team may develop recommendations that are inappropriate, untested, or impractically redundant. An owner or operator would have almost no options for rejecting a process safety recommendation that is wholly redundant with other recommendations or existing safeguards. Ultimately, this will force a refiner to expend significant resources on layers upon layers of first and second order inherent safety measures that offer little to no increase in safety, while potentially diverting resources away from large-scale investments or improvements that would meaningfully improve safety.

CUSA disagrees with the ISOR's statement that the proposed language will "maximize refinery safety with the most recent and up to date analysis." Rather, this requirement would obfuscate the process, as HCA teams – concerned with the challenging regulatory position of California refiners – could seek to develop additional, superfluous reasons why the recommendation cannot be implemented. This, in turn, would hamper legitimate consideration and prioritization of such recommendations. In effect, HCA teams may be disincentivized from even raising inherent safety issues out of concern they would be prematurely forced upon the employer.

This CalARP Program Management section is directly tied to the recommendations developed in accordance with HCA requirements. Accordingly, our comments regarding the requirement that owners/operators must develop recommendations to "reduce hazards to the greatest extent feasible" also apply to this section. It is dangerous to limit an owner/operator's ability to modify recommendations based on risks identified outside the unit being considered. Inherent safety measures may have significant unintended consequences. For example, minimizing the quantity of a stored chemical, a commonly cited "inherently safer" system, would result in increased deliveries of that chemical to the facility. As community emergency planners expressed in alarm to the EPA, this means increased truck and rail trips through communities resulting in an increased risk of spills and accidents occurring in the community or at the facility's loading process. CalOES's consideration of inherent safety must be informed by risk tradeoffs that implicate potentially negative consequences for accident prevention.

Ultimately, owners/operators should be able to adopt alternative measures that provide sufficient risk reduction and decline recommendations that are unnecessary to protect employees. Under a

literal reading of the proposed rule's language, CalOES's requirement imposes potentially onerous costs on owners/operators without any demonstrated benefit to safety.

Z-58 Response

The owner or operator is not permitted to reject a team recommendation where cost is the only determination of infeasibility. However, the proposed regulatory language permits an owner to *change* a recommendation where an alternative measure is equally safe or safer. This permits the owner or operator the flexibility needed to implement a more cost effective inherent safety measure so long as the alternative inherent safety measure is equally safe or safer or a safeguard measure so long as the alternative safeguard measure is equally safe or safer. Eliminating or reducing a hazard is always preferable to additional layers of protection. Cal OES will take no action on this comment.

Z-59 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment."

CUSA Comments and Recommendations
CalOES's proposed requirement regarding documentation of team member comments is impractical and will stifle open and honest dialogue about recommendations. It is impractical to require this level of communication for each changed recommendation. For example, PSSR items and HCA recommendations often number in the hundreds and are most effectively developed over multiple discussions during the engineering and design stages. Many recommendations may be informally discussed during process safety team meetings, and are inappropriate for formal documentation and tracking. Certainly, CalOES has failed to make any showing that such a burdensome requirement is "reasonably necessary."

Moreover, employees have expressed concern about retention and documentation of comments, and owners/operators should not be required to document conversations against the wishes of the employee. Employees will be reluctant to express true opinions out of fear of being second guessed by the authorities at a later date. As drafted, it is unclear whether employees would be allowed to remain anonymous during this process. This is a particularly salient ambiguity, in light of the practical employee dynamics at issue. This may have a chilling effect on discussions regarding recommendations, as well as general willingness to participate on process safety teams. Absent evidence that a lack of documentation of employee conversations in developing recommendations has contributed to process safety hazards, CalOES has failed to demonstrate a sufficient basis for this requirement.

Z-59 Response

Regulatory changes have been made to address this comment. Each recommendation that is changed or rejected by the employer shall be communicated to onsite team members for comment and made available to offsite team members for comment. The owner or operator is only required to document written comments from team members.

Z-60 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(e)(9) The owner or operator shall promptly complete all corrective actions and shall comply with the completion dates required by this subsection. The owner or operator shall conduct a MOC pursuant to section 2762.6 for any proposed change to a completion date. The owner or operator shall make all completion dates available, upon request, to all affected operation and maintenance employees and employee representatives."

CUSA Comments and Recommendations
CUSA strongly opposes the use of MOC to manage changes to corrective action completion dates. An MOC is an inappropriate and impractical tool for managing this type of administrative change. Owners/operators already have established management assurance systems that define processes for changing completion dates, including requirements for management review and approval. CalOES does not recognize that corrective action completion dates may change for reasons that support safe operation, such as the prioritization of more pressing corrective actions. Especially in light of existing processes, the administrative burden of performing countless MOCs on minor date changes will divert resources away from managing potentially catastrophic hazards. That such a requirement could prove counterproductive make its particularly incumbent on the CalOES to demonstrate that the requirement is "reasonably necessary."127 This, the CalOES has not done.

The basic requirements of MOC do not apply to a date change for a corrective action. For example, "modifications to operating procedures" are not relevant to corrective action date modifications and no employees could be "effectively trained in" the change. As a result, owners/operators would be routinely in violation of the proposed rule due to an impossible requirement. Again, this raises a concern that a regulated entity will be subject to a regulatory requirement with which compliance is practically impossible.

Z-60 Response

An MOC process will determine if extending the completion date can be done safely. Repeated deferral of a recommendation regarding a pipe replacement led in significant part to the Chevron, Richmond fire, despite the refinery's deferral process. Performing an MOC should help ensure that such deferrals do not compromise safety in the future. Cal OES will take no action on this comment.

Z-61 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(e)(10) Notwithstanding sections (11) through (13) below, corrective actions addressing process safety hazards shall be prioritized and promptly completed, either through permanent corrections or interim safeguards sufficient to prevent the potential for a major incident, pending permanent corrections."

CUSA Comments and Recommendations
CalOES's requirement with respect to correction of process safety hazards exemplifies CUSA's concern regarding the impractically broad definition of "process safety hazard." As discussed above, the proposed rule defines "process safety hazard" to include any hazard that has the potential for causing a major incident, death, or serious physical harm. In combination with the term "major incident" that is incorporated, a "process safety hazard" is defined to include any hazard "that has the potential to cause" a "release of a highly hazardous material. . .which could result in death or serious physical harm." As a result, the CalOES has disconnected the "hazard" from the actual realization of any "incident" by utilizing the catch-all term "potential" not once but twice.

This requirement is vague and, depending on how it may be interpreted, overbroad. It also significantly confuses the analysis undertaken by refineries in attempting to identify and mitigate actual process safety risks. It thus reflects a lack of reasoned decision making on the CalOES's part. The term is so broadly defined that process safety team members have no direction in terms of what hazards they should focus on. As a result, the quality of the analysis and the corrective actions will be diluted. The employer, then, must "prioritize and promptly [correct]" these corrective actions, which will likely require a significant expenditure of resources for dubious enhancements in safety. It seems unlikely that such a requirement could be justified as being "reasonably necessary."

Z-61 Response

Facilities are already now processing safety hazards and prioritizing the level of safety hazard. As a performance based standard, this provision is intended to give refineries the discretion they requested to prioritize what they have determined is the most pressing safety need. Cal OES will take no action on this comment.

Z-62 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(e)(12) Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in

writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation."

CUSA Comments and Recommendations
CalOES's proposed timeframe for implementation of compliance audit and incident investigation corrective actions is overly prescriptive and ignores the realities of complex refinery operations. The implementation of corrective actions, particularly in response to an incident, is necessarily a flexible process impacted by numerous complex factors outside the control of the employer. CalOES already requires in Subsection (f)(2) that an owner/operator prioritize and promptly correct the corrective actions addressing process safety hazards.

CalOES has provided no basis for its decision to select 18 months as a deadline for investigation corrective actions. Frighteningly, the timeframe appears to be pulled from thin air. Obviously, in such circumstances, the CalOES has failed to demonstrate that the requirement is "reasonably necessary." An arbitrary limitation of 18 months will significantly stifle compliance audit and incident investigation teams in their development of complex and far-reaching corrective actions. For example, an incident investigation team could consider recommending that enterprise-wide equipment be modified for improved reliability or safety culture pilot projects be implemented over the course of several years. However, due to California's arbitrary deadline for corrective action implementation, the team would likely decline to pursue such innovative practices.

The CalOES's unexplained and ill-advised limitation on corrective actions does not meet the requirements imposed on the agency under the California APA. As a result, CalOES must revise its rule.

Z-62 Response

Regulatory changes have been made to address this comment.

Z-63 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(f) Within 90 calendar days of the effective date of this Article, the owner or operator shall develop in consultation with employees and employee representatives, a system to implement the following:
(1) Effective Stop Work procedures that ensure:
(A) The authority of all employees, including employees of contractors, to refuse to perform a task where doing so could reasonably result in death or serious physical harm;
(B) The authority of all employees, including employees of contractors, to recommend to the operator in charge of a unit that an operation or process be partially or completely shut-down, based on a process safety hazard; and,
(C) The authority of the qualified operator in charge of a unit to partially or completely shut-down an operation or process, based on a process safety hazard."

CUSA Comments and Recommendations
CalOES's provisions regarding "effective Stop Work procedures" are unnecessary, overly prescriptive, burdensome, and impossible to implement. At a high level, it is imperative that CalOES not establish prescriptive requirements that would remove flexibility for owners/operators to develop a program tailored to their workplace, when such requirements may not result in any safety improvements. Forcing refineries to engage in administrative exercises rather than identifying and managing the specific risks in their processes will not improve workplace safety, and may even put safety at risk. In this regard, the proposed rule has not been demonstrated to be "reasonably necessary."

At the same time, the proposal overlaps with other regulations and therefore does not meet the "non-duplication" standard. The current CalARP rule already requires owners/operators to develop operating procedures that cover "emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges." The proposal's stop work authority procedure requirements as they apply to authority to shut-down are therefore duplicative and unnecessary. Additionally, existing laws appropriately protect employee rights with respect to unsafe work, including the Injury and Illness Prevention Program and employee anti-discrimination provisions, which are appropriately not limited to CalARP- and PSM-covered establishments. CalOES has not demonstrated a need for a separate, overlapping provision within the CalARP standard, which is intended to prevent accidental chemical releases, rather than establish rights and safety mechanisms for workers. Furthermore, the agency's proposal could potentially unbalance employee and owner/operator rights under collective bargaining agreements and state and federal law. The ISOR discussion does not indicate that CalOES has considered the ways in which these provisions may overlap or conflict with existing regulations and agreements.

Furthermore, as written, the proposed rule conflates different types of stop work authority within the broad category of "stop work procedures." Stopping work activities and shutting down a process system are very different activities, and do not necessarily belong in the same section. Shutting down a process requires specialized knowledge and training of operating procedures; it is not a task performed without risk. Even though CalOES has proposed that authority to shut-down would belong to a qualified operator in charge, CUSA is concerned that giving legal authority to all employees, including contractors, to recommend shutdown could have dangerous consequences. These recommendations could be (and likely would be) coming from personnel without the requisite process knowledge to make such a recommendation safely. CUSA is concerned that the proposal may inundate the operator-in-charge with uninformed shutdown recommendations, and that this is unlikely to lead to safer outcomes. Far from "preventing accidental releases of chemicals," these provisions may introduce hazards and compromise worker safety by forcing a blanket structure for emergency shutdowns onto refineries instead of allowing them to address their unique processes and circumstances. In failing to recognize these realities of refinery operation, the CalOES faces a risk that its rule will be considered to not meet the APA requirements for reasoned decision-making.

Finally, CalOES has proposed an untenable timeframe for the development of these procedures. It is simply unrealistic to expect refineries to meet this deadline. If implemented, the first 90 days in which the new CalARP rule is in effect will be largely dedicated to broad, refinery-wide

development of new process safety systems and work streams. The resources required to develop "effective stop work procedures" – especially with the proposed employee participation requirements – will likely not be available within the first 90 days. The ISOR does not explain why this timeframe is reasonably necessary; accordingly, the proposal does not meet APA requirements.

Z-63 Response

The very nature of this requirement is performance based. Rather than creating a set of stop-work procedures within this regulation, Cal OES has directed the refiner to develop these procedures and account for their individual operation. Stop work procedures are necessary to empower the employees to take actions that will prevent an accident from occurring. If an employee sees a leak of a toxic or flammable material that if not addressed immediately could result in a major incident or catastrophic incident, the employee can report this condition directly to the operator in charge and this operator than can take the appropriate actions, including shutting down the process. This change will protect the workers, the community, and the environment. All employees have the right to protect themselves from actions that can result in death or serious physical harm. No other regulation gives this specific authority to the employees.

90 days is a realistic timeframe to implement these critical regulatory provisions. Cal OES will take no action on this comment.

Z-64 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(f)(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to reports of hazards that present the potential for death or serious physical harm.

(g) Within 90 calendar days of the effective date of this section, the owner or operator shall develop a system to document and enable employees to report information pursuant to subsections (f)(1) and (f)(2)."

CUSA Comments and Recommendations
The proposed rule states that owners/operators would be required to "to document and enable employees to report" a lengthy list of information, including "recommendations to partially shut-down an operation or process," "partial or complete shut-down of an operation or process," and "written reports of hazards and the employer's response." According to the ISOR, this is necessary because "having systems in place to encourage reporting of safety concerns without fear of retaliation, are all important contributors to incident prevention." However, CUSA is concerned that this requirement will require significant cost and resources for the regulated

community to achieve without improving safety. In other words, this is another proposed provision for which the CalOES has failed to make any demonstration that it is "reasonably necessary." Additionally, compliance with these provisions is not possible from a practical standpoint. Finally, requiring owners and operators to document instances where individuals exercised stop work authority may have actually have unsafe consequences.

Compliance with these provisions will require significant cost and resources to develop. The proposal does not clarify what it means to "promptly respond to reports of hazards," and this and other uncertainties will compound the cost of compliance. The proposal thus does not meet the "clarity" standard. CUSA is concerned that developing such a program would result in minimal or no actual improvements to worker safety, because workers are already incentivized by existing programs to report hazards that present the potential for death or serious physical harm. It is also not clear how these requirements would help owners and operators prevent incidents. If this provision cannot promise safety benefits, the cost of implementation is not justified.

From a practical standpoint, compliance with these provisions is potentially impossible. Because these terms are not defined or commonly understood by the refining industry, the regulated community is placed in the position of potentially being liable for documenting interactions between its employees of which it is not aware. For example, because recommendations to shut down may be exercised verbally, it would be impossible for a company to track every occurrence. A company can provide the system for reporting, and encourage reporting, but holding the owner/operator responsible for documenting these interactions is impractical and likely to be unsuccessful. Once again, the proposed regulation would impose a regulatory regime with which compliance is effectively impossible.

Finally, CUSA is concerned that these provisions would have unsafe consequences. "Documenting" instances and individuals who recommend shutdown may have the detrimental effect of discouraging the process of stop work authority. CUSA knows this is likely because employees prefer the exercise of stop work authority to be anonymous. The proposal will not help CalOES achieve its goal of effective employee participation, and should therefore be revised or removed.

Z-64 Response

The proposed regulatory language calls for the anonymous reporting of hazards. There are no requirements about documenting individuals who recommend shutdown. There is nothing impossible about documenting the receipt of these written reports and correcting the noted hazards. Regulatory changes were made to add clarity. Cal OES will take no further action on this comment.

Z-65 Comment

Section 2762.16 – Accidental Release Prevention Program Management

Proposed language:
"(h) Process Safety Performance Indicators

(1) Common Process Safety Performance Indicators: Starting one calendar year after the effective date of this Article, the owner or operator shall report indicators (A)-(E) below to Cal OES and the UPA every year on June 30 for the period from January 1 to December 31 of the prior year. Cal OES shall make these indicators public by posting them on their web site.
(A) Past due inspections for piping and pressure vessels: [and i-v]
(B) Past due PHA corrective actions and seismic corrective actions shall be reported. If a stationary source receives an extension approved by the UPA, the new approved due date shall apply.
(C) Past due Incident Investigation corrective actions shall be reported for major incidents. All major incidents that occur after the effective date of this Article are subject to this requirement.
(D) Major incidents: The number of major incidents that have occurred since the effective date of this Article.
(E) The number of temporary piping and equipment repairs that are installed on hydrocarbon and high energy utility systems that are past their date of replacement with a permanent repair and the total number of temporary piping and equipment repairs installed on hydrocarbon and high energy utility systems. The owner or operator shall document, but not report, the date the temporary piping repair was installed, and the date for the permanent repair is to be complete."

CUSA Comments and Recommendations
CalOES's proposed requirement that owners/operators track and submit a prescribed list of process safety performance indicators undermines the performance-based approach of the CalARP program and will merely freeze in time the previously evolving approach to performance indicators undertaken by innovative companies and industry groups in California. This is particularly concerning given the potential disincentive it places on companies to continue creating more effective indicators, while devoting resources to tracking and submitting potentially outdated indicators to an agency that is itself under-resourced and unable to effectively review and utilize them. A requirement that has such a counterproductive effect cannot reflect reasoned decision making.

CalOES states in the ISOR that "[h]aving common process safety performance indicators that will be made public will provide a transparent means to assess the commitment to process safety by the different Program 4 stationary sources." The ISOR also quotes a CCPS report stating that "[t]he public can play an important role in monitoring process safety at the refineries." However, this does not provide any explanation as to how the agency selected the five indicators listed in the proposed CalARP rule, nor is there evidence that existing tracking of indicators by regulated companies is currently inadequate. For this reason, CalOES has failed to established that its proposed approach is reasonably necessary.

Operators currently implement performance indicator tracking programs using a variety of practices. For example, facilities generally already follow industry-specific recommended practices for process safety performance indicators (e.g., American Petroleum Institute (API) Recommended Practice 754 – Process Safety Performance Indicators for Refining and Petrochemical Industries) to develop and implement site-specific process safety metrics. A regulatory approach that simply looks to what some facilities are doing as best practices and codifies them into prescriptive requirements would be short-sighted and contrary to the evergreen approach of the PSM and RMP regulatory constructs. Such an approach would risk

shifting the RMP program from a performance-based standard with flexible concepts to a prescriptive, check-the-box program. The result of such a shift will be to discourage companies from looking for new and improved performance indicators and from incorporating changes based on what they learn from successes and failures along the way. Again, a requirement with this effect reflects, at a minimum, arbitrary and capricious rulemaking.

CUSA members currently track a much broader set of metrics than those listed in CalARP's proposed rule, with variation among them depending on the unique nature of their operations, facilities, and performance-based safety management systems. Meanwhile, CalARP has not chosen consistently effective metrics. For example, "the number of temporary piping and equipment repairs" is not an effective lagging or leading indicator because it does not take into account how such repairs are being managed or the service, material, or other factors associated with the process equipment. A metric demonstrating 100 temporary piping repairs at one facility where all such repairs are installed on water utility systems with robust redundancies would carry a very different indication for purposes of process safety than 100 temporary repairs with little to no active management. Both scenarios may be perfectly "safe" from a process safety management perspective, but any meaning is lost in the indicator by the generic application. Furthermore, the term "temporary piping and equipment repairs" is subject to significant variation in interpretation, and as a result facilities will likely experience huge variation in reported numbers, which will appear to demonstrate divergent "commitment to process safety" when in fact they merely reflect varying interpretations of CalARP's language. Reporting the number temporary piping repairs is misleading to the public without an understanding of the underlying process to manage these repairs.

Federal EPA has expressed significant concerns regarding the downsides of a "one-size-fits-all" approach, and responded to comments on the topic of establishing "model plans" for certain industries by stating, "EPA is. . .concerned that codifying the model plans could stifle innovation in safety practices."140 CUSA shares this concern. EPA went on to state that "[i]n establishing section 112(r)(7) requirements,. . .Congress clearly recognized that a "one-size-fits-all" approach may not be appropriate for these regulations." Clearly, CalARP's proposal to establish prescriptive list of performance indicators diverges from the performance-oriented approach that was originally conceived by the RMP Program's drafters at the federal level. CalOES has apparently mistaken a more "common" approach to process safety indicators with an effective and innovation-inducing approach. Apart from the other problems identified with CalOES's approach, the proposed rule runs afoul of the California Legislature's intention that overly-prescriptive rules are disfavored.

The current CalARP Program's existing flexibility allows for a facility to change the metrics chosen from time to time, thereby allowing new focus (i.e., "fresh eyes") through a rotational approach. By mandating all metrics, all the time, the effectiveness of each metric will be diluted by requiring such a limited subset that companies fail to consider their facilities' most appropriate metrics to effectively drive performance enhancements and reduce overall risk.

CalOES has not demonstrated how its performance indicator reporting requirement will further its goal of reducing releases of regulated substances, and will in fact stifle innovation with respect to performance indicators by requiring the kind of "model plan" the EPA expressed

reservations about during its federal RMP rulemaking. For these reasons, CalOES has failed to demonstrate how this requirement will further its goal of improving process safety.

Z-65 Response

The commenter acknowledges that its members currently track a much broader set of metrics than those listed in CalARP's proposed rule. Consequently, reporting these indicators to the UPA and to Cal OES should be a simple process. The proposed regulatory language merely establishes the minimum safety indicators that must be reported, these five items were deemed most relevant after significant community and stakeholder input. The authorizing statutes for the CalARP program emphasize the public's right to know about acutely hazardous materials accident risk and participate in decisions related to risk reduction options. This portion of the regulation ensures that these statutory objections are carried out. Cal OES will take no action on this comment.

Z-66 Comment

Section 2762.17 – Access to Documents and Information

Proposed language:
"The owner or operator shall provide documents or information developed or collected pursuant to this Article to the UPA upon request."

CUSA Comments and Recommendations
The ISOR states that in order "[t]o determine if a refinery is complying with the requirements of Article 6.5 it is imperative that the UPA have full access to the documentation and information that is required under Article 6.5."143 Specifically, the ISOR states that this requirement "ensure[s] that the UPA inspectors will have access to all documents and information developed pursuant to Article 6.5 to assist the UPA inspector in determining if the refinery is in compliance with the Article."

While the proposed requirement may appear to the CalOES to be a "useful tool to efficiently obtain information," such a broad provision seeks to establish an end-run around the agency's legal burden to demonstrate that information requested is sought and information" related to CalARP, either by request or by regulation. Thus, rather than being "reasonably necessary to effectuate the purpose" of the statute, the proposed provision is inconsistent with it.

Furthermore, rather than making the document request and production process more "efficient," the requirement will in fact have the opposite effect. Due to its complexity and involvement in nearly every aspect of a refinery's operational and maintenance activities, the proposed rule drives an immense volume of documentation, numbering in the hundreds of millions of pages at an individual refinery. CalOES's proposed requirement unnecessarily places owners/operators in the dilemma of either facing enormous administrative burdens in order to satisfy the default regulatory requirement of identifying every conceivable copy of a single document, or seeking to practically meet inspectors' needs to review information quickly and efficiently.

By way of illustration, when a company receives an administrative or judicial subpoena that seeks "any and all documents" associated with a specific category of information, it may conduct months of custodial interviews and electronic searches in order to assure itself and the regulator that it has engaged in a reasonable inquiry to meet the stated requirement. By contrast, in response to an UPA request for piping and instrumentation diagrams, the owner/operator will generally provide the current and accurate version of this document to the inspector quickly because the request does not carry the same burden to ensure that every paper and electronic copy of the identical information has been identified. As a result, the appropriate balance is, and should remain, that owners/operators provide of-record copies of documents that are requested and "directly related" to the agency's investigation, with the option for inspectors to expand their inquiry as necessary.

Despite the ISOR's vague, aspirational language granting UPAs "full access" to all information without regard to relevancy or what information will improve the UPA inspection process, this requirement does not comply with the APA.

Z-66 Response

Contrary to the commenter's assertion, this provision is not "an end-run around the agency's legal burden." The statute plainly states that the UPA is only entitled to "developed or collected pursuant to this Article to the UPA." This provision is plainly authorized by Health and Safety Code section 25534.5. Cal OES will take no action on this comment.

Z-67 Comment

Section 2772.5 – Independent Assessment of Program 4 Facilities

Proposed language:
"After a major incident, the UPA may perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system required under Section 2762.16, or Human Factors Analysis on any Program 4 facility."

CUSA Comments and Recommendations
CUSA reiterates its opposition to this provision that was described in response to Section 2762.9(n). This requirement as burdensome and costly, without a demonstrated safety benefit. As demonstrated by the brevity of this section, CalOES has not proposed any parameters on how a third-party process safety analysis would be conducted. The proposed regulation lacks specificity regarding who would conduct the analysis, how and when it would be conducted, and it does not include limits on duration or cost.

Contrary to the statements of the ISOR, owners/operators have the resources to ensure impartiality during the investigation of a major incident. Refiners have access to qualified, objective subject-matter experts with significant operational knowledge employed within the company. The Agency's proposal undervalues the role of an internal PSM analysis, which provides valuable learning opportunities and fosters institutional, process-specific knowledge. Though third-party auditors can provide "fresh eyes," the same benefit can be achieved through

use of cross-facility or cross-operational employee auditors. CalOES has not demonstrated that the potential benefits of an internal audit are outweighed by evidence that a third-party analysis is a necessary and more effective way to ensure worker safety.

The proposed rule also has the potential for significant direct and transactional costs. Without established parameters, a third-party auditor could spend potentially limitless hours reviewing documents and information. Moreover, third-party companies will be incentivized to increase costs and promote their alleged expertise in every RMP-covered process even where they lack specific knowledge of a facility's particular process unit.

Z-67 Response

This section of the proposed regulation does not contemplate a third-party audit. Instead it provides that the UPA may perform an independent assessment after a major incident. With regard to the commenter's concern regarding the administering agency's discretion to conduct an independent analysis, the proposed regulation states that these independent investigations may be conducted following a major incident. Contrary to the commenter's insinuation, the proposed regulatory language does not permit the administering agency to conduct an independent investigation at will. An independent investigation allows for assurance that the appropriate correction will be made. Cal OES will take no action on this comment.

COMMENTER AA
Jesse N. Marquez – Coalition For A Safe Environment (CFASE)
Emailed dated September 15, 2016

AA-1 Comment

General Introductory Comments

The Coalition For A Safe Environment (CFASE) and et al co-signature organizations and individuals respectfully submit these Public Comments on behalf of our organizations, members, communities and the public in general support of the proposed amendments to the CalARP - Program 4 Refinery Safety Regulations with our proposed additional amendments, commentary, recommendations and requests.

CFASE et al claim that its organization, members, communities and the public's health, welfare, safety and life rely on the adoption of the policies, rules, regulations, plans, programs and procedures that will assure maximum Worker and Public Safety at Oil Refineries in our communities.

Although the proposed new amendments are specific to currently adopted regulations we are obligated to the safety of our communities to comment on other regulation deficiencies that have contributed significantly to the continued failure of Oil Refineries and the Petroleum Industry to eliminate and prevent explosions, fires, environmental impacts, public safety impacts, public health impacts, social-economic impacts and fatal events from occurring. Therefore our public comments will consist of two categories of comments:

- The identification of the need for creating a new Deputy Undersecretary position of a new Department of Chemical & Refinery Safety under CalEPA for the Management Over-Site of CUPAS, Administration of OES & CalOSHA Chemical & Refinery Safety Regulations and Cal EPA CUPA Audits.

- To assure that the Cal OES, Cal OSHA and the California Interagency Refinery Task Force has a clear understanding of the applicability of our proposed amendments and recommendations; we are submitting a mark-up copy of the CalARP - Program 4 Refinery Safety Regulations with our amendments, recommendations and requests. See attachment.

It is our and the public's perspective that OES provides primarily administration over the regulations and not the day-to-day activities of the CUPA's and Cal EPA only conducts CUPA audits every 4 years so there is no single responsible state governmental agency administration and day-to-day over-site of CUPA's. Due to this, Oil Refineries continue to have explosions, fires and major accidental incident releases of tons of toxic pollution and hazardous materials.

Therefore, quasi-governmental agencies such as the CUPA's and real governmental agencies such as the CalEPA, CalOSHA, California Air Resources Board, the South Coast AQMD,

Counties, Cities and Fire Departments have failed to comply with their legal mandate to protect worker safety, public safety, public health, public welfare and the environment.

Every explosion, fire and major toxic emission and hazardous materials release incident that has occurred in the past and recently in California oil refineries in 2016 were preventable.

Our review of CUPAS has revealed that no CUPA in the State of California has ever issued a Citation to an oil refinery for a Process Safety Violation and that no CUPA has ever compelled or required an oil refinery to implement a Process Safety Improvement Order in the history of CalARP.

The Los Angeles Fire Department is the designated CUPA for the City of Los Angeles and failed the CalEPA Audit in 2014. There were 19 Oil Refinery deficiencies found and the Los Angeles Fire Department CUPA was rated Unsatisfactory. As of this year they have submitted 5 progress reports and have only corrected 8 of the 19 deficiencies and are still rated Unsatisfactory. Numerous other cities in California were also rated Unsatisfactory and this is unaccpetable.

- We formally request that a new Deputy Undersecretary position of a new Department of Chemical & Refinery Safety under CalEPA be created for the Management Over-Site of CUPAS, Administration of CalOES & CalOSHA Chemical and Refinery Safety Regulations and Cal EPA CUPA Audits.

The Department of Chemical & Refinery Safety under CalEPA would continue the excellent work of the Governors Interagency Working Group on Refinery Safety Taskforce and slightly expand it to include chemical facilities.

Paul Penn, Emergency Management & Refinery Safety Program Manager in the California Environmental Protection Agency, Office of the Secretary who has headed the taskforce has done an excellent job and we would recommend him for the new Deputy Undersecretary position.

AA-1 Response

Cal OES does not have the authority to create the Department of Chemical & Refinery Safety ("CalCRS") under CalEPA for the Management Over-Site of CUPAS, Administration of OES & CalOSHA Chemical & Refinery Safety Regulations and Cal EPA CUPA Audits by way of this rulemaking. Such changes would need to be made by the California legislature. Cal OES will take no action on this comment.

AA-2 Comment

Section 2735.3 Definitions.

Proposed language:
None.

CFASE Comments and recommendations:
Add a new definition between "CalOSHA" and "CAS." "(j) "CalCRS"means California Department of Chemical & Refinery Safety"

AA-2 Response

See response to comment AA-1.

AA-3 Comment

Section 2735.3 Definitions.

Proposed language:
None.

CFASE Comments and recommendations:
Suggest adding a definition for "endpoint" between "Employee representative" and "Environmental receptor".

AA-3 Response

The term "endpoint" is thoroughly discussed in section 2750.2 and is a well-understood term within the regulated community. Cal OES will take no action on this comment.

AA-4 Comment

Section 2735.3 Definitions.

Proposed language:
"(gg) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard."

CFASE Comments and recommendations:
"(gg) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in a change in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard introduction of a new process, process equipment, or regulated substance, an alteration of process chemistry that results in any change to safe operating limits, or other alteration that introduces a new hazard."

AA-4 Response

This comment asks that Cal OES restore language that was previously deleted. The revision was made to add clarity. Acceptance of commenter's proposed revision would cause redundancy and convolute the definition. Cal OES will take no action on this comment.

AA-5 Comment

Section 2735.3 Definitions.

Proposed language:
None.

CFASE Comments and recommendations:
(kk) "Petroleum refining process unit" means a process unit used in an establishment primarily engaged in petroleum refining as defined in NAICS code 32411 for petroleum refining (formerly SIC code 2911) and used for the following: (1) producing transportation fuels (such as gasoline, diesel fuels, and jet fuels), heating fuels (such as kerosene, fuel gas distillate, and fuel oils), or lubricants; (2) separating petroleum; or (3) separating, cracking, reacting, or reforming intermediate petroleum streams. Examples of such units include, but are not limited to, petroleum based solvent units, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, lube oil processing, hydrogen production, isomerization, polymerization, thermal processes, and blending, sweetening, and treating processes. Petroleum refining process units include sulfur plants.

A-5 Response

The term "Petroleum refining process unit" is not used in the regulations and could be confusing with the definition of "Process" for the purpose of Article 6.5.

AA-6 Comment

Section 2735.3 Definitions.

Proposed language:
"(ttt) "Trade secret" means trade secrets as defined in Section 6254.7 of Subdivision (d) of the Government Code and Section 1060 of the Evidence Code and includes information submitted to a Unified Program Agency which has been designated by the stationary source as trade secret and which shall not be released by the UPA except to authorized officers and employees of other governmental agencies, and only in connection with the official duties of that officer or employee pursuant to any law for the protection of health and safety. Trade secret information is to be handled pursuant to Section 25538 of HSC."

CFASE Comments and recommendations:

"(ttt) "Trade secret" means trade secrets as defined in Section 6254.7 of Subdivision (d) of the Government Code and Section 1060 of the Evidence Code and includes information submitted to a Unified Program Agency and CalCRS which has been designated by the stationary source as trade secret and which shall not be released by the UPA except to authorized officers and employees of other governmental agencies, and only in connection with the official duties of that officer or employee pursuant to any law for the protection of health and safety. Trade secret information is to be handled pursuant to Section 25538 of HSC."

AA-6 Response

See response to comment AA-1.

AA-7 Comment

Section 2735.4 Applicability.

Proposed language:
"(e) Program 3 eligibility requirements. A covered process is subject to Program 3 if the process does not meet the requirements of section (c), and if any of the following conditions apply:

(1) The process is in NAICS code 322110, 32411, 325110, 3251801, 325188, 3251942, 325199, 325211, 325311, or 325320.

(2) The process is subject to the OSHA or Cal OSHA process safety management standards of Section 1910.119 of Title 29 of CFR or Section 5189 of Title 8 of CCR.

(3) The UPA determines that the accident risk posed by the regulated substance in a process above the threshold quantity as listed in Table 3 of Section 2770.5, because of the nature and quantity of the regulated substance involved, requires the additional safety measures afforded by Program 3 requirements, pursuant to Section 25534 of HSC."

CFASE Comments and recommendations:
"(e) Program 3 eligibility requirements. A covered process is subject to Program 3 if the process does not meet the requirements of section (c), and if any of the following conditions apply:

(1) The process is in NAICS code 322110, 32411, 325110, 3251801, 325188, 3251942, 325199, 325211, 325311, or 325320.

(2) The process is subject to the OSHA or Cal OSHA and CalCRS process safety management standards of Section 1910.119 of Title 29 of CFR or Section 5189 of Title 8 of CCR.

(3) The UPA and CalCRS determines that the accident risk posed by the regulated substance in a process above the threshold quantity as listed in Table 3 of Section 2770.5, because of the nature and quantity of the regulated substance involved, requires the additional safety measures afforded by Program 3 requirements, pursuant to Section 25534 of HSC."

AA-7 Response

See response to comment AA-1.

AA-8 Comment

Section 2735.5 General Requirements.

Proposed language:
"(a) Coordination. The owner or operator of a stationary source shall closely coordinate with the UPA to implement the requirements of this chapter and to determine the appropriate level of documentation required for an RMP to comply with Sections 2745.3 through 2745.9 of this chapter. This requirement shall not preclude public access to RMP information. Classified information need not be included in the RMP but shall be made available to the UPA to the extent allowable by law. Trade secrets are protected pursuant to Section 25538 of HSC."

CFASE Comments and recommendations:
"(a) Coordination. The owner or operator of a stationary source shall closely coordinate with the UPA and CalCRS to implement the requirements of this chapter and to determine the appropriate level of documentation required for an RMP to comply with Sections 2745.3 through 2745.9 of this chapter. This requirement shall not preclude public access to RMP information. Classified information need not be included in the RMP but shall be made available to the UPA and CalCRS to the extent allowable by law. Trade secrets are protected pursuant to Section 25538 of HSC."

AA-8 Response

See response to comment AA-1.

AA-9 Comment

Section 2735.7 Emergency Information Access.

Proposed language:
"Upon request of a state or local emergency response agency the UPA shall provide immediate access to all components of the CalARP Program. If any of the components of the CalARP Program are designated as "trade secret" as defined in Section 6254.7(d) of the Government Code and Section 1060 of the Evidence Code, the emergency response agency or agencies shall be given notice that the information released shall be used only in connection with the official duties of the agency or agencies and shall not otherwise be released."

CFASE Comments and recommendations:
"Upon request of a state or local emergency response agency the UPA and/or CalCRS shall provide immediate access to all components of the CalARP Program. The public shall have immediate access to all CalARP Program information. If any of the components of the CalARP Program are designated as "trade secret" as defined in Section 6254.7(d) of the Government Code and Section 1060 of the Evidence Code, the emergency response agency or agencies shall be given notice that the information released shall be used only in connection with the official duties of the agency or agencies and shall not otherwise be released."

AA-9 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-10 Comment

Section 2740.1 Registration.

Proposed language:
(c) The UPA may request a registration from a stationary source covered by this chapter prior to submittal of the RMP. Registration submitted prior to an RMP submittal shall include a certification of accuracy."

CFASE Comments and recommendations:
"(c) The UPA <u>and CalCRS</u> may request a registration from a stationary source covered by this chapter prior to submittal of the RMP. Registration submitted prior to an RMP submittal shall include a certification of accuracy."

AA-10 Response

See response to comment AA-1.

AA-11 Comment

Section 2740.1 Registration.

Proposed language:
"(9) The number of full-time employees at the stationary source;"

CFASE Comments and recommendations:
"(9) The number of full-time employees <u>and contractors</u> at the stationary source;"

AA-11 Response

This comment is beyond the scope of the current rulemaking.

AA-12 Comment

Section 2740.1 Registration.

Proposed language:
(15) Source or parent company e-mail address (Optional);
(16) Source homepage address (Optional);
(17) Phone number at the source for public inquiries (Optional);
(18) Local Emergency Planning Committee (Optional);
(19) OSHA Voluntary Protection Program status (Optional);

CFASE Comments and recommendations:
(15) Source or parent company e-mail address (Not Optional);
(16) Source homepage address (Not Optional);
(17) Phone number at the source for public inquiries (Not Optional);
(18) Local Emergency Planning Committee (Not Optional);
(19) OSHA Voluntary Protection Program status (Not Optional);

AA-12 Response

This comment is beyond the scope of the current rulemaking.

AA-13 Comment

Section 2745.1 Submission.

Proposed language:
"(a) The owner or operator of a stationary source, which handles more than a threshold quantity of a regulated substance in a process, shall determine the applicability of this chapter as set forth in Section 2735.4(a) and shall submit a single RMP to the AA. The owner or operator of a Program 4 stationary source shall submit a revised RMP to address the changes stated in Article 6.5 Program 4 within twenty-four (24) months of the effective date of this Article."

CFASE Comments and recommendations:
"(a) The owner or operator of a stationary source, which handles more than a threshold quantity of a regulated substance in a process, shall determine the applicability of this chapter as set forth in Section 2735.4(a) and shall submit a single RMP to the AA. The owner or operator of a Program 4 stationary source shall submit a revised RMP to address the changes stated in Article 6.5 Program 4 within ~~twenty-four (24)~~ twelve (12) months of the effective date of this Article."

AA-13 Response

The 24 month timeline was established through stakeholder input and is a reasonable timeframe for implementing the requirement. Cal OES will take no action on this comment.

AA-14 Comment

Section 2745.1 Submission.

Proposed language:
"(c) The owner or operator of a stationary source shall submit a copy of USEPA required RMP information according to the time frame set forth in (b) of this section to the UPA. "

"(d) If a determination is made pursuant to section 2735.4(a)(2) that a new or modified stationary source must comply with this chapter, the owner or operator shall submit an RMP to the UPA

prior to the date in which a regulated substance is first present in a process above the listed threshold quantity, as listed on Section 2770.5."

"(e) This chapter does not require the owner or operator to submit external event analysis or supplemental information, required by the UPA, to USEPA unless that information is required by federal law."
"(f) If a pesticide, as defined in Section 12753 of the Food and Agricultural Code, is used on a farm or nursery and is determined by the UPA to pose a regulated substances accident risk; the AAUPA shall first consult with the county agricultural commissioner or the Department of Food and Agriculture to evaluate whether the existing RMP is adequate in relation to the regulated substances accident risk. This paragraph does not prohibit, or limit the authority of an AAUPA to conduct its duties."

" (i) Upon request, the UPA shall submit to Cal OES copies of the RMP and the federal registration."

CFASE Comments and recommendations:
"(c) The owner or operator of a stationary source shall submit a copy of USEPA required RMP information according to the time frame set forth in (b) of this section to the UPA and CalCRS.
(d) If a determination is made pursuant to section 2735.4(a)(2) that a new or modified stationary source must comply with this chapter, the owner or operator shall submit an RMP to the UPA and CalCRS prior to the date in which a regulated substance is first present in a process above the listed threshold quantity, as listed on Section 2770.5.
(e) This chapter does not require the owner or operator to submit external event analysis or supplemental information, required by the UPA and CalCRS, to USEPA unless that information is required by federal law.
(f) If a pesticide, as defined in Section 12753 of the Food and Agricultural Code, is used on a farm or nursery and is determined by the UPA and CalCRS to pose a regulated substances accident risk; the UPA and CalCRS shall first consult with the county agricultural commissioner or the Department of Food and Agriculture to evaluate whether the existing RMP is adequate in relation to the regulated substances accident risk. This paragraph does not prohibit, or limit the authority of a UPA and CalCRS to conduct its duties.
(i) Upon request, the UPA shall submit to Cal OES and CalCRS copies of the RMP and the federal registration."

AA-14 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-15 Comment

Section 2745.2 RMP Review Process.

Proposed language:
"The RMP review process shall include:

(a) Consultation and review. The RMP shall be certified complete by a qualified person and the stationary source owner or operator and shall be submitted to the AAUPA. Completeness shall be determined in accordance with Sections 2745.3 through 2745.9. The stationary source shall work closely with the AAUPA to determine that the RMP contains an appropriate level of detail.
(b) Deficiency notice. The AAUPA shall review the RMP to determine if all the elements pursuant to Sections 2745.3 through 2745.9 are contained in the document and provide a written notice to the owner or operator of a stationary source of any deficiencies. The AAUPA may authorize the air pollution control district (APCD) or air quality management district (AQMD) to conduct a technical review of the RMP.
(1) The owner or operator of the stationary source shall have 60 calendar days from receipt of the notification of RMP deficiencies to make any corrections. An owner or operator of the stationary source may request, in writing, a one-time 30 calendar day extension to correct deficiencies. At the end of the 60 calendar days, and any extension period if applicable, the stationary source shall resubmit the corrected, revised RMP to the AAUPA. Failure to correct deficiencies during the specified time frame shall subject the owner or operator of the stationary source to the penalties specified in Sections 25540 and 25541 of HSC.
(2) If no deficiencies are identified, the AAUPA shall accept the RMP as complete and submit the RMP for formal public review.
(c) Formal public review. Within 15 calendar days after the AAUPA determines that the RMP is complete, the AAUPA shall make the RMP available to the public for review and comment by publishing a notice in a local newspaper of general circulation, or on the AAUPA's website. The notice shall describe the RMP and state a location where it may be reviewed. The AAUPA shall directly notify individuals and organizations who have specifically requested to be notified. The public shall have 45 calendar days to comment following the publication date of the notice. The AAUPA shall review all public comments.
(d) Evaluation review. The evaluation review shall be conducted by the AAUPA at the end of the formal public review period. The AAUPA shall take the public comments into consideration during the evaluation review. The AAUPA shall consider standard application of engineering and scientific principles, site specific characteristics, technical accuracy, severity of offsite consequences, and other information in the possession of or reviewed by the AAUPA. The evaluation review may include inspections and onsite document review of records and data which may not be in the possession of the UPA.
(e) The evaluation review shall be completed by the AAUPA as follows:
(1) For an RMP which includes only Program 1 or Program 2 processes, the evaluation review shall be completed within 36 months.
(2) For an RMP which includes a Program 3 process, the evaluation review shall be completed within 24 months.
(3) For an RMP that is for a Program 4 stationary source, the evaluation review shall be completed by (36 months).
(34) The evaluation review does not include time for corrections of deficiencies pursuant to section (b)(1).
(f) Inspection or audit authority. Nothing in this section shall preclude the authority of an AAUPA to inspect or audit a stationary source."

CFASE Comments and recommendations:
"The RMP review process shall include:

(a) Consultation and review. The RMP shall be certified complete by a qualified person and the stationary source owner or operator and shall be submitted to the UPA. Completeness shall be determined in accordance with Sections 2745.3 through 2745.9. The stationary source shall work closely with the UPA and CalCRS to determine that the RMP contains an appropriate level of detail.
(b) Deficiency notice. The UPA and CalCRS shall review the RMP to determine if all the elements pursuant to Sections 2745.3 through 2745.9 are contained in the document and provide a written notice to the owner or operator of a stationary source of any deficiencies. The UPA and CalCRS may authorize the air pollution control district (APCD) or air quality management district (AQMD) to conduct a technical review of the RMP.
(1) The owner or operator of the stationary source shall have 60 calendar days from receipt of the notification of RMP deficiencies to make any corrections. An owner or operator of the stationary source may request, in writing, a one-time 30 calendar day extension to correct deficiencies. At the end of the 60 calendar days, and any extension period if applicable, the stationary source shall resubmit the corrected, revised RMP to the UPA and CalCRS. Failure to correct deficiencies during the specified time frame shall subject the owner or operator of the stationary source to the penalties specified in Sections 25540 and 25541 of HSC.
(2) If no deficiencies are identified, the UPA and CalCRS shall accept the RMP as complete and submit the RMP for formal public review.
(c) Formal public review. Within 15 calendar days after the UPA and CalCRS determines that the RMP is complete, the UPA and CalCRS shall make the RMP available to the public for review and comment by publishing a notice in a local newspaper of general circulation, or on the UPA's and CalCRS website. The notice shall describe the RMP and state a location where it may be reviewed. The UPA and CalCRS shall directly notify individuals and organizations who have specifically requested to be notified. The public shall have 45 calendar days to comment following the publication date of the notice. The UPA and CalCRS shall review all public comments.
(d) Evaluation review. The evaluation review shall be conducted by the UPA and CalCRS at the end of the formal public review period. The UPA and CalCRS shall take the public comments into consideration during the evaluation review. The UPA and CalCRS shall consider standard application of engineering and scientific principles, site specific characteristics, technical accuracy, severity of offsite consequences, and other information in the possession of or reviewed by the UPA and CalCRS. The evaluation review may include inspections and onsite document review of records and data which may not be in the possession of the UPA and CalCRS.
(e) The evaluation review shall be completed by the UPA and CalCRS as follows:
(1) For an RMP which includes only Program 1 or Program 2 processes, the evaluation review shall be completed within 36 months.
(2) For an RMP which includes a Program 3 process, the evaluation review shall be completed within 24 months.
(3) For an RMP that is for a Program 4 stationary source, the evaluation review shall be completed by (36 months).
(34) The evaluation review does not include time for corrections of deficiencies pursuant to section (b)(1).
(f) Inspection or audit authority. Nothing in this section shall preclude the authority of an UPA and CalCRS to inspect or audit a stationary source."

AA-15 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-16 Comment

Section 2745.3 RMP Executive Summary Component.

Proposed language:
"(d) The five-year accident history;"

CFASE Comments and recommendations:
"(d) The five-year accident history, to include: worker impact, public impact and cost data;"

AA-16 Response

This comment is beyond the scope of the current rulemaking.

AA-17 Comment

Section 2745.4 RMP Offsite Consequence Analysis Component.

Proposed language:
None.

CFASE Comments and recommendations:
Add "(b)(15) Low atmospheric inversion layer."

AA-17 Response

This comment is beyond the scope of the current rulemaking.

AA-18 Comment

Section 2745.6 RMP Program 2 Prevention Program Component.

Proposed language:
"(e) (4) Mitigation systems in use;
(5) Monitoring and detection systems in use; and"

CFASE Comments and recommendations:
"(e) (4) Mitigation systems in use and effectiveness of mitigation to eliminate or reduce impact or expsoure;
(5) Monitoring and detection systems in use; and, at process equipment site"

AA-18 Response

This comment is beyond the scope of the current rulemaking.

AA-19 Comment

Section 2745.6 RMP Program 2 Prevention Program Component.

Proposed language:
None.

CFASE Comments and recommendations:
Add "(g)(3) Number and percentage of employees and contractors participating."

AA-19 Response

This comment is beyond the scope of the current rulemaking.

AA-20 Comment

Section 2745.6 RMP Program 2 Prevention Program Component.

Proposed language:
None

CFASE Comments and recommendations:
Insert new subsection (l) and renumber subsequent subsections. "(l) The time it took to correct any identified deficiency."

AA-20 Response

This comment is beyond the scope of the current rulemaking.

AA-21 Comment

Section 2745.6 RMP Program 2 Prevention Program Component.

Proposed language:
"(l) (2) The estimated magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed."

CFASE Comments and recommendations:
"(~~l~~m) (2)The estimated magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA and CalCRS to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed."

AA-21 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-22 Comment

Section 2745.7 RMP Program 3 Prevention Program Component.

Proposed language:
"(e)(5) Monitoring and detection systems in use; and"

CFASE Comments and recommendations:
"(e)(5) Monitoring and detection systems in use; and at process equipment site"

AA-22 Response

This comment is beyond the scope of the current rulemaking.

AA-23 Comment

Section 2745.7 RMP Program 3 Prevention Program Component.

Proposed language:
"(q)(2) The magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed;"

CFASE Comments and recommendations:
"(q)(2) The magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA and CalCRS to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed;"

AA-23 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-24 Comment

Section 2745.7.5 RMP Program 4 Component.

Proposed language:
"(e) (2) Major hazards identified;"

CFASE Comments and recommendations:
"(e) (2) Major hazards identified and potential external hazards;"

AA-24 Response

Subsection 2745.7.5(t) already requires that external events be submitted. This revision is not needed. Cal OES will take no action on this comment.

AA-25 Comment

Section 2745.7.5 RMP Program 4 Component.

Proposed language:
"(w) (2) The magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed;"

CFASE Comments and recommendations:
"(w) (2) The magnitude or scope of external events which were considered. If not known, the owner or operator of the stationary source shall work closely with the UPA and CalCRS to determine what is required. If seismic events are applicable, the parameters used in the consideration of the seismic analysis and which edition of the Building Code was used when the process was designed . Note that a significant ground movement can also cause a storage tank that is full to overflow over the top if it is a floating roof type tank;"

AA-25 Response

See response to comment AA-1. The second proposed revision is unnecessary. Cal OES will take no action on this comment.

AA-26 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(a) The owner or operator of a stationary source which has a regulated substance listed in Table 1 or Table 2 in Section 2770.5 in quantities greater than the corresponding thresholds listed in

Table 1 or 2 shall review and update the RMP and submit it in a method and format to a central point specified by USEPA and to the UPA as of the date of submission."

CFASE Comments and recommendations:
"(a) The owner or operator of a stationary source which has a regulated substance listed in Table 1 or Table 2 in Section 2770.5 in quantities greater than the corresponding thresholds listed in Table 1 or 2 shall review and update the RMP and submit it in a method and format to a central point specified by USEPA and to the UPA and CalCRS as of the date of submission."

AA-26 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-27 Comment

Section 2745.10 RMP Updates.

Proposed language:
None.

CFASE Comments and recommendations:
"(a)(8) Within six months of an explosion, fire, near miss or major incident."

AA-27 Response

This comment is beyond the scope of the current rulemaking.

AA-28 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(b) The owner or operator of a stationary source which has regulated substances in a process listed in Section 2770.5 in quantities greater than Table 3 thresholds and less than thresholds in Table 1 shall revise and update the RMP submitted under Section 2745.1. The updated RMP shall be submitted to the UPA as follows:"

CFASE Comments and recommendations:
"(b) The owner or operator of a stationary source which has regulated substances in a process listed in Section 2770.5 in quantities greater than Table 3 thresholds and less than thresholds in Table 1 shall revise and update the RMP submitted under Section 2745.1. The updated RMP shall be submitted to the UPA and CalCRS as follows:"

AA-28 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-29 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(b)(2) No later than three years after a newly regulated substance is first listed by Cal OES;"

CFASE Comments and recommendations:
"(b)(2) No later than three years after a newly regulated substance is first listed by Cal OES <u>and CalCRS</u>;"

AA-29 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-30 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(c) If a stationary source is no longer subject to the applicability requirements of Section 2735.4(a)(1), the owner or operator shall submit a de-registration pursuant to Section 2740.1(a) to USEPA within six months indicating that the stationary source is no longer covered. A copy of the de-registration shall also be submitted to the UPA."

CFASE Comments and recommendations:
"(c) If a stationary source is no longer subject to the applicability requirements of Section 2735.4(a)(1), the owner or operator shall submit a de-registration pursuant to Section 2740.1(a) to USEPA within six months indicating that the stationary source is no longer covered. A copy of the de-registration shall also be submitted to the UPA <u>and CalCRS</u>."

AA-30 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-31 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(d) If a stationary source is no longer subject to the applicability requirements of Section 2735.4(a)(2) the owner or operator shall submit a de-registration pursuant to Section 2740.1(b) to the UPA within six months indicating that the stationary source is no longer covered."

CFASE Comments and recommendations:
"(d) If a stationary source is no longer subject to the applicability requirements of Section 2735.4(a)(2) the owner or operator shall submit a de-registration pursuant to Section 2740.1(b) to the UPA and CalCRS within six months indicating that the stationary source is no longer covered."

AA-31 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-32 Comment

Section 2745.10 RMP Updates.

Proposed language:
"(f) Within 30 days of a change in the owner or operator, the new owner or operator shall contact the UPA to update registration information. The new owner or operator shall determine if RMP changes are necessary."

CFASE Comments and recommendations:
"(f) Within 30 days of a change in the owner or operator, the new owner or operator shall contact the UPA and CalCRS to update registration information. The new owner or operator shall determine if RMP changes are necessary."

AA-32 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-33 Comment

Section 2745.11 Covered Process Modification.

Proposed language:
"(a) (1) Where reasonably possible, notify the UPA in writing of the owner or operator's intent to modify the stationary source at least five calendar days before implementing any modifications. As part of the notification process, the owner or operator shall consult with the UPA when determining whether the RMP should be reviewed and revised. Where prenotification is not reasonably possible, the owner or operator shall provide written notice to the UPA no later than 48 hours following the modification."

CFASE Comments and recommendations:
"(a) (1) Where reasonably possible, notify the UPA and CalCRS in writing of the owner or operator's intent to modify the stationary source at least five calendar days before implementing any modifications. As part of the notification process, the owner or operator shall consult with the UPA and CalCRS when determining whether the RMP should be reviewed and revised.

Where prenotification is not reasonably possible, the owner or operator shall provide written notice to the UPA and CalCRS no later than 48 hours following the modification."

AA-33 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-34 Comment

Section 2745.11 Covered Process Modification.

Proposed language:
"(b) The owner or operator of the stationary source shall revise the appropriate documents, as required pursuant to section (a), expeditiously, but not later than 60 days from the date of the stationary source modification."

CFASE Comments and recommendations:
"(b) The owner or operator of the stationary source shall revise the appropriate documents, as required pursuant to section (a), expeditiously, but not later than 60 days from the date of the stationary source modification and conduct a local community public hearing."

AA-34 Response

This comment is beyond the scope of the current rulemaking.

AA-35 Comment

Section 2750.2 Offsite Consequence Analysis Parameters.

Proposed language:
"(b) Wind speed/atmospheric stability class. For the worst-case release analysis, the owner or operator shall use a wind speed of 1.5 meters per second and F atmospheric stability class. If the owner or operator can demonstrate that local meteorological data applicable to the stationary source show a higher minimum wind speed or less stable atmosphere at all times during the previous three years, these minimums may be used. For analysis of alternative scenarios, the owner or operator may use the typical meteorological conditions for the stationary source."

CFASE Comments and recommendations:
"(b) Wind speed/atmospheric stability class. For the worst-case release analysis, the owner or operator shall use a wind speed of 1.5 meters per second and F atmospheric stability class. If the owner or operator can demonstrate that local meteorological data applicable to the stationary source show a higher minimum wind speed or less stable atmosphere at all times during the previous three years, these minimums may be used. For analysis of alternative scenarios, the owner or operator may use the typical meteorological conditions for the stationary source. The owner or operator shall also consider low atmospheric inversion layers."

AA-35 Response

This comment is beyond the scope of the current rulemaking.

AA-36 Comment

Section 2750.3 Worst-Case Release Scenario Analysis.

Proposed language:
"(j) Solids. In performing an offsite consequence analysis for solids that are listed in Section 2770.5 Table 3, an owner or operator may use a USEPA, California Air Resources Board, or Cal OES approved model which appropriately considers the dispersion and settling of particles. For the worst case scenario, the owner or operator shall assume a one-hour release and pursuant to Section 2750.2(b), use a wind speed of 1.5 meters per second and F atmospheric stability class."

CFASE Comments and recommendations:
"(j) Solids. In performing an offsite consequence analysis for solids that are listed in Section 2770.5 Table 3, an owner or operator may use a USEPA, California Air Resources Board, ~~or~~ Cal OES and CalCRS approved model which appropriately considers the dispersion and settling of particles. For the worst case scenario, the owner or operator shall assume a one-hour release and pursuant to Section 2750.2(b), use a wind speed of 1.5 meters per second and F atmospheric stability class."

AA-36 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-37 Comment

Section 2750.4 Alternative Release Scenario Analysis.

Proposed language:
"(c) Parameters to be applied. The owner or operator shall use the parameters defined in Section 2750.2 to determine distance to the endpoints. The owner or operator may use either the methodology provided in the RMP Offsite Consequence Analysis Guidance or any commercially or publicly available air dispersion modeling techniques, provided the techniques account for the specified modeling conditions and are recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used provided the owner or operator allows the UPA access to the model and describes model features and differences from publicly available models to local emergency planners upon request."

CFASE Comments and recommendations:
"(c) Parameters to be applied. The owner or operator shall use the parameters defined in Section 2750.2 to determine distance to the endpoints. The owner or operator may use either the methodology provided in the RMP Offsite Consequence Analysis Guidance or any commercially or publicly available air dispersion modeling techniques, provided the techniques account for the

specified modeling conditions and are recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used provided the owner or operator allows the UPA and CalCRS access to the model and describes model features and differences from publicly available models to local emergency planners upon request."

AA-37 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-38 Comment

Section 2750.9 Five-year Accident History.

Proposed language:
"(b) (7) On-site impacts;
(8) Known offsite impacts;"

CFASE Comments and recommendations:
"(b) (7) On-site impacts, to include costs;
(8) Known offsite impacts, to include environmental, public health and public costs;"

AA-38 Response

This comment is beyond the scope of the current rulemaking.

AA-39 Comment

Section 2755.2 Hazard Review.

Proposed language:
"(b) The owner or operator of a stationary source shall consult with the UPA to decide which hazard review methodology is best suited to determine and evaluate the hazards of the process being analyzed."

"(c) The owner or operator may use checklists, if acceptable to the UPA, developed by persons or organizations knowledgeable about the process and equipment as a guide to conducting the review. The hazard review shall be performed by a team familiar with process operations and shall include at least one employee who has experience and knowledge specific to the process being reviewed. For processes designed to meet industry standards or federal or state design rules, the hazard review shall, by inspecting all equipment, determine whether the process is designed, fabricated, and operated in accordance with the applicable standards or rules."

"(e) The owner or operator shall document the results of the hazard review and ensure that problems identified are resolved. The owner or operator shall enter into an agreement with the UPA on a timetable for resolution of these problems. Otherwise these resolutions shall be completed within two and one half (2.5) years of performing the hazard review or the next

planned turnaround for items requiring a turnaround. These timelines shall not apply to any hazard review completed prior to January 1, 2015. The final resolution taken to address the hazard review recommendation and the actual completion date shall be documented."

"(g) A hazard review may be revalidated only once between full hazard reviews, unless the UPA agrees in writing that a full hazard review is unwarranted."

CFASE Comments and recommendations:
"(b) The owner or operator of a stationary source shall consult with the UPA and CalCRS to decide which hazard review methodology is best suited to determine and evaluate the hazards of the process being analyzed."

"(c) The owner or operator may use checklists, if acceptable to the UPA and CalCRS, developed by persons or organizations knowledgeable about the process and equipment as a guide to conducting the review. The hazard review shall be performed by a team familiar with process operations and shall include at least one employee who has experience and knowledge specific to the process being reviewed. For processes designed to meet industry standards or federal or state design rules, the hazard review shall, by inspecting all equipment, determine whether the process is designed, fabricated, and operated in accordance with the applicable standards or rules."

"(e) The owner or operator shall document the results of the hazard review and ensure that problems identified are resolved. The owner or operator shall enter into an agreement with the UPA and CalCRS on a timetable for resolution of these problems. Otherwise these resolutions shall be completed within two and one half (2.5) years of performing the hazard review or the next planned turnaround for items requiring a turnaround. These timelines shall not apply to any hazard review completed prior to January 1, 2015. The final resolution taken to address the hazard review recommendation and the actual completion date shall be documented."

"(g) A hazard review may be revalidated only once between full hazard reviews, unless the UPA and CalCRS agrees in writing that a full hazard review is unwarranted."

AA-39 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-40 Comment

Section 2755.6 Compliance Audits.

Proposed language:
"(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit. The owner or operator shall enter into an agreement with the UPA on a timetable for resolution of these findings. Otherwise these responses will be completed within one and one half (1.5) years after performing the compliance audit, or the next planned turnaround for items requiring a turnaround. These timelines shall not apply to any

compliance audit completed prior to January 1, 2015. The owner or operator shall document the actual completion dates when deficiencies were corrected."

CFASE Comments and recommendations:
"(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit. The owner or operator shall enter into an agreement with the UPA and CalCRS on a timetable for resolution of these findings. Otherwise these responses will be completed within one and one half (1.5) years after performing the compliance audit, or the next planned turnaround for items requiring a turnaround. These timelines shall not apply to any compliance audit completed prior to January 1, 2015. The owner or operator shall document the actual completion dates when deficiencies were corrected."

AA-40 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-41 Comment

Section 2755.7 Incident Investigation.

Proposed language:
"(d) The owner or operator shall promptly address and resolve the investigation findings and recommendations. The owner or operator shall enter into an agreement with the UPA on a timetable for resolution of these findings and recommendations. Otherwise these resolutions shall be completed no later than one and one half (1.5) years after the completion of the incident investigation, or two (2) years after the date of the incident, whichever is the earlier of the two dates, or the next planned turnaround for those items requiring a turnaround. Resolutions and corrective actions with actual completion dates shall be documented."

CFASE Comments and recommendations:
"(d) The owner or operator shall promptly address and resolve the investigation findings and recommendations. The owner or operator shall enter into an agreement with the UPA and CalCRS on a timetable for resolution of these findings and recommendations. Otherwise these resolutions shall be completed no later than one and one half (1.5) years after the completion of the incident investigation, or two (2) years after the date of the incident, whichever is the earlier of the two dates, or the next planned turnaround for those items requiring a turnaround. Resolutions and corrective actions with actual completion dates shall be documented."

AA-41 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-42 Comment

Section 2760.2 Process Hazard Analysis [PHA].

Proposed language:
"(b) The owner or operator shall work closely with UPAs in deciding which PHA methodology is best suited to determine the hazards of the process being analyzed. The owner or operator shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed:
(1) What-If;
(2) Checklist;
(3) What-If / Checklist;
(4) Hazard and Operability Study (HAZOP);
(5) Failure Mode and Effects Analysis (FMEA);
(6) Fault Tree Analysis; or,
(7) An appropriate equivalent methodology."

CFASE Comments and recommendations:
"(b) The owner or operator shall work closely with UPAs and CalCRS in deciding which PHA methodology is best suited to determine the hazards of the process being analyzed. The owner or operator shall use one or more of the ~~following~~ approved methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed:
~~(1) What-If;~~
~~(2) Checklist;~~
~~(3) What-If / Checklist;~~
(~~4~~1) Hazard and Operability Study (HAZOP).). Minimum requirement if there is no history of explosions, fires, worker and public safety incidents;
(5) Failure Mode ~~and~~ Effects Analysis and Critiality Analysis (FMECA).(~~FMEA~~) Mandatory requirement if there is a history of explosions, fires, worker and public safety incidents; "
~~(6) Fault Tree Analysis; or,~~
~~(7) An appropriate equivalent methodology."~~

Additional comment
The FMECA identifies all part failure modes, its primary benefit is the early identification of all critical and catastrophic subsystem or system failure modes so they can be eliminated or minimized through design modification at the earliest point in the development effort; therefore, the FMECA should be performed at the system level as soon as preliminary design information is available and extended to the lower levels as the detail design progresses.

Note: We do not approve of the other inferior, inadequate and less effective methods listed as acceptable alternatives.

AA-42 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-43 Comment

Section 2760.8 Compliance Audits.

Proposed language:
"(c) A report of the scope, methods used, results and findings of the audit shall be developed. This report, including results, shall be available for UPA review. "

(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit. The owner or operator shall enter into an agreement with the UPA on a timetable for resolution of these findings. Otherwise these responses shall be completed one and one half (1.5) years after performing the compliance audit, or the next planned turnaround for items requiring a turnaround. These timelines shall not apply to any compliance audit completed prior to January 1, 2015. The owner or operator shall document the actual completion dates when deficiencies were corrected."

CFASE Comments and recommendations:
"(c) A report of the scope, methods used, results and findings of the audit shall be developed. This report, including results, shall be available for UPA and CalCRS review. "

(d) The owner or operator shall promptly determine and document an appropriate response to each of the findings of the compliance audit. The owner or operator shall enter into an agreement with the UPA and CalCRS on a timetable for resolution of these findings. Otherwise these responses shall be completed one and one half (1.5) years after performing the compliance audit, or the next planned turnaround for items requiring a turnaround. These timelines shall not apply to any compliance audit completed prior to January 1, 2015. The owner or operator shall document the actual completion dates when deficiencies were corrected."

AA-43 Response

See response to comment AA-1.

AA-44 Comment

Section 2760.9 Incident Investigation.

Proposed language:
"(e) The owner or operator shall establish a system to promptly address and resolve the incident report findings and recommendations. The owner or operator shall enter into an agreement with the UPA on a timetable for resolution of these findings and recommendations. Otherwise these resolutions shall be completed no later than one and one half (1.5) years after the completion of the incident investigation, or two (2) years after the date of the incident, whichever is the earlier of the two dates, or the next planned turnaround for those items requiring a turnaround. Resolutions and corrective actions with actual completion dates shall be documented."

CFASE Comments and recommendations:
"(e) The owner or operator shall establish a system to promptly address and resolve the incident report findings and recommendations. The owner or operator shall enter into an agreement with the UPA and CalCRS on a timetable for resolution of these findings and recommendations. Otherwise these resolutions shall be completed no later than one and one half (1.5) years after the completion of the incident investigation, or two (2) years after the date of the incident, whichever is the earlier of the two dates, or the next planned turnaround for those items requiring a turnaround. Resolutions and corrective actions with actual completion dates shall be documented."

AA-44 Response

See response to comment AA-1.

AA-45 Comment

Section 2762.1 Process Safety Information.

Proposed language:
"(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees."

CFASE Comments and recommendations:
"(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; ~~and~~ (4) nearby hazardous materials and circumstances which can negatively impact a process, and (5)results of previous Damage Mechanism Reviews. The process safety information shall be made available to all refinery and contractor employees. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees."

AA-45 Response

This process safety information must already be collected since all of the refinery processes are included in this requirement. Proposed language is unnecessary and redundant. Cal OES will take no action on this comment.

AA-46 Comment

Section 2762.1 Process Safety Information.

Proposed language:
None.

CFASE Comments and recommendations:
"(a)(1)(I) External hazardous substances and circumstances which could cause an explosion, fire, worker and public safety concern.

AA-46 Response

The regulations pertain to highly hazardous materials handled by the refinery. The owners and operators do consider external events as part of the PHA. At that time, they should consider if external conditions could impact their processes. The proposed language is unnecessary and redundant. Cal OES will take no action on this comment.

AA-47 Comment

Section 2762.1 Process Safety Information.

Proposed language:
None

CFASE Comments and recommendations:
"(b)(6) Technology vulnerability to external substances and circumstances which could cause an explosion, fire, worker and public safety concern.

AA-47 Response

The regulations pertain to highly hazardous materials handled by the refinery. The owners and operators do consider external events as part of the PHA. At that time, they should consider if external conditions could impact their processes. The proposed language is unnecessary and redundant. Cal OES will take no action on this comment.

AA-48 Comment

Section 2762.1 Process Safety Information.

Proposed language:
"(c)(8) Safety systems, such as interlocks, detection and suppression systems;"

CFASE Comments and recommendations:
"(c)(8) Safety systems, such as interlocks, detection and suppression systems. . If no detection equipment is standard with system, one shall be required if a potential hazard is identified;"

AA-48 Response

This section of the proposed regulatory language pertains to information that must be collected as part of the Process Safety Information process. Requiring a particular type of equipment be installed in this section is inappropriate. Cal OES will take no action on this comment.

AA-49 Comment

Section 2762.1 Process Safety Information.

Proposed language:
"(d) The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment or with other equally or more protective internal standards that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner. "

CFASE Comments and recommendations:
"(d) The owner or operator shall document that process equipment and construction complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other equally or more protective internal standards that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner. "

AA-49 Response

RAGAGEP as defined by this program does not apply to construction standards. Cal OES will take no action on this comment.

AA-50 Comment

Section 2762.1 Process Safety Information.

Proposed language:
None.

CFASE Comments and recommendations:
"(f) The owner or operator shall document that process parts, equipment and construction complies with and/or built according to nationally and/or internationally adopted industry trade standards* such as AWS-American Welding Society, ANSI-American National Standards Institute, ASTM-American Society for Testing and Materials and ISO-International Organization for Standardization."

"(g) CalCRS shall review and approve all owner or operator documentation. CalCRS CalOSHA shall after 1 year review all submitted documentation and where feasible adopt a standard protocol for all oil refineries."

AA-50 Response

The UPA has the ability to review what is considered RAGAGEP by the refinery when auditing and inspecting the refineries. The definition of RAGAGEP includes the standards listed by the commenter. The UPA is required to inspect the refinery at least once every three years. See response to comment AA-1.See response to comment AA-1.

AA-51 Comment

Section 2762.2 Process Hazard Analysis [PHA].

Proposed language:
" (a) The owner or operator shall perform and document an effective PHA appropriate to the complexity of each process in order to identify, evaluate, and control hazards associated with each process. All initial PHAs for processes not previously covered under Article 6.0 shall be completed within three years of the effective date of this Article, in accordance with this section. PHAs performed in accordance with the requirements of Article 6.0 shall satisfy the initial PHA requirements of this section. All modes of operation as set forth in subsection 2762.3(a)(1) shall be covered by the PHA. The owner or operator shall determine and document the priority order for conducting PHAs based on the extent of process hazards, the number of potentially affected people, the age of the process and the process operating history."

CFASE Comments and recommendations:
" (a) The owner or operator shall perform and document an effective PHA appropriate to the complexity of each process in order to identify, evaluate, and control hazards associated with each process. All initial PHAs for processes not previously covered under Article 6.0 shall be completed within ~~three~~ two (2) years of the effective date of this Article, in accordance with this section. PHAs performed in accordance with the requirements of Article 6.0 shall satisfy the

initial PHA requirements of this section. All modes of operation as set forth in subsection 2762.3(a)(1) shall be covered by the PHA. The owner or operator shall determine and document the priority order for conducting PHAs based on the extent of process hazards, the number of potentially affected people, the age of the process and the process operating history."

AA-51 Response

The three year deadline was established through stakeholder input and is a reasonable timeframe for implementing the requirement. Cal OES will take no action on this comment.

AA-52 Comment

Section 2762.2 Process Hazard Analysis [PHA].

Proposed language:
"(b) The owner or operator shall work with the UPA in selecting and using at least one of the following methods:
(1) What-If;
(2) Checklist;
(3) What-If / Checklist;
(4) Hazard and Operability Study (HAZOP);
(5) Failure Mode and Effects Analysis (FMEA);
(6) Fault Tree Analysis;
(7) Other PHA methods recognized by engineering organizations or governmental agencies."

CFASE Comments and recommendations:
"(b) The owner or operator shall work closely with UPAs and CalCRS in selecting and using one of the following approved methods:
~~(1) What-If;~~
~~(2) Checklist;~~
~~(3) What-If / Checklist;~~
(~~4~~1) Hazard and Operability Study (HAZOP).). Minimum requirement if there is no history of explosions, fires, worker and public safety incidents;
(5) Failure Mode ~~and~~ Effects Analysis and Criticality Analysis (FMECA).(~~FMEA~~) Mandatory requirement if there is a history of explosions, fires, worker and public safety incidents; "
~~(6) Fault Tree Analysis; or,~~
~~(7) An appropriate equivalent methodology."~~

Additional comment
The FMECA identifies all part failure modes, its primary benefit is the early identification of all critical and catastrophic subsystem or system failure modes so they can be eliminated or minimized through design modification at the earliest point in the development effort; therefore, the FMECA should be performed at the system level as soon as preliminary design information is available and extended to the lower levels as the detail design progresses.

Note: We do not approve of the other inferior, inadequate and less effective methods listed as acceptable alternatives.

AA-52 Response

The refineries are required to work closely with the UPA in determining the appropriate PHA method to be used for a process. Each one of the listed methods are appropriate for some of the processes and not for others, depending on the complexity of the process or what is being analyzed. If a new method may be the best method for certain processes, it is important that the refinery have the ability to use it. Limiting the methods available for use reduces regulatory flexibility without enhancing safety. Cal OES will make no changes in response to this comment. See response to comment AA-1.

AA-53 Comment

Section 2762.2 Process Hazard Analysis [PHA].

Proposed language:
"(g) The team shall document its findings and recommendations in a report, which shall be available in the respective work area for review by any person working in that area."

CFASE Comments and recommendations:
"(g) The team shall document its findings and recommendations in a report, which shall be submitted to CalCRS, be made available for public review and comment and which shall be available in the respective work area for review by any person working in that area and part of the worker training program."

AA-53 Response

Process Hazard Analyses can be highly technical and relies on voluminous process safety information. Much of the process safety information is trade secret and without it the PHA will not be clear. It is also important that the team members of the PHA team can make findings and recommendations freely without concern that it will become public. See response to comment AA-1.

AA-54 Comment

2762.2.1 Safeguard Protection Analysis.

Proposed language:
"(c) The SPA shall use a quantitative or semi-quantitative method, such as Layer of Protection Analysis (LOPA) or an equally effective method. The risk reduction obtainable by each IPL shall be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system, or human factor. "

"(d) The owner or operator shall complete all SPAs within six (6) months of completion of the PHA."

CFASE Comments and recommendations:
"(c) The SPA shall use a quantitative or semi-quantitative method, such as Layer of Protection Analysis (LOPA) or an equally effective CalCRS approved method. The risk reduction obtainable by each IPL shall be based on site-specific failure rate data, or in the absence of such data, industry failure rate data for each device, system, or human factor. "

"(d) The owner or operator shall complete all SPAs within six (6) months of completion of the PHA which shall be submitted to CalCRS for review and approval, be made available for public review and comment."

AA-54 Response

See response to comment AA-1 and AA-53.

AA-55 Comment

2762.2.1 Safeguard Protection Analysis.

Proposed language:
"(f) The SPA team shall document the following: (1) potential initiating events and their likelihood and possible consequences, including equipment failures, human errors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction or other conditions that may lead to a loss of containment; (2) the risk reduction achieved by each IPL for each initiating event; (3) necessary maintenance and testing to ensure that all IPLs function as designed; and (4) recommendations to address any deficiencies identified by the SPA."

CFASE Comments and recommendations:
"(f) The SPA team shall document the following: (1) potential initiating events and their likelihood and possible consequences, including part and equipment failures, human errors, loss of flow control, loss of pressure control, loss of temperature control, loss of level control, excess reaction loss of power, near miss incident or other conditions that may lead to a loss of containment; (2) the risk reduction achieved by each IPL for each initiating event; (3) necessary maintenance and testing to ensure that all IPLs function as designed; and (4) recommendations to address any deficiencies identified by the SPA."

AA-55 Response

The term "part" is encompassed by the term "equipment." The proposed additions of "loss of power" and "near miss incident" are unnecessary because the proposed regulatory languages contains the phrase "or other conditions that may lead to a loss of containment." Cal OES will take no action on this comment.

AA-56 Comment

Section 2762.3 Operating Procedures.

Proposed language:
None.

CFASE Comments and recommendations:
Add (a)(1)(C) Maintenance, parts replacement and repair; Renumber the rest of the subsections.

AA-56 Response

The proposed addition is addressed in Section 2762.3 Mechanical Integrity. This addition is unnecessary. Cal OES will take no action on this comment.

AA-57 Comment

Section 2762.3 Operating Procedures.

Proposed language:
None.

CFASE Comments and recommendations:
Add (a)(3)(G) Leak or operating parameter excess detection instrumentation .

AA-57 Response

This section lists safety and health considerations and this addition is not relevant since it is not a safety and health consideration. The proposed addition is unnecessary and is captured by other regulatory requirements. Cal OES will take no action on this comment.

AA-58 Comment

Section 2762.3 Operating Procedures.

Proposed language:
"(b) The Operating Procedures shall include emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of leaks, spills, releases and discharges. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following:"

CFASE Comments and recommendations:
"(b) The Operating Procedures shall include emergency operations for each process, including any response to the over-pressurizing or overheating of equipment or piping, and the handling of

leaks, spills, releases and discharges, part internal corrosion due to bottom residue build-up or change in product stock, metal fatigue and potential external operations, part or equipment failures impacts. These procedures shall be consistent with the procedures developed as required by subsection (a)(1)(D) and shall 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 owner or operator shall at a minimum do one of the following:"

AA-58 Response

The items listed are items that may lead to an emergency, such as a loss of containment. The regulations require the refinery to analyze these items in other parts of the regulations, such as Management of Change or in a Damage Mechanism Review. The emergency response procedures are specific to the impact of a loss of containment or process upset. The proposed addition is unnecessary and is captured by other regulatory requirements. Cal OES will take no action on this comment.

AA-59 Comment

Section 2762.3 Operating Procedures.

Proposed language:
"(c) A copy of the operating procedures shall be readily accessible to employees who work in or near the process area and to any other person who works in or near the process area or who maintains a process."

CFASE Comments and recommendations:
"(c) A copy of the operating procedures shall be readily accessible to employees who work in or near the process area and to any other person who works in or near the process area or who maintains a process and shall be submitted to CalCRS for review and approval, be made available for public review and comment."

AA-59 Response

See response to comment AA-1 and AA-53.

AA-60 Comment

Section 2762.4 Training.

Proposed language:
"(a) Initial training."

"(1) Each employee involved in operating a process, and each operating employee prior to working in a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in section 2762.3. The training shall include material on the specific safety and health hazards applicable to the employee's job tasks, procedures, including

emergency operations and shutdown, and safe work practices applicable to the employee's job tasks."

"(2) The owner or operator shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner. "

"(b) Refresher and supplemental training. "

"(1) At least every three years, and more often if necessary, refresher and supplemental training shall be provided to each employee involved in operating a process in order to ensure the employee understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employees involved in operating the process, shall determine the appropriate frequency and content of refresher training. "

"(2) At least every three years, and more often if necessary, the owner or operator shall provide effective refresher and supplemental training to each maintenance employee to ensure that each employee understands and adheres to current maintenance procedures. "

"(c) Training certification. The owner or operator shall ensure that each employee involved in operating a process has received, understood and successfully completed training as specified by this section. The owner or operator, after the initial or refresher training, shall prepare a certification record containing the identity of the employee, the date(s) of training, the means used to verify that the employee understood the training, and the signature(s) of the person administering the training."

"(d) The owner or operator shall develop and implement an effective written program that includes (1) the requirements that an employee must meet in order to be designated as qualified, and (2) employee testing procedures to verify understanding and to ensure competency in job skill levels and work practices that protect employee and public safety and health. "
"(e) The owner or operator shall develop and implement an effective training program to ensure that all affected employees are aware of and understand all Program 4 elements described in this Article. The owner or operator shall complete the initial training required in this section within twenty-four (24) months following the effective date of this section. Employees and employee representatives participating in a specialized team pursuant to this Article shall be trained in the Program elements relevant to that team."

CFASE Comments and recommendations:
"(a) Initial training."

"(1) Each employee/contractor involved in operating a process, and each operating employee prior to working in a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in section 2762.3. The training shall include material on the specific safety and health hazards applicable to the employee's/contractor's job tasks,

procedures, including emergency operations and shutdown, and safe work practices applicable to the employee's job tasks."

"(2) The owner or operator shall train each employee/contractor involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's/contractor's job tasks to assure that the employee can perform the job tasks in a safe manner. "

"(b) Refresher and supplemental training. "

"(1) At least every three years, and more often if necessary, refresher and supplemental training shall be provided to each employee/contractor involved in operating a process in order to ensure the employee/contractor understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employee/contractor involved in operating the process, shall determine the appropriate frequency and content of refresher training. "

"(2) At least every three years, and more often if necessary, the owner or operator shall provide effective refresher and supplemental training to each maintenance employee/contractor to ensure that each employee/contractor understands and adheres to current maintenance procedures. "

"(c) Training certification. The owner or operator shall ensure that each employee/contractor involved in operating a process has received, understood and successfully completed training as specified by this section. The owner or operator, after the initial or refresher training, shall prepare a certification record containing the identity of the employee/contractor, the date(s) of training, the means used to verify that the employee/contractor understood the training, and the signature(s) of the person administering the training."

"(d) The owner or operator shall develop and implement an effective written program that includes (1) the requirements that an employee/contractor must meet in order to be designated as qualified, and (2) employee/contractor testing procedures to verify understanding and to ensure competency in job skill levels and work practices that protect employee/contractor and public safety and health. "

"(e) The owner or operator shall develop and implement an effective training program to ensure that all affected employee/contractor are aware of and understand all Program 4 elements described in this Article. The owner or operator shall complete the initial training required in this section within twenty-four (24) months following the effective date of this section. Employees and employee representatives participating in a specialized team pursuant to this Article shall be trained in the Program elements relevant to that team."

AA-60 Response

Section 2762.12 ensures that contract employees are properly trained. Cal OES will take no action on this comment.

AA-61 Comment

Section 2762.4 Training.

Proposed language:
None.

CFASE Comments and recommendations:
Add (g) The owner or operator shall submit their training program to CalCRS for review and approval

AA-61 Response

See response to comment AA-1.

AA-62 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
None.

CFASE Comments and recommendations:
Add (a)(3) The procedures shall comply with manufacturer design, operating, repair, maintenance and replacement specifications.

AA-62 Response

The proposed modification is unnecessary and redundant. Cal OES will take no action on this comment.

AA-63 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(b) Inspection and testing.
(1) Inspections and tests shall be performed on process equipment, using procedures that meet or exceed recognized and generally accepted good engineering practices (RAGAGEP).

(2) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations or RAGAGEP, or other equally or more protective internal standards. Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment."

CFASE Comments and recommendations:
"(b) Inspection and testing.
(1) Inspections and tests shall be performed on process equipment, using procedures that meet or exceed ~~recognized and generally accepted good engineering practices (RAGAGEP)~~ nationally and/or internationally adopted industry trade standards, such as ASTM, ANSI and ISO .

(2) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations, ANSI, ASTM or RAGAGEP, or other equally or more protective internal standards. Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment."

AA-63 Response

The examples listed by the commenter are included in the definition of RAGAGEP. The proposed modification is unnecessary and redundant. Cal OES will take no action on this comment.

AA-64 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(c) Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with RAGAGEP or other equally or more protective internal standards."

CFASE Comments and recommendations:
"(c) Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with AWS, ANSI, ASTM, ISO, RAGAGEP or other equally or more protective internal standards."

AA-64 Response

See response to Comment AA-63.

AA-65 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(d) (1) The owner or operator shall ensure that all process equipment at a minimum complies with the criteria established in subsection 2762.1(d). In meeting this requirement, the owner or operator shall ensure that all process equipment is: (1) suitable for the process application for which it is or will be used; (2) fabricated from the proper materials of construction; (3) designed,

constructed, installed, maintained, inspected, tested, operated and replaced in compliance with the manufacturer's and any other design specifications and all applicable codes and standards. "

"(2) If the owner or operator installs new process equipment or has existing process equipment for which no RAGAGEP exists, the owner or operator shall ensure and document that these are designed, built, installed, maintained, inspected, tested and operated in a safe manner."

CFASE Comments and recommendations:
"(d) (1) The owner or operator shall ensure that all process equipment at a minimum complies with the criteria established in subsection 2762.1(d). In meeting this requirement, the owner or operator shall ensure that all process equipment is: (1) suitable for the process application for which it is or will be used; (2) fabricated from the proper materials of construction; (3) designed, constructed, installed, maintained, inspected, tested, operated and replaced in compliance with the manufacturer's and any other design specifications and all applicable AWS, ANSI, ASTM, ISO codes and standards. "

"(2) If the owner or operator installs new process equipment or has existing process equipment for which no AWS, ANSI, ASTM, ISO, RAGAGEP exists, the owner or operator shall ensure and document that these are designed, built, installed, maintained, inspected, tested and operated in a safe manner."

AA-65 Response

See response to Comment AA-63.

AA-66 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(e) (1) The owner or operator shall complete a Damage Mechanism Review (DMR) for each process for which a damage mechanism exists. Where no DMR is performed, the owner or operator shall document the rationale for the determination that no damage mechanism exists. The owner or operator shall determine and document the priority order for conducting the DMR based on process operating history, PHA schedule and inspection records. No less than 50 percent of the initial DMRs shall be completed within three (3) years of the effective date of this Article, and the remainder within five (5) years of the effective date of this Article. If the owner or operator has conducted and documented a DMR for a process unit within five (5) years prior to the effective date of this section, and that DMR includes the elements identified in paragraph (e)(6), that DMR may be used to satisfy the owner or operator's obligation to complete an initial DMR under this paragraph. "

"(2) A DMR shall be revalidated at least once every five (5) years."

CFASE Comments and recommendations:

"(e) (1) The owner or operator shall complete a Damage Mechanism Review (DMR) for each process for which a damage mechanism exists. Where no DMR is performed, the owner or operator shall document the rationale for the determination that no damage mechanism exists. The owner or operator shall determine and document the priority order for conducting the DMR based on process operating history, PHA schedule and inspection records. No less than 50 percent of the initial DMRs shall be completed within three (3) years of the effective date of this Article, and the remainder within five (5) years of the effective date of this Article. If the owner or operator has conducted and documented a DMR for a process unit within five (5) years prior to the effective date of this section, and that DMR includes all the elements identified in paragraph (e)(6), that DMR may be used to satisfy the owner or operator's obligation to complete an initial DMR under this paragraph. "

"(2) A DMR shall be revalidated at least once every five (5) years and submitted to CalCRS for review and approval."

AA-66 Response

See response to Comment AA-1.

AA-67 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
"(e)(6)(C) Determination that the materials of construction are appropriate for their application and are resistant to potential damage mechanisms;"

CFASE Comments and recommendations:
"(e)(6)(C) Determination that the materials of construction are appropriate for their application, meet applicable AWS, ANSI, ASTM, ISO standards and are resistant to potential damage mechanisms;"

AA-67 Response

See response to Comment AA-63.

AA-68 Comment

Section 2762.5 Mechanical Integrity.

Proposed language:
None.

CFASE Comments and recommendations:
Add new subsections (e)(7)(G) through (J).
"(G) Nearby equipment or process fire and explosion;"

"(H) Nearby construction equipment or equipment loss of control impact;"
"(I) Natural disaster earthquake ground movement or tsunami wave impact;"
"(J) Disgruntle employee intentional damage, sabotage or terrorist attack;"

AA-68 Response

This requested change is redundant to what is included as part of the PHA external events analysis. The proposed modification is unnecessary and redundant. Cal OES will take no action on this comment.

AA-69 Comment

Section 2762.6 Management of Change.

Proposed language:
"(a) The owner or operator shall develop, implement and maintain effective written Management of Change (MOC) procedures to manage changes in process chemicals, technology, procedures, process equipment, or facilities. The owner or operator shall also develop, implement and maintain written Management of Organizational Change (MOOC) procedures to manage changes in personnel or organizational issues. The MOC procedure shall include provisions for temporary repairs, including temporary piping or equipment repairs."

CFASE Comments and recommendations:
"(a) The owner or operator shall develop, implement and maintain effective written Management of Change (MOC) procedures to manage changes in petroleum product base stock, process chemicals, technology, procedures, process equipment, or facilities. The owner or operator shall also develop, implement and maintain written Management of Organizational Change (MOOC) procedures to manage changes in personnel or organizational issues. The MOC procedure shall include provisions for temporary repairs, including temporary piping or equipment repairs."

AA-69 Response

The requested change is redundant. Petroleum product base stock is a chemical mixture and would require a MOC covered as a change in process chemicals. Cal OES will take no action on this comment.

AA-70 Comment

Section 2762.6 Management of Change.

Proposed language:
None.

CFASE Comments and recommendations:
Insert new subsections (b)(2) and (3), renumber the remaining subsections.
"(2) Identification of compliance to applicable industry standards i.e. AWS, ANSI, ASTM, ISO etc.;"

"(3) Identification if it is the Best Available Technology;"

AA-70 Response

This request is redundant since the refineries are already required to use RAGAGEP. Cal OES will take no action on this comment.

AA-71 Comment

Section 2762.6 Management of Change.

Proposed language:
"(d) The owner or operator shall use qualified personnel and appropriate methods for MOCs based upon hazard, complexity and type of change. "

CFASE Comments and recommendations:
"(d) The owner or operator shall use qualified personnel and identify appropriate methods for MOCs based upon hazard, complexity and type of change. "

AA-71 Response

The goal of this requirement is to ensure that the owner or operator uses appropriate methods for the MOCs based upon the type of change, not merely identify the appropriate method for the MOC. Cal OES will take no action on this comment.

AA-72 Comment

Section 2762.6 Management of Change.

Proposed language:
"(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change."

CFASE Comments and recommendations:
"(f) Employees/contractors involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors. For contractors and employees of contractors whose job tasks are affected by a change, the owner or operator shall require training of the contractor employee prior to the change."

AA-72 Response

Section 2762.12 ensures that contract employees are properly trained. Cal OES will take no action on this comment.

AA-73 Comment

Section 2762.6 Management of Change.

Proposed language:
"(l) Prior to implementing a change, the owner or operator shall inform all employees potentially affected by the change."

CFASE Comments and recommendations:
"(l) Prior to implementing a change, the owner or operator shall inform all employees potentially affected by the change and provide updated training."

AA-73 Response

The intent of this proposed addition is captured in subsection (f). Cal OES will take no action on this comment.

AA-74 Comment

Section 2762.7 Pre-Startup Safety Review.

Proposed language:
"(b) (1) Construction, maintenance, and repair work has been performed in accordance with design specifications; "

"(2) Process equipment has been maintained and is operable in accordance with design specifications;"

CFASE Comments and recommendations:
"(b) (1) Construction, maintenance, and repair work has been performed in accordance with design specifications, manufacturer procedures and applicable AWS, ANSI, ASTM and ISO standards; "

"(2) Process equipment has been maintained and is operable in accordance with design specifications, manufacturer procedures and applicable AWS, ANSI, ASTM and ISO standards;"

AA-74 Response

The suggested change is covered under Mechanical Integrity and the use of RAGAGEP. Cal OES will take no action on this comment.

Section 2762.7 Pre-Startup Safety Review.

Proposed language:
"(b) (5) Training of each operating employee and maintenance employee has been completed."

CFASE Comments and recommendations:
"(b) (5) Training of each operating employee contractor and maintenance employee has been completed."

AA-75 Response

Section 2762.12 ensures that contract employees are properly trained. Cal OES will take no action on this comment.

AA-76 Comment

Section 2762.8 Compliance Audits.

Proposed language:
None.

CFASE Comments and recommendations:
Insert new subsection (d) "The owner or operator shall submit the audit report to CalCRS for review and approval, be made available for public review and comment. " Renumber remaining subsections.

AA-76 Response

See response to comment AA-1 and AA-53.

AA-77 Comment

Section 2762.9 Incident Investigation.

Proposed language:
"(h) The owner or operator shall submit a written report for major incidents to the UPA within 90 calendar days of the incident, unless the owner or operator can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report within five (5) months of the incident."

"(j) The UPA shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt."

"(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis."

CFASE Comments and recommendations:
"(h) The owner or operator shall submit a written report for major incidents to the UPA and CalCRS within 90 calendar days of the incident, unless the owner or operator can demonstrate that additional time is needed due to the complexity of the investigation. In such cases the owner or operator shall prepare a status report within 90 calendar days of the incident and every 30 calendar days thereafter until the investigation is complete. The owner or operator shall submit a final report within five (5) months of the incident."

"(j) The UPA and CalCRS shall make reports from investigation of major incidents available to the public by posting the final report on the Unified Program Agency's website within 30 calendar days of receipt."

"(n) If the UPA and CalCRS chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. The owner or operator shall pay the costs of the independent analysis."

AA-77 Response

See response to comment AA-1.

AA-78 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis.

Proposed language:
None.

CFASE Comments and recommendations:
Append new subsection (h) " The owner or operator shall submit the HCA report to CalCRS for review and approval, be made available for public review and comment."

AA-78 Response

See response to comment AA-1 and AA-53.

AA-79 Comment

Section 2762.14 Process Safety Culture Assessment.

Proposed language:
None.

CFASE Comments and recommendations:
Append new subsection(i) "The owner or operator shall submit the HCA report to CalCRS for review and approval, be made available for public review and comment. "

AA-79 Response

See response to comment AA-1 and AA-53.

AA-80 Comment

Section 2762.15 Human Factors Program.

Proposed language:
None.

CFASE Comments and recommendations:
Append new subsection (i) "The owner or operator shall submit the HCA report to CalCRS for review and approval, be made available for public review and comment."

AA-80 Response

This section is the Human Factors Program, not the Hierarchy of Hazard Controls section, so an HCA report is not required. No report is required for the human factors analysis. See response to comment AA-1.

AA-81 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:
None.

CFASE Comments and recommendations:
Append new subsection (b) "The owner or operator shall submit the HCA report to CalCRS for review and approval, be made available for public review and comment."

AA-81 Response

See response to comment AA-1 and comment AA-80.

AA-82 Comment

Section 2762.16 Accidental Release Prevention Program Management System.

Proposed language:
"(h)(1)(A)(v) Inspections shall be defined by circuits rather than points. A circuit shall be defined by one of the following: isometrics, by process stream and piping class, or piece of equipment, such as a pressure vessel. When reporting past due inspections to Cal OES and the UPA, the owner or operator shall include the total number of circuits at the stationary source and the total number of annual planned circuit inspections for that year to provide context regarding the number of circuits/equipment defined by the inspection program at the facility."

CFASE Comments and recommendations:
"(h)(1)(A)(v) Inspections shall be defined by circuits rather than points. A circuit shall be defined by one of the following: isometrics, by process stream and piping class, or piece of equipment, such as a pressure vessel. When reporting past due inspections to Cal OES <u>and CalCRS</u> and the UPA, the owner or operator shall include the total number of circuits at the stationary source and the total number of annual planned circuit inspections for that year to provide context regarding the number of circuits/equipment defined by the inspection program at the facility."

AA-82 Response

See response to comment AA-1.

AA-83 Comment

Section 2765.2 Emergency Response Program.

Existing language:
"(a)(1)(A) (A) Procedures for informing and interfacing with the public and local emergency response agencies about accidental releases, emergency planning, and emergency response;"

CFASE Comments and recommendations:
"(a)(1)(A) (A) Procedures for informing and interfacing with the public and local emergency response agencies about accidental releases, <u>public notification</u> emergency planning, and emergency response;"

AA-83 Response

This comment is beyond the scope of the current rulemaking. The proposed addition is redundant. It is already encompassed by the phrase "informing and interfacing with the public." Cal OES will take no action on this comment.

AA-84 Comment

Section 2765.2 Emergency Response Program.

Existing language:
None.

CFASE Comments and recommendations:
Insert new subsection (a)(1) (C) "Designated hospitals for worker and public medical treatment."

AA-84 Response

This comment is beyond the scope of the current rulemaking.

AA-85 Comment

Section 2765.2 Emergency Response Program.

Existing language:
None.

CFASE Comments and recommendations:
Insert new subsection (e) " The owner or operator shall submit the Emergency Response Plan to CalCRS for review and approval, be made available for public review and comment. "

AA-85 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-86 Comment

Section 2775.2 Audits.

Existing language:
"(a) In addition to inspections for the purpose of regulatory development and enforcement of the federal CAA, the UPA shall periodically audit RMPs submitted under Article 3 of this chapter to review the adequacy of such RMPs and require revisions to RMPs when necessary to ensure compliance with this chapter. To the extent possible, any audit shall be fully coordinated with the Unified Program elements at a stationary source. "

“(b) The UPA shall select stationary sources for audits based on any of the following criteria:”

“(d) In accordance with Section 25534.5 of HSC, the UPA shall have access to the stationary source, supporting documentation, and any area where an accidental release could occur.“

“(e) Based on the audit, the UPA may issue the owner or operator of a stationary source a written preliminary determination of necessary revisions to the stationary source's RMP to ensure that the RMP complies with the requirements of this chapter. The preliminary determination shall include an explanation for the basis for the revisions, reflecting industry standards and guidelines (such as AIChE/CCPS guidelines and ASME and API standards) to the extent that such standards and guidelines are applicable, and shall include a timetable for their implementation.”

“(f) Written response to a preliminary determination.

(1) The owner or operator shall respond in writing to a preliminary determination made in accordance with section (e). The response shall state that the owner or operator will implement the revisions contained in the preliminary determination in accordance with the timetable included in the preliminary determination or shall state that the owner or operator rejects the revisions in whole or in part. For each rejected revision, the owner or operator shall explain the basis for rejecting such revision. Such explanation may include substitute revisions.

(2) The written response under section (f)(1) shall be received by the UPA within 90 days of the issue of the preliminary determination or a shorter period of time as the UPA specifies in the preliminary determination as necessary to protect public health and the environment. Prior to the written response being due and upon written request from the owner or operator, the UPA may provide in writing additional time for the response to be received. “

“(g) After providing the owner or operator an opportunity to respond under section (f), the UPA may issue the owner or operator a written final determination of necessary revisions to the stationary source's RMP. A time-table for implementing these revisions shall be developed in consultation with the stationary source. Revisions must be completed as soon as practicable, but no later than one year after the final determination has been issued unless the UPA agrees, in writing, upon a timetable before the resolution becomes overdue. The final determination may adopt or modify the revisions contained in the preliminary determination under section (e) or may adopt or modify the substitute revisions provided in the response under section (f). A final determination that adopts a revision rejected by the owner or operator shall include an explanation of the basis for the revision. A final determination that does not adopt a substitute revision provided under section (f) shall include an explanation of the basis for finding such substitute revision unreasonable.”

CFASE Comments and recommendations:

“(a) In addition to inspections for the purpose of regulatory development and enforcement of the federal CAA, the UPA <u>and CalCRS</u> shall periodically audit RMPs submitted under Article 3 of this chapter to review the adequacy of such RMPs and require revisions to RMPs when necessary to ensure compliance with this chapter. To the extent possible, any audit shall be fully coordinated with the Unified Program elements at a stationary source. “

“(b) The UPA , CalCRS and Cal EPA shall select stationary sources for audits based on any of the following criteria:”

“(d) In accordance with Section 25534.5 of HSC, the UPA , CalCRS and Cal EPA shall have access to the stationary source, supporting documentation, and any area where an accidental release could occur.“

“(e) Based on the audit, the UPA, CalCRS and Cal EPA may issue the owner or operator of a stationary source a written preliminary determination of necessary revisions to the stationary source's RMP to ensure that the RMP complies with the requirements of this chapter. The preliminary determination shall include an explanation for the basis for the revisions, reflecting industry standards and guidelines (such as AIChE/CCPS guidelines and ASME and API standards) to the extent that such standards and guidelines are applicable, and shall include a timetable for their implementation.”

“(f) Written response to a preliminary determination.

(1) The owner or operator shall respond in writing to a preliminary determination made in accordance with section (e). The response shall state that the owner or operator will implement the revisions contained in the preliminary determination in accordance with the timetable included in the preliminary determination or shall state that the owner or operator rejects the revisions in whole or in part. For each rejected revision, the owner or operator shall explain the basis for rejecting such revision. Such explanation may include substitute revisions.

(2) The written response under section (f)(1) shall be received by the UPA, CalCRS and Cal EPA within 90 days of the issue of the preliminary determination or a shorter period of time as the UPA , CalCRS and Cal EPA specifies in the preliminary determination as necessary to protect public health and the environment. Prior to the written response being due and upon written request from the owner or operator, the UPA may provide in writing additional time for the response to be received. “

“(g) After providing the owner or operator an opportunity to respond under section (f), the UPA, CalCRS and Cal EPA may issue the owner or operator a written final determination of necessary revisions to the stationary source's RMP. A time-table for implementing these revisions shall be developed in consultation with the stationary source. Revisions must be completed as soon as practicable, but no later than one year after the final determination has been issued unless the UPA, CalCRS and Cal EPA agrees, in writing, upon a timetable before the resolution becomes overdue. The final determination may adopt or modify the revisions contained in the preliminary determination under section (e) or may adopt or modify the substitute revisions provided in the response under section (f). A final determination that adopts a revision rejected by the owner or operator shall include an explanation of the basis for the revision. A final determination that does not adopt a substitute revision provided under section (f) shall include an explanation of the basis for finding such substitute revision unreasonable.”

AA-86 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-87 Comment

Section 2775.2.5 Independent Assessments of Program 4 Facilities.

Proposed language:
"After a major incident, the UPA may perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system required under Section 2762.16, or Human Factors Analysis on any Program 4 facility."

CFASE Comments and recommendations:
"After a major incident, the UPA may shall perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system required under Section 2762.16, or Human Factors Analysis on any Program 4 facility."

AA-87 Response

The UPA must not be required to perform an independent investigation where it is unnecessary. Cal OES will take no action on this comment.

AA-88 Comment

Section 2775.3 Inspections.

Existing language:
"The UPA shall inspect every stationary source required to be registered pursuant to this chapter at least once every three years to determine whether the stationary source is in compliance with this chapter. The requirements of this section do not alter or affect the immunity provided a public entity pursuant to Section 818.6 of the Government Code. To the extent possible, any CalARP Program inspections shall be coordinated with the Unified Program."

CFASE Comments and recommendations:
"The UPA, CalCRS and Cal EPA shall inspect every stationary source required to be registered pursuant to this chapter at least once every three years to determine whether the stationary source is in compliance with this chapter. The requirements of this section do not alter or affect the immunity provided a public entity pursuant to Section 818.6 of the Government Code. To the extent possible, any CalARP Program inspections shall be coordinated with the Unified Program."

AA-88 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-89 Comment

Section 2775.4 Enforcement.

Existing language:
"The owner or operator of a stationary source who violates the statutes or regulations established for the CalARP Program may be liable for penalties or enforcement pursuant to provisions in Article 2 of Chapter 6.95 of the HSC beginning with Section 25540."

CFASE Comments and recommendations:
"The owner or operator of a stationary source who violates the statutes or regulations established for the CalARP Program may will be liable for penalties or enforcement pursuant to provisions in Article 2 of Chapter 6.~~95 of~~ the HSC beginning with Section 25540."

AA-89 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-90 Comment

Section 2775.5 Availability of Information to the Public.

Existing language:
"(b) The UPA shall insure that any member of the public has access, by appointment, to a copy of the offsite consequence analysis data, pursuant to Section 2745.4. The member of the public may read, but not remove, reproduce, print, scan or image the documents. The UPA may require personal photo identification issued by a Federal, State or local government agency to the person, and may require the person's signature on a sign-in sheet. The UPA may limit a person's access to offsite consequence analysis data to 10 stationary sources in any calendar month."

CFASE Comments and recommendations:
"(b) The UPA, CalCRS and Cal EPA shall insure that any member of the public has access, by appointment, to a copy on-site, by written request or an on-line copy of the offsite consequence analysis data, pursuant to Section 2745.4. The member of the public may read, but not remove, reproduce, print, scan or image the documents. The UPA, CalCRS and Cal EPA may require personal photo identification issued by a Federal, State or local government agency to the person, and may require the person's signature on a sign-in sheet. The UPA, CalCRS and Cal EPA may not limit a person's access to offsite consequence analysis data to 10 stationary sources in any calendar month."

AA-90 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-91 Comment

Section 2775.6 Permit Content and Air Permitting Authority or Cal OES Requirements.

Existing language:
"(b) The owner or operator shall submit any additional relevant information requested by the UPA, Cal OES or the appropriate APCD or AQMD."

"(d) The appropriate APCD or AQMD shall, at a minimum:
(1) Verify from the UPA that the source owner or operator has registered and submitted an RMP or a revised plan when required by this chapter;
(2) Verify from the UPA that the source owner or operator has submitted a source certification or in its absence has submitted a compliance schedule consistent with section (a)(2); and,
(3) Initiate enforcement action based on sections (d)(1) and (d)(2) as appropriate. The AQMD or APCD shall notify the UPA and the UPA shall notify Cal OES of enforcement actions taken pursuant to this chapter."

CFASE Comments and recommendations:
"(b) The owner or operator shall submit any additional relevant information requested by the UPA, Cal OES ~~or~~ CalCRS and the appropriate APCD or AQMD."

"(d) The appropriate APCD or AQMD shall, at a minimum:
(1) Verify from the UPA and CalOSHA that the source owner or operator has registered and submitted an RMP or a revised plan when required by this chapter;
(2) Verify from the UPA and CalCRS that the source owner or operator has submitted a source certification or in its absence has submitted a compliance schedule consistent with section (a)(2); and,
(3) Initiate enforcement action based on sections (d)(1) and (d)(2) as appropriate. The AQMD or APCD shall notify the UPA and the UPA shall notify Cal OES, and CalCRS of enforcement actions taken pursuant to this chapter."

AA-91 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-92 Comment

Section 2775.7 Unified Program Agency Training.

Proposed language:
"(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4."

"(b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal OES."

CFASE Comments and recommendations:
"(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES, and CalCRS. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES, and CalCRS shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4."

"(b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal OES, and CalCRS."

AA-92 Response

Regulatory changes have been made that render this comment moot. See response to comment AA-1.

AA-93 Comment

Section 2780.1 Dispute Resolution.

Existing language:
"(b) The owner or operator of a stationary source may appeal the decision of an UPA to the Director of Cal OES by serving the Director with written notice of appeal. The notice of appeal shall be accompanied by:"

CFASE Comments and recommendations:
"(b) The owner or operator of a stationary source may appeal the decision of an UPA to the Director of Cal OES and CalCRS by serving the Director with written notice of appeal. The notice of appeal shall be accompanied by:"

AA-93 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-94 Comment

Section 2780.2 Unified Program Agency Compliance.

Existing language:
"Each UPA shall comply with the regulations adopted in this chapter, unless Cal OES assumes authority pursuant to Section 2780.6(c)(1)(D)(ii)."

CFASE Comments and recommendations:
"Each UPA shall comply with the regulations adopted in this chapter, unless Cal OES <u>and CalCRS</u> assumes authority pursuant to Section 2780.6(c)(1)(D)(ii)."

AA-94 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-95 Comment

Section 2780.3 Maintenance of Administering AgencyUnified Program Agency Authorization and Reporting.

Existing language:
"In assessing the performance of an UPA, Cal OES shall consider the following:"

CFASE Comments and recommendations:
"In assessing the performance of an UPA, Cal OES <u>and CalCRS</u> shall consider the following:"

AA-95 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-96 Comment

Section 2780.4 Coordination with the Unified Program.

Existing language:
"(a) Cal OES shall consider the standards under Section 2780.3 to support Cal OES recommendations to the Secretary for Environmental Protection regarding local agency certification for the Unified Program pursuant to Section 25404.3 of HSC."

"(b) As part of the periodic review requirement, Cal OES shall consider the requirements of Section 2780.3 and Section 25404.4 of HSC."

CFASE Comments and recommendations:
"(a) Cal OES and CalCRS shall consider the standards under Section 2780.3 to support Cal OES recommendations to the Secretary for Environmental Protection regarding local agency certification for the Unified Program pursuant to Section 25404.3 of HSC."

"(b) As part of the periodic review requirement, Cal OES and CalCRS shall consider the requirements of Section 2780.3 and Section 25404.4 of HSC."

AA-96 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-97 Comment

Section 2780.6 Unified Program Agency Performance Evaluations.

Existing language:
"(a) Cal OES shall periodically review the UPAs performance to ensure their ability to carry out the requirements of the CalARP Program pursuant to the requirements of Article 2, Chapter 6.95, of HSC and these regulations. This review shall be closely coordinated with the Unified Program periodic review process, pursuant to Section 25404.4 of HSC."

"(c)(1) Process 1: Assumption of Authority by Cal OES. Cal OES shall serve the UPA with a written Notice of Intent to Exercise Specific Powers (NOIESP), which shall inform the UPA of the Director's intent to implement the CalARP Program in the local jurisdiction pursuant to Section 25533(e) of HSC. The NOIESP shall state (i) the powers of the UPA that Cal OES will exercise; (ii) the date on which the exercise of authority shall commence; and, (iii) the reasons it is necessary for Cal OES to assume this authority."

"(c)(1)(A) (i) Acceptance of the NOIESP. The UPA may accept the assumption of authority described in the NOIESP by serving Cal OES with written notice of such acceptance. After the UPA accepts, or is deemed to have accepted, the terms of the NOIESP, Cal OES shall schedule a public hearing pursuant to the terms of section (c)(1)(C).

(ii) Appeal. The UPA may appeal the NOIESP by serving Cal OES with: a written explanation of the factual or legal grounds for its appeal; any written supporting argument; and any relevant documentary evidence. After receipt of the appeal, Cal OES shall follow the procedures set forth in section (c)(1)(B).

(iii) Submission of a PIA. The UPA may respond to the NOIESP by serving Cal OES with a proposed PIA. After reviewing the proposed PIA, Cal OES shall either accept the PIA and

follow the procedures set forth in section (c)(2) or reject the proposal and schedule a public hearing pursuant to the terms of section (c)(1)(C)."

"(c)(1)(B) (B) Appeal Procedures. If the UPA appeals the NOIESP, Cal OES shall review the appeal to determine whether the UPA has made a sufficient showing to warrant the reversal or modification of Cal OES' original decision. Upon completion of this review, Cal OES shall affirm, modify, or reverse its original decision. Cal OES shall make its resolution of the appeal available to the public.

(i) Affirmance. If Cal OES affirms its original decision, it shall schedule a public hearing addressing its proposed exercise of the powers of the UPA. This hearing will be conducted pursuant to section (c)(1)(C).

(ii) Reversal. If Cal OES reverses its decision, Cal OES shall serve the UPA with written notice that the NOIESP has been withdrawn.

(iii) Modification. If, based on the appeal, Cal OES decides to modify its original decision, Cal OES shall (1) serve the UPA with an amended NOIESP, specifying the powers Cal OES intends to exercise; and (2) schedule a public hearing on this exercise of powers. This hearing will be conducted pursuant to section (c)(1)(C)."

"(c)(2) Process 2: Referral to the Secretary. As an alternative to the procedures set forth in subsection (c)(1), Cal OES may refer the matter to the Secretary with a written recommendation that the Secretary institute proceedings to either: require the UPA to enter into an PIA, or, decertify the UPA pursuant to Section 25404.4(a), Chapter 6.11 of HSC.

(A) After Cal OES issues this recommendation, the Secretary and Cal OES shall follow the procedures specified in Chapter 6.11 of HSC and any regulations adopted thereto applicable to PIAs or decertification.

(B) If Cal OES recommends an IPA, Cal OES shall work with the Secretary to develop an PIA for the UPA.

(C) If the UPA fails to sign an PIA within a time frame specified by Cal OES or the Secretary, Cal OES, in its discretion, may either: invoke Section 25533(e) of HSC and issue an NOIESP pursuant to subsection (c)(1), or, recommend that the Secretary decertify the UPA pursuant to Section 25404.4(a), Chapter 6.11, of HSC."

CFASE Comments and recommendations:

"(a) Cal OES <u>and CalCRS</u> shall periodically review the UPAs performance to ensure their ability to carry out the requirements of the CalARP Program pursuant to the requirements of Article 2, Chapter 6.95, of HSC and these regulations. This review shall be closely coordinated with the Unified Program periodic review process, pursuant to Section 25404.4 of HSC."

"(c)(1) Process 1: Assumption of Authority by Cal OES <u>and CalCRS</u>. Cal OES shall serve the UPA with a written Notice of Intent to Exercise Specific Powers (NOIESP), which shall inform the UPA of the Director's intent to implement the CalARP Program in the local jurisdiction pursuant to Section 25533(e) of HSC. The NOIESP shall state (i) the powers of the UPA that Cal OES will exercise; (ii) the date on which the exercise of authority shall commence; and, (iii) the reasons it is necessary for Cal OES <u>and CalCRS</u> to assume this authority."

"(c)(1)(A) (i) Acceptance of the NOIESP. The UPA may accept the assumption of authority described in the NOIESP by serving Cal OES and CalCRS with written notice of such acceptance. After the UPA accepts, or is deemed to have accepted, the terms of the NOIESP, Cal OES shall schedule a public hearing pursuant to the terms of section (c)(1)(C).

(ii) Appeal. The UPA may appeal the NOIESP by serving Cal OES and CalCRS with: a written explanation of the factual or legal grounds for its appeal; any written supporting argument; and any relevant documentary evidence. After receipt of the appeal, Cal OES shall follow the procedures set forth in section (c)(1)(B).

(iii) Submission of a PIA. The UPA may respond to the NOIESP by serving Cal OES and CalCRS with a proposed PIA. After reviewing the proposed PIA, Cal OES and CalCRS shall either accept the PIA and follow the procedures set forth in section (c)(2) or reject the proposal and schedule a public hearing pursuant to the terms of section (c)(1)(C)."

"(c)(1)(B) (B) Appeal Procedures. If the UPA appeals the NOIESP, Cal OES and CalCRS shall review the appeal to determine whether the UPA has made a sufficient showing to warrant the reversal or modification of Cal OES' original decision. Upon completion of this review, Cal OES and CalCRS shall affirm, modify, or reverse its original decision. Cal OES and CalCRS shall make its resolution of the appeal available to the public.

(i) Affirmance. If Cal OES and CalCRS affirms its original decision, it shall schedule a public hearing addressing its proposed exercise of the powers of the UPA. This hearing will be conducted pursuant to section (c)(1)(C).

(ii) Reversal. If Cal OES and CalCRS reverses its decision, Cal OES and CalCRS shall serve the UPA with written notice that the NOIESP has been withdrawn.

(iii) Modification. If, based on the appeal, Cal OES and CalCRS decides to modify its original decision, Cal OES shall (1) serve the UPA with an amended NOIESP, specifying the powers Cal OES and CalCRS intends to exercise; and (2) schedule a public hearing on this exercise of powers. This hearing will be conducted pursuant to section (c)(1)(C)."

"(c)(2) Process 2: Referral to the Secretary. As an alternative to the procedures set forth in subsection (c)(1), Cal OES and CalCRS may refer the matter to the Secretary with a written recommendation that the Secretary institute proceedings to either: require the UPA to enter into an PIA, or, decertify the UPA pursuant to Section 25404.4(a), Chapter 6.11 of HSC.

(A) After Cal OES and CalCRS issues this recommendation, the Secretary and Cal OES shall follow the procedures specified in Chapter 6.11 of HSC and any regulations adopted thereto applicable to PIAs or decertification.

(B) If Cal OES and CalCRS recommends an IPA, Cal OES and CalCRS shall work with the Secretary to develop an PIA for the UPA.

(C) If the UPA fails to sign an PIA within a time frame specified by Cal OES and CalCRS or the Secretary, Cal OES and CalCRS, in its discretion, may either: invoke Section 25533(e) of HSC and issue an NOIESP pursuant to subsection (c)(1), or, recommend that the Secretary decertify the UPA pursuant to Section 25404.4(a), Chapter 6.11, of HSC."

AA-97 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-98 Comment

Section 2780.7 Cal OES Authority.

Existing language:
"Nothing in this Chapter shall limit the authority of Cal OES pursuant to Section 25533(f) of HSC."

CFASE Comments and recommendations:
"Nothing in this Chapter shall limit the authority of Cal OES and CalCRS pursuant to Section 25533(f) of HSC."

AA-98 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

AA-99 Comment

Section 2785.1 Technical Assistance.

Existing language:
"(a) The owner or operator of a stationary source shall closely coordinate with the UPA to ensure that appropriate technical standards are applied to the implementation of this chapter."

"(b) The owner or operator of a stationary source shall request assistance from the UPA when necessary to address compliance with this chapter or safety issues regarding unfamiliar processes."

CFASE Comments and recommendations:
"(a) The owner or operator of a stationary source shall closely coordinate with the UPA and CalCRS to ensure that appropriate technical standards are applied to the implementation of this chapter."

"(b) The owner or operator of a stationary source shall request assistance from the UPA and CalCRS when necessary to address compliance with this chapter or safety issues regarding unfamiliar processes."

AA-99 Response

This comment is beyond the scope of the current rulemaking. See response to comment AA-1.

Attachment B

Summary of and Response to Comments Received During Public Hearing on August 31, 2016

AB	Jorge H. Rodriguez, BlueGreen Alliance
AC	Connie Sullivan, Torrance Refinery Action Alliance (TRAA)
AD	Norman Rogers and Lisa Bowman, Tesoro, Carson and United Steel Workers (USW)
AE	Elaine Wilson, Member of Public
AF	Sue Gornick, Western States Petroleum Association
AG	Alicia Rivera, Communities for a Better Environment (CBE)
AH	Roy Love, Member of Public
AI	Sylvia Arredondo, Member of Public
AJ	Steve Salas, Member of Public
AK	Mary Ann McFarland, Member of Public
AL	Joan Wood
AM	Sandra Cartier, Member of Public
AT	Genghmun Eng, Member of Public
AU	Sally Hayati, Ph.D., Torrance Refinery Action Alliance (TRAA)
AV	Jesse Marquez, Coalition For A Safe Environment (CFASE)
AW	Unidentified Speaker, Member of Public

Note: Cal OES incorporates into each and every response herein the following: Cal OES believes that the proposed regulatory language and related rulemaking documents comply with statutory and regulatory requirements.

COMMENTER AB
Jorge H. Rodriguez – BlueGreen Alliance
Public Hearing on August 31, 2016

AB-1 Comment

Good evening.· My name is Jorge Rodriguez, and that's spelled J-O-R-G-E.· Middle initial H, Rodriguez, R-O-D-R-I-G-U-E-Z, and I represent the Blue Green Alliance. The Blue Green Alliance is a national organization made up of 10 labor unions, six environmental organization that was founded 10 years ago by the United Steelworkers and Sierra Club. Our membership is over 16 million strong, including a large number of California members.

Thank you for convening a public meeting this evening. The Blue Green Alliance stands with United Steelworkers in the support of the comments and we stand behind the comments made by sisters and brothers in the environmental justice community. The California EPA proposal to improve accidental release programs is extraordinarily important. Our state narrowly adverted worker fatality at the Chevron Richmond fire in 2010 and the Torrance explosion last year.

Refineries both in North and Southern California continue to experience leaks, fire and explosions, each of which is an indicator of need for great attention to process safety by the refineries. It is our hope that the CalARP regulation will help motivate investment by the refineries and process safety. We have found several weaknesses in the proposal that we believe undermines it's effectiveness in meeting this objective. We're submitting comments for change to the proposal by September 15, and we strongly encourage that you incorporate into the CalARP regulation.

These changes are targeted and reasonable, and we believe they're critical to the effectiveness of the regulation. We found a number of cases where the CalARP proposal differences from Cal-OSHA PSM proposal. In some cases CalARP is stronger and in others it is weaker than the PSM. We encourage the agency to harmonize upward and incorporate the stronger language wherever there are differences.

More important, during ARP proposal industry significantly weaker than drafts issued by CalEPA last year. Why has this occurred? We have identified weaknesses and ambiguities in the CalARP proposal and are substantial enough, and we believe that CalEPA has not fully met it's charge from Governor Jerry Brown spelled out in the 2014 report and the working group on refinery safety. These weakness would allow refinery employees to avoid many of the important regulatory innovations that are contained in the proposal.

For example, as our brother and sisters in the Steelworker 675 noted, when a refinery identifies a proposal -- that a process hazard and has a potential for major incident, it was previously required to conduct a rigorous CalARP of hazard controlled analysis or HCAs within six months to identify the most effective solution to that hazard. The six months time limit insured these solutions would be relevant to the program they were trying to solve -- to the problem they were trying to solve.

The refinery is now under no obligation to complete the HCA under any time frame. They can do it in a year, five years or ten years depending on how much money they invest in it. Similarly CalEPA instructs the six month time limit for conducting the safeguard protection analysis, which is another crucial assessment of the plan of safeguards to prevent a major accident -- incident. Why did CalEPA -- strike that.

-- limits for employees to conduct the analysis. Doesn't this leave workers in community, not to mention the plan itself expose to potentially catastrophe incident. These changes by CalEPA undermine refinery safety, and we believe they go against what the governor called for in the working group report.

Similarly, in the process safety information section CalEPA did not adopt language from the September PSM proposal requiring refineries to report the number of pipe clamps it has applied on each process, along with the length of time these clamps were in place. Refineries apply these clamps as temporary measures in lieu of replacing sections of pipe. And some refineries leave these clamps in place for years and years, simply adding more clamps to the system. Pipe clamps are, therefore, an important process.

Safety indicators, something that shows how much or how little a refinery is investing and maintaining, I still have a little ways to go, it's infrastructure.

Why can't CalEPA chosen to delete the pipe clamp reporting requirement thereby hiding this information from employees and regulators? And the section on corrective actions, CalEPA has allowed the employer to eject or also negate the recommendations made by PSMT that consist of subject matter experts without directly forming team members about employer's decision.

The employee in previous drafts were required to directly communicate this information each team. The employer now is only required to make the information available thereby opening the opportunity for information to be lost or obscured particularly for rank and file members of the team who have many job responsibilities outside participating on a PSMT. Why would CalEPA introduce ambiguous language and communication and accountability and process safety? The proposal allows a refinery to declare that it's own terms and practices can constitute recognized and generally accepted good engineering practices. The burden of proof is on the local complainants to challenge the refineries claim. Clearly, poor engineering and management practices are exactly why California refineries continue to have major incidents.

Why would CalEPA allow refinery managers to make a claim that their internal practices constitute best implemented practices. The Blue Green Alliance has identified a number of problems such as I've described here. We're submitting our recommendations for correcting these problems. These recommendations will strengthen the process. The regulations will come closer to meeting what the governor had requested in the 2014 working group report. At this point CalEPA's proposal falls short of that objective.

In closing, I'd say that this proposal is extraordinarily important, both for California and the nation. Every year 150 catastrophic industrial chemical releases occur in the U.S., according to the U.S. EPA data. Nearly 23 million Americans live one mile of a hazard industrial facility that is required to report worse case scenarios to EPA under the risk management plan, RMP rule, CalEPA has a voice and generation opportunity to rewrite the regulations that stand between California communities and these hazardous industrial facilities.

We strongly urge CalEPA to make every effort to embrace this opportunity and promulgate these regulations.

Thank you very much for your attention this evening.

AB-1 Response

Cal OES thanks the commenter for taking the time to present his concerns. Each of the issues raised by commenter were addressed in the responses to the written comments submitted by BlueGreen Alliance.

COMMENTER AC
Connie Sullivan – Torrance Refinery Action Alliance (TRAA)
Public Hearing on August 31, 2016

AC-1 Comment

MS. SULLIVAN:· I'm Connie Sullivan. I'm with the Torrance Refinery Action Alliance. My comments are my own. I had written questions, but you said you won't entertain questions so I'm going to try turn those into comments. My concern is the use of hydrochloric acids in the Torrance Refinery or the use of modified hydrochloric acid, which is essentially the same thing. One thing I noticed is modify hydrochloric acid doesn't -- I didn't notice this but Dr. Genghmun noticed this, I'll give him credit. He noticed that modified hydrochloric acid does not appear in any of your tables, so I would hate for the Torrance Refinery to rig a lot of these regulations because they would say they used modified hydrochloric acid and not hydrochloric acid.

The community of Torrance has been waiting for hydrochloric acid to be removed from this refinery since the 1990s. We were told it had been removed. We were told it had been made safe, and we found out after the explosion in 2015 that that was a lie. And so we've been waiting a really long time. And I read these regulations, and I'm -- I'm not -- just a member of the community. I'm not technical, and I can't tell from this if these regulations were to be implemented how soon would we be rid of hydrochloric acid in our community.

That is my concern.· And it's not clear with the timelines in here when that would happen. So we – I would -- I would really like to know that. I'd like to see better timelines, more explicit timelines than this document. And then what I don't know from reading this document is what the consequences for non-compliance would be. Perhaps that's in some other regulation outside of this document, but I'd really like to know if there's some teeth in this.

And then, also, on Page 88 Section 2762.16E2C, this is the section about how the owner operator could find the work of the team recommendation to be infeasible. And since the recommendation is infeasible, however a determination of infeasibility shall not be based solely on cost.· I would love to see the word solely stricken. I don't think it should be based on cost at all. They made billions of dollars in the last 20 years while we waited for them to get rid of the hydrochloric acid, and cost should not be a consideration at all.

I think that's all I have to say. Thank you.

AC-1 Response

Cal OES thanks the commenter for taking the time to present her concerns. With regard to concerns regarding hydrochloric acid, Cal OES does not have the authority to ban the use of a substance by way of these regulations. With regard to commenter's concern about section 2762.16, the owner or operator is not permitted to reject a team recommendation where cost is the only determination of infeasibility. However, the proposed regulatory language permits an owner to change a recommendation where an alternative measure is equally safe or safer. This permits the owner or operator the flexibility needed to implement a more cost effective inherent safety measure so long as the alternative inherent safety measure or a safeguard measure so long as the alternative measure is equally safe or safer. Eliminating or reducing a hazard is always preferable to additional layers of protection. Cal OES will take no action on this comment.

COMMENTER AD
Norman Rogers and Lisa Bowman – Tesoro, Carson and United Steel Workers (USW)
Public Hearing on August 31, 2016

AD-1 Comment

MS. BOWMAN: I never use a mic, but I will for you. How about that? There you go.

So right off the bat, good evening. My name Lisa Bowman. That's L-I-S-A, B-O-W-M-A-N. And I am with United Steelworkers. I'm with Local 675. I currently work for Phillip 66. I've been there for 28 years and my union brother...

MR. ROGERS: I am Norman Rogers, N-O-R-M-A-N, R-O-G-E-R-S. I'm a safety rep for Local 675, and I've been at the Carson Refinery for 17 years. And by "Carson," I've worked at that facility but we've been ARCO. We've been BP and now is Tesoro.

MS. BOWMAN: Just like Norm, my company has changed names and has multiple times. In my 28 years, we were Shell, Unocal, Tosco, Phillips, ConocoPhillips and now we're back to Phillips again. So Norm and I have seen a number of changes. We're lucky in the fact that our union cares enough about worker safety to -- actually from every refinery in South Bay, we have safety reps, and we all work together.

And this regulation in particular is very important to the workers on the ground. We have a number of things that we're looking at. We have a number of things that we will be submitting comments to within the next, I believe, week or so. The United Steelworkers we actually want to commend CalEPA for developing the CalARP proposal.

It presents a large number of important safety improvements that with the essential improvements could make a significant difference to the workers and people living in the community. We appreciate the attention to inherently safer systems. That is one of the big ones for us. We definitely, from a worker perspective, want to see changes versus doing policies and procedures, doing upgraded PPE.

We physically want to see an engineered change in our plants. We also support the comments made by the environmental agencies. We want to be clear in stating the proposal does contain a number of weaknesses, though.

It's all you.

MR. ROGERS: Okay.

Right now, without a time limit on conducting -- oh, for example, the governor's report specifically calls on CalEPA to require refineries to implement inherently safer systems to the greatest extent feasible. If the CalEPA lack of a six-month timeline by which the refineries were required to evaluate inherently safer design solutions, leaves us kind of floating. These things work better -- there's a greater chance of success with these when there's a timeline, when there's a deadline.

This time limit was in an earlier CalARP draft and it was also in the September 2015 draft, but it seems to come up missing now.

MS. BOWMAN: We're asking for these time limits because without the limit on conducting hierarchy of hazard control analysis, our union members feel employers will do what they have

always done, and that is rely on these policies and procedures and upgraded PPE, and putting in an extra alarm. We -- we simply want better engineered controls in our plants.

Cutting the time limit actually undermines the PHA's requirements in the proposal and in the application of inherently safer systems and well-engineered safeguards. This will undermine the ability of the regulation to stop the leaks, the fires, explosions, and that are currently occurring across California.

MR. ROGERS: The USW is developing the comprehensive proposal that will include these and several other recommendations. We're calling for very specific but important changes to the proposal. These changes will strengthen the regulation and make it more meaningful as well as more enforceable. Please honor the USW's recommendations by integrating them into this proposal.

I would add, as was mentioned through Lisa and myself, having stayed at the same facility but worked for numerous different owners.· One of the few things that stand as a constant in that situation is what the regulations are, and if those can be as descriptive as possible and error on the side of extra precautions rather than giving the company a pass, it's appreciated by those of us in the refinery, and that's a benefit to the community as well.

This meeting is very special, more special than I think it's given credit for because we're talking about this now when we've had a number of incidents, whether it be ExxonMobil in Torrance, whether it was Chevron Richmond, whether it was the Tesoro sulfur release last week, whether it was the Wilmington Valero release of a hundred pounds of sulfur dioxide, we're having this discussion. No one has lost a life. No one has lost a life.

But you go back down to PSM into being it's because people died. And I urge that things be made as stringent as possible as we move forward because we might not get this opportunity again. It might happen after a number of fatalities and then we're trying to figure out what comes next.

AD-1 Response

Cal OES thanks the commentors for taking the time to present their concerns. The commentors' concern regarding HCA timelines has been addressed in the response to Comment O-1. The remainder of the comments are general in nature.

COMMENTER AE
Elaine Wilson – Member of Public
Public Hearing on August 31, 2016

AE-1 Comment

MS. WILSON:· My name is Elaine Wilson, E-L-A-I-N-E, W-I-L-S-O-N.· I am community member of Torrance. I live on the fence line of the PBF previously known as the ExxonMobil Refinery. I was appalled when the chemical safety board had the beginnings of it's investigations made public and weren't ridiculed by the manager of the refinery, quite a bit of destain.

And I thank all the speakers before me who have mentioned that without teeth, that's what the manager of the refinery got. There is no teeth. You have absolutely no right to tell us what to do and we don't have to. I am up to here (indicating) with that. It took the Chevron Richmond refinery and explosion for the community to wake up and what they have is a very simple monitoring system that will show elevation of dangerous chemicals from the very smallest amount before it is out in the community.

The U.S. EPA has made it very clear, very clear to HUMD that they must provide community monitors. I have a monitor on my home, not put in by the City of Torrance, not put in by the AQMD, not put in by CalEPA. It was put in by the Coalition For Clean Air and the AQMD allows them. They -- they compliment this organization for using a very effective monitor. Unfortunately, this only reflects particulars. Particulars that have never been analyzed. I am hoping to have them analyzed soon, as they did in Richmond when they started analyzing what is being spewed into the air. My house is almost hermetically sealed from the attic, the second story and the first story. I have filters on every heat vent. I have filters on my windows, and I take those filter and they're hermetically sealed.

This is what happened in Richmond. You can't have teeth and regulations unless you know what is being regulated. We talk about hydrochloric acid, cyanide. We don't even know what's in the particulates except they are known to be extremely harmful to lung tissue. Since six months ago I hermetically sealed my home, I went to urgent care twice in the last two years. My -- my lungs hurt so badly.

I reported it to city counsel.· I reported it to AQMD.· Oh, well, I have no more pain in my chest since I have closed off my home.· A nearby neighbor has to wear a mask in her home.· She has breathing problems.· That's not acceptable.· I have a read out here.· There's a spike here that's 1000 percent above baseline from my monitor.

The line underneath is six miles away.· Mine is a fence line monitor.· Quite frankly, I have had it, and from what I have heard from people who know the science and who understand as workers what is at risk for them and their families.· I am tired of all of this language with no teeth and I am tired of chemical safety board being mocked in public by managers of refineries. No, you have no teeth and you have no right, and I don't see what is in your proposals that there's -- there's -- there's so much ambiguity that I'm enraged, but I'm hoping, just hoping, that some of the figures that are going to be released by the analyzing of what we're going to prevent.

In addition to hydrochloric acid and cyanide, what's in particulars?· What are these kids breathing on the soccer field?· Why was my chest hurting and no longer -- no longer hurting?· I no longer have a chronic cough that I had.· And I went to urgent care twice, and I reported it two

more times before that the incidents. So I don't see much, I'm sorry, in your report that's going to help communities.

AE-1 Response

Cal OES thanks the commenter for taking the time to present her concerns. These comments are general in nature and warrant no substantive response.

COMMENTER AF
Sue Gornick – Western States Petroleum Association (WSPA)
Public Hearing August 31, 2016

AF-1 Comment

MS. GORNICK: Good evening.· My name is Sue Gornick, S-U-E, G-O-R-N-I-C-K, and I represent the Western States Petroleum Association, which is a nonprofit trade association representing companies that explore for, produce, refine, transport and market petroleum and petroleum products in California and for other western states.

For the past year WSPA and WSPA member companies as key stakeholders have worked extensively with CalEPA and CalES staff and the development of the Cal regulation amendments. WSPA appreciates staffs engagement of stakeholders which has had a positive impact on the proposal you see before us today. We still have work to do as the CalARP regulation amendment is being done concurrent with the California Department of Industrial Relations CalPSM regulation.

These two proposals as currently written have yet to achieve the harmonization envisioned by the governor's interagency working group on refinery safety. This harmonization is very important to consistent and clear application of both regulations. Examples where this harmonization remains lacking includes differences in definitions between the two regulations. Concise and accurate definitions provide the essential regulatory foundation for the rest of the regulation as well as providing consistency with the CalPSM.

Simply put, a term in one regulation cannot be defined differently in the other regulation. Harmonization is also extremely important to the regulated facility in minimizing confusion in being able to streamline and utilize the same program and approaches with both regulatory requirements. An example would be that the requirements for incident investigation that are outlined in the CalARP should mirror the requirements in PSM.

WSPA continues to works on our comments to propose CalARP regulation and we will be submitting them on September 15th. In addition, we look forward to continuing to work with CalEPA and CalOES and refining the proposed language in the regulation.

WSPA and our members thank you for the opportunity to talk to you today.

AF-1 Response

Cal OES thanks the commenter for taking the time to present her concerns. Each of the issues raised by commenter were addressed in the responses to the written comments submitted by WSPA.

COMMENTER AG
Alicia Rivera – Communities for a Better Environment (CBE)
Public Hearing on August 31, 2016

AG-1 Comment

MS. RIVERA:· My name is Alicia Rivera.· I'm an organizer here in Wilmington with Community For a Better Environment, and I really appreciate the opportunity to provide additional comments today.· I agree with Jesse Marquez and everything he said because what we've noticed is that these regulations really started by one terrible incident, a fire and explosion at the Chevron Richmond refinery.· And when it was realized that the regulation had to be amended and that Chevron had been allowed to continue to operate with faulty equipment for many years.

They run the car until it broke, and it nearly killed 19 workers and sent about 1500 people to the hospital as a result of that accident.· So EPA and the regulators started really well taking comments from the steelworkers who are the expert in refinery operations. And, in fact, the steelworkers are even work with the regulators to draft these recommendations.

Eventually, the steelworkers had given up and have even left the task force because they don't feel that they are really being included and that their recommendations that they provided at the beginning had been watered down or outright disappeared from the booklet.· And so whatever was to be, as Jesse said, a mandatory requirement, now it has been changed to recommendation.· That cannot be done.

We have seen too many times that workers have even died unnecessarily because refineries are allowed to operate under their own rules.· So I am going to read or recommendation here, based on what we've seen, the changes have been in these proposals.· And in addition we will be providing more recommendations by the deadline, of the coming deadline.

First of all, we just had, as Jesse mentioned, another incident here by the Tesoro Refinery.· That's the sulfur tank explosion last week.· It's no insolated incident.· Last year refinery workers concerned went on strike over the safety crisis in their plant.

Chemical spills, fires and explosions that were shown by the U.S. Chemical Safety Board to be caused by preventable oil company management failures have accrued repeatedly at California refineries.· Tens of thousands of Californians were sickened and injured in this accident in 1999 and many were killed.· This unnecessary harm to workers in nearby communities is a clear environmental danger and it must stop.· If you believe stand with refinery workers to demand safety.

What we ask you is to please close the loopholes that were inserted into the currently proposed OSHA safety management rule, without public discussion since September 2015.· Hazard analysis and hierarchy of control safety measures must be required.· There must be deadlines for action.· And workers must be minimum --·meaningfully empowered to help correct safety hazards. They are the experts.· We already have proof that preventable refineries, this accident have been occurring over and over again in the absence of these requirements.

These deadlines we're meeting them and this worker's empowerment but the recent amendment to the proposal, remove these protections.· Those new loopholes must be removed from the rules.· Please include clean and enforceable requirement for inherently safer system analysis, including switching to safer chemical substitute.

This is specially important because extremely hazardous hydro -- hydrogen chloride is still used in Southern California refineries despite these hazardous impairment.· And we have just a couple of miles – not even a mile away right here by the Valero oil company and a few miles farther ExxonMobil.· And because there is no requirement and no deadline, you just tell them, you know what, hydrogen sulfide is pretty bad, pretty darn dangerous, how about switching to, and they say oh, well, we look into it.

They been looking into it ever since they've been told.· And you know what, we don't want an accident with hydrogen sulfide to wipe us out.· Just like in Chevron they were allowed to operate for many years until the corrosive pipe exploded.· But they regulators knew -- knew it and they allowed them to continue operating until it was too late.

HM release has the potential to kill people over a large area here and the proposal could require safer substitute to eliminate that specific hazard, but only if the loophole that failed to require hazardous analysis and hierarchy of control nations by specific deadlines are removed from the proposal.

Please require inherently safer system analysis before new refinery projects are allowed to be built. This is needed because safer alternatives that are feasible before a project is built could be claimed invisible by oil companies after the project is build. And we have examples.· You know, this is like do whatever you're going to do and ask questions later. That's what the refineries are doing.· You know, they started project and they know they're going to get the permit.

And then if they don't get the permit or they say you know what, we already kind of complete it and we spent all this money already.· So that's why -- that's what they could continue to do.· In fact, the Chemical Safety Board already has told California officials --official.· It is simple, less expensive and more effective to introduce inherently safer features during the design process of the facility rather than after the process is already operating.

The proposal sits inherently safer system, but as proposed it allows project to be built before inherently safer system can be required through a hierarchy of controlled nation. This loophole must be closed in the final rules. Please do not allow oil companies to keep safety information where communities have a right to know secret.

The proposal provides this information including incident report, hierarchy control report, enclose the hazard analysis report to worker, but does not require them to disclose.· This is unacceptable and is unnecessary because as clinical safety board reports prove this information can be founded without disclosing confidential information. For example, if Chevron was required to give to community, it was ignoring its own workers' request to keep the safety problem that left the refinery fire that sent 15,000 people to the hospital.· During the 10 years before that happened we might have prevented that disaster.· Secrets are harmful.

So this is a -- we would be providing these and additional recommendations.· And, again, we believe that if you truly want to protect communities and make refineries accountable, you have to work with the community, work with the worker, accept what we recommend and don't keep allowing the refineries to chose whether they want to do it or not.

Thank you very much.

AG-1 Response

Cal OES thanks the commenter for taking the time to present her concerns. Each of the issues raised by commenter were addressed in the responses to the written comments submitted by Communities for a Better Environment (CBE).

COMMENTER AH
Roy Love – Member of Public
Public Hearing on August 31, 2016

AH-1 Comment

MR. LOVE:· Good evening.· My name is Roye Love and I've lived in Carson for the last 50 or so years, and I have to admit I haven't had a chance to read all the regulations.· I just was given this yesterday, but since I've been here I've learned a great deal and I know I can safely endorse what Alicia has just said from CVE, Jesse, all of this has been my experience, and, of course, the Dr. Eng and the group of -- from the Torrance area.

Sometime ago I even went to complaining of problems with BP before they changed it.· They had hundreds of violations, but I was concerned that nothing was done.· And so I have that same feeling here.· We have a lot of regulations, but I'm not sure there are any teeth.· So I believe you need to have something in there where there are some consequences as it had been mentioned.

Now, in my town of Carson of CalEPA, I looked at a report they had and their environmental screen, and it said that Carson really, where I live, that we had more emissions than 90 some percent of the areas in California.

At the same time a few years ago when we had Senator Oropeza, and they looked at the asthma hospitalization rate in the City of Carson, it was the highest.· What I'm trying to say is I believe when we come up with these regulations, not only are we looking at the chemicals and what that situation, but you need to look at the population, look at the site where that refinery is operating.

And so I believe that you need to individualize, even though we're going state wide, but in certain areas after they reach a certain threshold, you need to have some kind of regulation so that we can take care of that.· So it doesn't do us a great deal if we have a counselor because the explosion when it's the same time everyday, there are these emission.· And they continue to -- to blame us.

And so I think you need to at least look at it from that standpoint of view.· So I would also say, of course, as the indicator that maybe when you have a definition you say of extremely hazardous substances --well, all of this stuff is hazardous.· We just don't want to put in that category because then people thinking, hey, well, I'll only wait for that once in a moon situation.

But we've got to keep that -- keep their feet to the fire.· And, of course, I like that it mentions the terms of the dust.· Yeah, things happen in Torrance, but, hey, I was catching it on my car right there in Carson.· So we all are caught in the situation. Inspections, I think there need to be all kinds of inspections.· I don't know.· When I see those regulations, I wander who's going to be enforcing this? How much staff are you going to have doing it?· I – you know, it just seem to me just real sharp going approach which very little after can be accomplished.· So that's an area that I am looking at, and, of course, the idea about a monitor.· There's a lady -- I don't really want to live where my house is hermetically sealed for me to go outside.

But, certainly, I think we need to think about them providing some kind of monitors for us.· So I intend to submit some statements and I'm not representing anyone.· I'm just simply a resident of the City of Carson who wants to live a little bit longer and wants my family and everybody else to do the same.· So that is, essentially, my experience with AQMD.· As in

particular, things have not always worked that way. And, of course, with the new board they have there, it's even worse.

So -- but thank you, and I will be submitting writings.· But I just want you to know the main thing is let's look at adding some teeth in the regulations and let's listen to what everyone has said here.

AH-1 Response

These comments are general in nature and do not require a response. Cal OES thanks Mr. Love for taking the time to present his concerns.

COMMENTER AI
Sylvia Arredondo – Member of Public
Public Hearing on August 31, 2016

AI-1 Comment

Hey, good evening.· Thank you so much for having an open meeting, I guess, and, somewhat open, and also for going through the process of making our refineries safer.· Although there's still things that --

MR. HARRAH:· Could you spell your name --

MS. ARREDONDO:· Oh, sorry.

MR. HARRAH:· -- for the court reporter.

MS. ARREDONDO:· Yes.· Sylvia, S-Y-L-V-I-A, Arredondo, A-R-R-E-D-O-N-D-O.· So I am also a life-long resident of Wilmington and I also am really fortunate to work with an organization, a community organization that is able -- that has scientist and researchers that can breakdown this very complex information.· And it's only because of them that, you know, I'm notified of this meeting.· And, yeah, I just wanted to say that.

And I also wanted to echo the United Steelworkers, right, when our refinery workers are demanding safety, we not only have to hear them, not only listen to them, but actually act on what our refinery workers are demanding.· When we have a -- or, like, when the refineries I guess what I'm trying – how do I want to say it, right.· Worker -- refinery worker and health and safety means community health and safety.

And for me, that's number one priority growing up around here in Wilmington and being around all these refineries.· I've lived through a couple of different explosions locally here and just what the impact looks like.· Fortunately, I think, you know, at least – I don't know right now.· But, you know, when they say no one has died in like the immediate time of an explosion, more recently in these last few months with the Tesoro and the Chevron refinery.

Maybe it's not immediate, but it has long-term impacts, medical bills, our health, what does that look like on a day-to-day and just because it's not immediate doesn't mean it's not anymore so important or critical. And so just like Alicia had mentioned, she went through a list of certain demands and I can definitely -- I'm going to echo some of those because those are also CBEs, ·Community For Better Environment, some of their comments that they'll be submitting.

And I just want to highlight a few of those here today, cool.· So please plug the loopholes that were inserted into the currently proposed process safety management rules.· So hazard analysis and hierarchy and controls, safety measures must be required.· There must be deadlines for action and workers must be meaningfully empowered to help correct safety hazards.

Please include clear and enforceable requirements ·for inherently safer systems analysis, including switching to safer chemical substitutes.· This is critically and more so specially important because of the extremely hazard -- hazardous modify hydrogen chloride.· And we all know what happened at the ExxonMobil in Torrance.· So please require inherently safer systems

analysis before new refinery projects are permitted and built and also please do not allow oil companies to keep safety information from our communities.

We have a right to know.· And really when it comes down to it, if Chevron was required to tell our communities and the -- or the community of Richmond, right, what it -- that it was ignoring its own workers' requests to fix the safety problems that lead to its refinery fire, that disaster might have been prevented. So thank you.

AI-1 Response

These comments are general in nature and no response is required. Cal OES thanks Ms. Arredondo for taking the time to present her concerns and comments.

COMMENTER AJ
Steve Salas – Member of Public
Public Hearing on August 31, 2016

AJ-1 Comment

MR. SALAS:· Hello everyone.· My name is Steve Salas, S-T-E-V-E.· Last name S-A-L-A-S.· I wasn't really planning to speak today, but I guess I thought I would give a couple of comments.· I'm not an expert.· First of all, until we find those teeth that we're all looking for, I would like to ask who here is younger than 30 years old?· Please raise your hand if you're younger than 30?· One, two, three, four, five people.

Five people here younger than 30.· Once again, until we find those teeth, I would like to hear – once again, I'm not an expert.· I'm not -- I don't have the knowledge that many of you here have.· I'm not a doctor or a Ph.D.· Like Jesse said, he's been doing this for years.· I'm barely getting involved and knowing about all these chemicals and VOCs and NOx and whatever abbreviation you want to use. There are so many elements out there.

I would like to -- I would like to get a fair warning.· What I mean by fair warning is whenever there's a type of flaring or explosion or leak, whatever you want to call it, you see these pipes go up in the air -- this last explosion at Valero I was just going through Instagram.· My wife said some type of explosion happened in Valero.· I started looking at Instagram, searching, searching.· The next thing that I read is the Carson Sheriff Department said bunker down, stay indoors or get out of the city.· And this is about two hours after it happened.

So I'm like how did we not get a fair warning? Amber alert?· The reason why I asked who here's under 30, this new era, millennials, there's actually things called apps.· What I'm hopefully suggesting is maybe we can ask the refineries or this board, whatever you want to call it, some type of app that we get a fair warning. My daughter was at school at the time when this explosion or leak happened.· Maybe this principal there can get a rotary call or download this app that when something happens like that, they can tell all the kids get inside the building.

It is unsafe to breath these elements, chemicals, whatever you want to call them.· I mean, again, I'm not an expert, but I would like to get a fair warning.· Like the lady said, she has her house sealed up completely. I can't afford that.· Here in Wilmington, a very low income community, the study came out that this community of Wilmington out of 88 cities, we're the bottom 10 of pretty much poverty.· So most people that I know, frankly, neighbors, they leave their windows open, turn on the fan and let the air come in, and that is their AC when it's hot out.· That is their form of air conditioning.

It's just so hot they leave their doors open, leave their windows open.· Everything -- so once again, I'm asking for a fair warning that if the air is unsafe, I get that alert.· I close my doors, my windows.· I turn off the fans, so the air doesn't come in.· This way I don't have to breath it as much and this way the kids are more safer.

So once again, thank you for your time.· Thank all of you guys that are here, you know, fighting, pushing, struggling, whatever you want to call it, thank you guys for all the time and effort you guys put into it.· I appreciate it.· I'm not expert, once again.· And I got asked here to come and I just came to support.

Thank you guys for your time.

AJ-1 Response

These comments are general in nature and do not directly address the current rulemaking effort. The emergency response plan, which includes public warning, is being addressed in a separate rulemaking. Cal OES thanks Mr. Salas for taking the time to express his concerns.

COMMENTER AK
Mary Ann McFarland – Member of Public
Public Hearing on August 31, 2016

AK-1 Comment

MCFARLAND:· Yes, my name is Mary Ann McFarland. That's M-A-R-Y A-N-N, M-C-F-A-R-L-A-N-D.· I -- I just have a comment about the teeth that you need in this. You need to have timelines in this.· I agree with everybody who brought that up.· And the other thing is some of the people here were at the USB meeting.· I was there, and there was a comment made at that meeting that will illustrate the attitude of some of the people at the refinery.

First of all, they packed our meeting with workers.· They had these conferences on company time and they were paid to be there and they told them to show up in mass at our meeting so that there was no place for the community to sit.· And they got there an hour early. They took all the seats, and they got up one after the other talking and saying oh, there's nothing wrong, there's nothing wrong.· We work there, blah, blah, blah, because their bosses are sitting right there.

And when the USB had a meeting, they were really giving the refinery the business because their investigators started hallucinating all the things that were wrong with the refinery that had gone on for years without being remedied.· And then the general manager got up there and made a statement that I will -- I would frame.· He said that the day of the refinery explosion was no worse than a walk on the beach on a windy day, quote, unquote.· That's exactly what he said. And the arrogance -- the arrogance of the refineries has to be addressed and it has to be addressed by having laws that have deadlines and teeth in them that their forced to do things.· He even had the -- a mitigated audacity to tell the USB that they didn't have any jurisdiction to say anything about anything and actually told Vanessa Sutherland that when she was explaining that they have no teeth.

They're a government investigator and they can't regulate, they can't do anything.· They just investigate explosions.· And he was actually being hostile to her for having the audacity to be telling what they did wrong.· And we've got to stop that.· I'm so sick and tired of refineries.· And they talk up a good story, but they don't do anything to help their community. And our city doesn't do anything either because they rely on a third of their budget from the refineries.

AK-1 Response

These comments are general in nature and are not addressed toward any provision in the current rulemaking. Cal OES thanks Ms. McFarland for taking the time to express her concerns.

COMMENTER AL
Joan Wood – Torrance Refinery Action Alliance (TRAA)
Public Hearing on August 31, 2016

AL-1 Comment

The main thing that I wanted to say when I think about this and I'm nervous I never speak in front of anybody, but I want to remind everybody, you know, as far as --· I belong to the TRAA, and sometimes I feel like all these government agencies, you give lip service to us and sometimes, you know, Torrance is a city.· It's not huge, and I feel like sometimes they're not heard because they're not large, so to speak.

But I've looked at different things with the city of L.A., you know, sometimes -- sorry.· Sometimes there are worse case scenarios.· 9/11 is coming up, and I lived in Pennsylvania very close to New York City and I knew a lot of people and I knew a gentleman myself personally who died in 9/11 and it was the worse case scenario.· And I am asking you to realize that you can do all the preventative things that you want to do and there can still be worse case scenarios.

L.A. -- I looked up the information on Los Angeles -- on the Los Angeles Economic Development Corporation Report, and I know their refineries make a lot of money.· I know they bring a lot of money into the City of Torrance, but the county of L.A. -- I think Sally had done a report or somebody had that said if we had a catastrophic incident at the refinery, the modified hydrochloric acid could go out as far as 15 miles.

I don't know if that's completely true or not, but I'm assuming that it could be with the amount of hydrochloric acid on the property.· And I want to read through just a couple of things.· One of them is that L.A. has a gross regional product of $544 billion, and that -- also, that the port of L.A. in Long Beach moved one-third of all container traffic in the United States. That for tourism and hospitality, L.A. hosted in 2011, 26.9 million people in L.A. who spent a total of $15.2 billion.

Those are just -- and that also, are defense and aerospace industry.· My husband works for a defense contractor, and they employee 56,000 people just in L.A. and there are -- and it's home to over 300 companies in the aerospace vehicle and defense industry.

My point is that if something happened that was catastrophic, worse case scenario, everything would be affected across the entire United States.· And if something happened even I think the report that ExxonMobil made to the EPA about if two percent of 50,000 gallon tank -- I could be stating this wrong -- 300,000 people could be dead.· That is more people than Nagasaki and Hiroshima put together, and I want you to reflect on that information.

If the newspapers reported this across the country, they'd declare it the largest disaster in the history of the United States.· They'd say that there is a lack of government oversight that could have avoided this disaster.· They say there are preventable solutions ignored for decades and decades and decades.· I think the first explosion I personally read about was back in 1947, and here we are in 2016.· That's disgusting.· It's really disgusting.· It really is.

The stock market would plunge.· It would just crash.· It would kill our entire United States economy. The housing market would crash because you have millions of people United States wide, and I forget how many million, like 26 million people who live in death zones created by refineries.

LAX would be closed probably indefinitely, and who would want to come to California?· Nobody.· Nobody. I would like you guys, the people who make the decision, to be -

- to really be the ones to make a difference. Make a difference.· I know you're sitting there.· I know you know what you should do.· I'm sure you feel your hands are tied a lot.

Be the ones to make a difference and make it Landmark legislation across the entire -- set the stage across the entire United States to change this.· It can be changed.· It can be changed.· ExxonMobil itself was like on Forbes -- in Forbes, the fifth largest company making the most amount of money in the entire United States.· Just be the catalyst for the change and be applauded for it.· And make it something you pass to your children that you're proud of.

I would rather tell my children or grandchildren, if I ever had any, that, you know what, I was part of this movement that changed America for the best for generations.

And that's all I have to say.· Thank you.

AL-1 Response

Ms. Wood's comments are general in nature. Because they do not address the current rulemaking, no response is required. Cal OES thanks Ms. Wood for taking the time to express her concerns.

COMMENTER AM
Sandra Cartier – Member of Public
Public Hearing on August 31, 2016

AM-1 Comment

MS. CARTIER:· My name is Sandy Cartier, S-A-N-D-Y ·C-A-R-T-I-E-R.· What I see in having worked in a profession that was highly regulated and continues to be more regulated than the medical field.· I happen to be in laboratory sciences.· We have inspections at least every other year and with other fields within our field more often.· With specialty organizations, with state organizations, national organizations, there's usually an inspection on our list coming up very soon.

I can't see why this industry seems to be so free of that and that the governing bodies that relate to it have no power.· If the FDA had as much power as the EPA, we wouldn't be doing very well as a society.· The EPA, OSHA, everybody else that has this description of a regulatory agency needs to be empowered with the ability to shut somebody down immediately.· No questions asked until verification it's safe to go forward.· If it remains -- means removing an entire entity, like, the use of hydrochloric acid or modified hydrochloric acid, that needs to be done.· Why do they have a business license to go forward unconditionally that the governor, the legislature, the USA, you know, congress, the president, somebody, needs to step up and use their cojones to make it happen.

The other part, basically, is having worked in a little bit of a side job where I was very close to the owner of the business.· And every improvement he made on annual basis was tax deductible, and he made sure he took advantage of doing that.· I don't see why that if organizations can use loop holes to avoid taxes, why can't they institute a practice that's, basically, a freebee.

The government is going to let them write it off, but, no, they rather just bury a few people.· They don't know our names.· They don't know what you've done for your life, whose life you might've saved, or what children might've done well in the fields of science, research, astronomy, whatever is to be done in the world in humanitarian services, you're going to kill them off just because they happen to live within a refinery zone? It doesn't make any sense to me.

I just hope they can come to their senses and put some power behind the effort that I'm sure all of you've made to make this, basically, folder of procedures come together, but it has to have some kind of punishment behind failure to act and that these time limits are absolutely necessary.· 90 days is fine with me.· Six months is a bit too long.

So I think based on the effort and feasibility of getting things from point A to point B should be the limiting factor.

That's all.

AM-1 Response

These comments are general in nature and do not directly address the current rulemaking. Cal OES thanks Ms. Cartier for taking the time to express her concerns.

COMMENTER AT
Dr. Genghmun Eng– Member of the Public
Public Hearing on August 31, 2016

AT-1 Comment

DR . ENG : Thank you , Dr .Genghmun Eng, G- E- N-G-H-M-U-N , E- N-G , and I have given you a paper copies of everything and I think there's many places where you have both extremely hazardous and highly hazardous. You should, I think, make it all consistent and say that these regulations all apply highly or extremely hazardous substances and make it consistent throughout the whole CalARP proposal. The other thing is a kind of regulated substances that you have. I think one of the key things is if you have a few ounces of something it ' s - - it ' s going to be very difficult for to kill lots of people. If you have 50,000 pounds of it on your side or 250,000 pounds, that's a lot different. So I think since this is refinery specific, I would like a whole bunch of stuff that are actually used in gigantic quantities at refineries to be added to your Page 106 table 3 of regulated compounds.

For example, the list has hydrocyanic acid, but it doesn't have HC and gas. It has hydrogen chloride, but it should also have hydrochloric acid, hydrochloric acid modified. There are a lot of other things like atroscine, asbestos stuff, benzine. They all should be on the list of stuff that falls within your regulations or all these regulations don't apply. And then the other thing is that we learn from the Torrance -- I 1m a member of Torrance community. This catalyst dust got spread over miles. Never been on offsite consequence analysis because nobody ever expected it to happen, but it happened. And so you have -- you know, again, they have many thousands of pounds of this stuff, so I would like all the kinds of catalyst dust, equilibrium catalyst dust, fresh catalyst dust, catalyst dust EM2.5, it's the fine stuff. Things like aragonite dust, asbestos dust, out of sight dust, hydrocide modified, all these things are added to the list of hazardous materials that come under your purview, otherwise none of these wonderful regulations apply to, for example, what the likely root cause of the explosion itself which created the near miss that happened in the FCCU which has a lot of this catalyst dust in it.

Those are not covered. I think that's a very key addition, and I wrote -- I looked up, since they don't really tell you what catalyst dust is, but I looked up on the internet and did a lot of my own studies, so I made my best guess of what catalyst dust is made out of.

I also wanted to comment that HCN is on your list, hydrogen cyanide and, you know, if you do an elemental analysis of hydrogen cyanide, you'd say it's hydrogen carbon nitrogen, which are all elements of humans so, therefore, it's innocuous by element alone, but now its chemical configuration which is what makes it dangerous. The AQMD when they said the dust was innocuous it was only by elemental analysis, totally inadequate. I bothered the AQMD about that, but I wanted to bother you guys, too, about it that the chemistry for these things are, these

dust, it's not just like, for example, ExxonMobil has put out their~- their spent catalyst dust. They only listed the materials that went into the catalyst dust before they made it, but these are engineered materials which are very different bioactivity.

That's why they're -- you can't just throw the silica and calionite in your FCCU and have it work as a catalyst. You have to create an engineered material out of it and so, therefore, you expect that since all of the while, you know the dead clamps anyway that a lot of humans it may have a very important different bioactivity than its constituents. So that's -- that's what I -- I wrote -- I put a lot of appendices on hazardous dust.

Major change, I'd like one thing added to that in Section 227353GG, not only process equipment or process chemistry or any alteration in the definition of safe operating limits because the SCAQMD allowed them to have the different safe operating limit for their steam screen to prevent stuff from going into the ESP, and it helped make it blowup. So I think that's another very important addition.

And in terms of qualified person sections 2735.3GGG, I'd like to have you add any member of the public shall be able to question the validity and appropriateness of the project PHA for the completeness of their risk management plan by submitting their concerns in writing to the appropriate CalOES personnel. The CalOES personnel determine these public concerns are valid. Those CalOES personnel shall be deemed as a qualified person for qualified purposes -- persons for the purposes of affecting improvements in the PHA or -and/ or RMP to ensure that the CalARP is properly protected for the public health.

In other words, we've got a lot of people in the community, and this would open the door to us being able to see everything, which we already do see, but to actually be able to have an affecting comment on it.

And so those are the main things. I also wanted RMP and PAK to be added to where you presently have only RMP. And so you can read this. Maybe if I spend 30 seconds more , 2745.10.5 is also to allow any modifications determined by CalOES personnel or as _a result of CalOES to review of process and revalidation shall be part of the owner.

Thank you very much.

AT-1 Response

Cal OES thanks the commenter for taking the time to present his concerns. Each of the issues Dr. Eng raised in his testimony were addressed in the responses to his written comments. Please see responses to Comments C-1 through C-12.

COMMENTER AU
Dr. Sally Hayati– Torrance Refinery Action Alliance
Public Hearing on August 31, 2016

AU-1 Comment

Hi, my name is Sally Hayati . I'm with the Torrance Refinery Action Alliance. I'm planning on submitting written comments, too. I think you're still accepting those for a while longer. I just wanted to say I do approve of the emphasis I see in your documents on inherently safer design in technology. There's been a lot of talk about switching to inherently safer processes and so forth, but I see nothing in the regulations that gives me confidence that real improvement is going to result from these proposed amendments.

So, for example, when we were just talking about hierarchy of hazard controls a minute ago, the - - you mentioned that you want to get refineries to look at if they can eliminate a risk, and that seems very reasonable. If you're running a complex dangerous operation like a refinery, you should want to get rid of risks. And so if you’re forced to look at how you can do that, that might theoretically result in the elimination of some, but unfortunately, it doesn't seem to work that way.

The Torrance Refinery, for example, knows very well that it could eliminate hydrochloric acid. It went out of its way for years and years, when it was Mobil to deceive the public into thinking it was doing exactly that, replacing hydrochloric acid with a safer version of it that would reduce the impact of a release with modified hydrochloric acid. But then it secretly switched back to using 90 percent HF. Our government went along with it. The AQMD went along with it, the City of Torrance. So the Torrance Refinery knows it could use sulfuric acid which is safer even though more of it is required. It knows that it could switch to solid acid perhaps, but it doesn't want to.

As far as it's own internal processes or concern, it's fine with HF. It's willing to take that risk and I don't see anything in these regulations that will force them to switch. So of all the many refinery risks, modified hydrochloric acid and all of California has a greatest disaster potential for a single accident. So a single accident could cause mass casualties. Literally thousands of deaths possibly if a very bad accident happens.

Now, RAND back in 2013 in the same effort wrote a report to the interagency working group saying that California’s model of work safety regulation puts more emphasis on investigating serious accidents that have occurred and less on planned inspections. This model is poorly suited to ensure safety at very complex facilities characterized by risks that have low frequency but very high disaster potential, and that's what we've got here, hydrochloric acid, modified hydrochloric acid.

You don't have a very high accident frequency clearly. It only takes one accident that's even – even if it reaches out into the community without killing people before that's going to be gone because the entire South Bay will rise up and say why are we the sacrifice zone. Alone in

California we have HF still in our refinery. Even Bakersfield wouldn't allow it. Just one accident and then we won't need any of these hierarchy of control analysis. We're just going to get rid of it. But why do we have to wait until some of us die or are terrorized or suffer. So I see in these regulations a focus on persuasion, ideas, giving ideas of how things could be improved in the future, bringing so-called experts in who could be expert similar to the safety advisor for the consent decree who advised us into using 90 percent HF. So a focus on major changes to units in order to trigger possibly a change to inherently safer technology or accidents.

So this isn't helpful, because they're not going to be making major changes, the compilation unit. They know better than that. They're not going to trigger a possible need to switch to a safer technology. And if there is an accident triggering, that’s too late. So the accident is going to happen. And I see in the regulation lots of talk, like, in okay. This is which one? This is Section 2762.13, when a major accident occurs they shall complete a new one. So getting all these nice reports done, not very helpful with the key danger that we're talking about.

First order safety measures, we already know what it should be. We need to do it now. It needs to be mandated by the regulation instead of not even mentioned not even acknowledged that it's the single greatest hazard that could easily be switched out by first order change. But I also see that the owner or operator may change a team recommendation in terms of inherently safer technology if the owner or operator can demonstrate in writing that an alternative inherent safety measure would provide an equivalent or higher order of inherent safety.

So this is the problem because our refinery already has provided in writing documentation that modified hydrochloric acid is safer than sulfuric acid. This is a lie. It’s easily shown. The EPA itself acknowledges that MHF is far more dangerous than sulfuric acid. But even the EPA of little consequence analysis is off. It's completely wrong. The assessment of the risk level is far too low.

But even that low ball estimate makes it clear that this proof that they have was bogus, was false. And MHF is a fraud. So that’s a problem. We've got the Torrance Fire Department managing the Cal -- or the program. And they're not doing a good job managing it. They don't have the expertise. They're influenced by their respect for the expertise of the refinery and by their feeling of comradery and all their close cooperation. These are natural human responses to working with people. This is one of the dangers of that kind of close connection between them, and they don't have the technical expertise, and they don't have -- they don't -- because of their close connection, they don't have the suspicion to question claims made by the refinery. So in order to assess what risk is, what is inherently safer and what isn't, you need to be able to assess what the actual hazard is.

Now, for many chemicals that's not difficult because they're all the same everywhere. If it's HF, There’s no question. Everybody knows it's far more dangerous than sulfuric acid. But with MHF, it's a little more subtle. You need to do a lot of work. You need to investigate, and there isn't a single independent expert doing that out there because it's not a big deal. Only 10 refineries use it in the nation. So we need a different look at this one hazard, and maybe others that I'm not aware of. But this one MHF, this hazard needs a lot more attention. We are

public safety is not being served by our regulatory agencies, not CalAPA, not the EPA, not the AQMD, not the Torrance Fire Department. It isn't even acknowledge what the real level of risk is, and it's pretty infuriating.

So it's one thing if the -- you're talking about not paying attention. A cost, the cost shouldn't be the main issue, but here cost is the only issue. There is no question that it should be gone and replaced. So cost is the only issue. If it weren't for the cost of replacing it with sulfuric acid, it would just be done, if it was free. So that shouldn't be the case. People's lives should come first. Thank you.

AU-1 Response

Cal OES thanks the commenter for taking the time to present her concerns. Please see Cal OES's Response to Dr. Hayati's written comment, Comment K-1**.** Similar to her written comment, Dr. Hayati's concerns and requested actions are outside the scope of the current rulemaking. Cal OES will take no action on this comment.

COMMENTER AV
Jesse Marquez– Coalition For A Safe Environment
Public Hearing on August 31, 2016

AV- 1 Comment
My name is Jesse Marquez. I'm a lifetime resident of Wilmington. It's J-E-S-S-E, M-A-R-Q-U-E-Z. I'm also the founder and executive director of the Coalition for a Safe Environment. And so you also know my perspective on the petroleum industry, I'm a living survivor of an explosion of a refinery in my front yard. Back in the late '60s when I was 16 years old, the Fletcher Oil and Refining in Carson blew up. Every member of my family was burned, seven of us, and 200 residents and two workers were killed on that day.

I want to first begin by getting the attention of every government agency person here. It is a fact that oil refineries, the petroleum industry and their trade associations have absolutely no rights under law. There is no California law. There is no federal law that guarantees them rights.

The laws do state that we, the public, have rights to public safety. We have the right to clean air. We have the right for good health. We have the right for good welfare. These are all rights guaranteed to protect us by law. Refineries and other business exist because a city, county or agency gives them a business license or a permit to operate.

So it is at our city counties and agencies discretion that they are allowed to operate and to make a profit. And, yes, they do provide jobs. I'm not denying they don't provide some type of economic benefit, but then new agencies have no right to supersede our rights to be protected from any dangers of safety.

I want to clarify something else. What I do see happening in these regulations is that you're codifying the strength of the CUPAs. I see you've crossed off the AA and everything there and you're, in fact, giving more rules and rights and regulations to the CUPAs. Well, I want to state for the record right now our organization and I have no vote of confidence for CUPAs.

I ask everyone here to look up the last report by the Los Angeles Fire Department who is a licensed regulated CUPA to see how they did on their last audit by CalEPA. They failed. They were completely unsatisfactory in the report. As of this year, they –I mean, as of that -- they did an audit back in 2014. There were 19 violations. They just submitted their latest report which was the fifth progress report. They've only complied so far with eight out of those 19, and they're still rated unsatisfactory. We want a government agency to be that authority; not a community, not a city, not a county, who's subject to whatever political whims and budgets that are out there. Wilmington has three other refineries under the Los Angeles City Fire Department CUPA. Nothing has stopped any of them from blowing up, causing a fire and causing harm to the public and to our environment.

In the procedures you prepared I see nothing that stopped or would've stopped the explosion at the ExxonMobil, nothing would’ve stopped the explosion that just happened this past Friday at the Carson Tesoro.

Should we depend on the AQMD? No. We cannot depend on the AQMD as the other appropriate government agency. They prepare a Title 5 permit and then none of their
Title 5 permits do they deal with the subject of worker and public safety. What have we recommended that would be a good safety feature? Well , part of the major incidents we have is like flaring , for example . Can flaring be prevented? Yes. We listen to the petroleum industry and their trade association saying that flaring we had -- i t's a good thing . It prevents, you know, the explosion, la, la, la. I guess we're burning the gases.

But, see, we the public are not stupid. Some of us residents grew up and we do research, like we heard the previous speakers and other speakers here, where I looked up the U.S. EPA website or it ' s 15 years ago they approved , validated vapor recovery units which means instead of the gases being directed to a combustible flare unit , they are redirected through a pipe to an empty tank and stored. Therefore, refineries are not losing their profits and burning them away.

Technology exists, and that falls into a category you mentioned earlier, the definition of feasibility. So we don't want government agencies playing games with us. There is feasible technologies. You identified those feasible technologies, so in this report, in this document, these proceedings , these regulations you're creating, you make it mandatory that every technology that's feasible be identified. I don't want to be playing games with you. Showing up – refineries showing up, AQMD showing up, And all of a sudden we, the public, are supposed to guess what technologies are supposed to be using. No.

We want a government agency to establish what is the baseline standard. If vapor recovery units exist, have been certified and they work, they're cost effective, they're mandatory, automatically mandatory. And Section 2762.1, process safety information, it says, "owner/operator shall develop a written process safety information." We want a designated state agency to approve that process safety information.

You expect me and all of us residents to trust the refinery to develop something where they have failed every year. There are explosions. There are fires. There are malfunctions. There are breakdowns every year at a refinery. They cannot be trusted. We do not want to leave it to them anymore. We also want that public safety information not just to be available to the workers, we want it to be available to the public and subject to public review. Because why is it that I, a lonely resident never having worked for a petroleum company or have a petroleum engineer shows up and at two senate hearings in the city of Torrance of an ExxonMobil. I mean, every government agency is there and the senate committee asked every one of those dozen people why did the electrostatic precipitator blowup, and everyone spoke and said they do not know why. They had no clue whatsoever.

But little homeboy Jesse, growing up in eastside Wilmington poor as a little mouse, what did I do before going into the meeting, I went on this thing called a computer and I went to the this thing called the internet and I went to this· thing called a search engine and I typed in electrostatic precipitator explosions. Now, do you think this was the first time on planet Earth that's ever happened? Every explosion that's ever happened at a refinery has happened multiple times. So I told the senate committee why it blew up. Now, yes, the plant manager was correct. He stated there there's nothing in it that can blow up, which is true. There's nothing an ESP that

can blow up. There's no gas it in. There's no fuel in it. You know, there's nothing combustible in it unless something else happens.

And what is that something else that I learned, a lonely earthling here, if a combustible vapor gas enters it, then it gets ignited and blows up. But why did that happen and that's where it comes to the workers right here where we say the workers have a right to be able to stop the process. Workers that day smelled gas fumes and no one told them to stop working. No one told them move to another location. And by the way, why isn't there any operating ~missions control equipment that detected the vapor leak? But yet AQMD shows up in Torrance with all these testing equipment, not a one of them was working on the day of that explosion there at that refinery. So don't BS the public. We, the public, have the right to know because a lot of us do research, as you've heard some of the public members already, where we do have great excellent recommendations. Some of us come from different backgrounds so we can provide more in depth recommendations based on our experience. Other of us, like me, who already suffer from osmosis, but yet I'm here to protect my community and to support and protect other communities because what we have in common is the right to be protected, the right to live, the right to breath air, the right to go to bed safe and sound and peace of mind. Those are rights in the law. Refineries have no rights.

I'll just mention two other sections. Section 2762.2, process hazards analysis, "owner/operator shall work with a CUPA in setting at least one of the following methods." There's that bad word again, CUPA. CUPAs cannot be trusted. I told you L.A. Fire Department already failed and unsatisfactory on all five reports so far. No. We object to this. We want all methods to be identified and require -- no, I don't want to find out that one refinery in Richmond had to do it because, you know, city counsel there said you're going to do everything and all of a sudden the City of Torrance, the City of El Segundo, the City of L.A. are the dummies letting the petroleum industry tell them what to do and didn't do anything.

Okay. So then we want to make sure that they are identified, they' re required and standardize so that every community has the same safety level based on the best test out there.

The third one I'm going to mention is 2762.2-1.1, safeguard protection analysis. A brief scenario, where an PHA identifies the potential for a major incident. No. We object to this. We want a state agency to identify and establish a master list of where a PHA will be required. I don't want the refineries deciding when or what they do and do not want to do. This -- we want it mandatory. We want the state agency after two years to review all these files and establish a master file PHA list. So, again, I can go to sleep comfortable at my home in Wilmington. I can go stay overnight at my cousin's house in Torrance, I can visit my cousin in El Segundo and sleep equally at peace of mind there because I know everything's been standardize, everyone's under the same procedures and if Dr. Eng finds that hey, there's a new one that we need to add to that, then boom it becomes standardize across the board. And I will be submitting my written comments and other points.
Thank you for this time.

AV- 1 Response

Cal OES thanks the commenter for taking the time to present his concerns. Many of the comments are general in nature or outside the scope of the proposed regulations. The commenter's remaining concerns, namely his desire for enforcement to occur at the state level rather than with the CUPAs, have been addressed in the responses to his written comments. See the responses to Comments AA-1 through AA-99.

COMMENTER AW
Unidentified Speaker– Member of Public
Public Hearing on August 31, 2016

AW-1 Comment

Just one real quick. It had been mentioned about CUPAs have failed and I really had a difficult time with that because these folks are tasked with a lot, the people in L.A. County. You can go from Thousand Oaks to Diamond Bar. You can go from Angeles Crest Forest to Catalina. These standards are asking that more be dumped on them. That's fine if you want to do that, but give them the resources so that they can be successful, because right now, a lot is being as ked of t hem, and they're not being given what they need to be successful. I understand the sentiment of saying they failed, but it's a very difficult task.

AW-1 Response

Cal OES thanks the commenter for taking the time to present his/her concerns. This comment is general in nature and requires no response.

Attachment C

Summary of and Response to Comments Received During the Notice Period of February 14, 2017 and March 3, 2017

AN	Michael Dossey, Contra Costa County Hazardous Material Programs
AO	Joseph J. Bookout, Tesoro
AP	Thomas Umenhofer , Western States Petroleum Association
AQ	David L. Ingram, Torrance Refining Company LLC (“TORC”)
AR	Thomas Jacob and John Ulrich, Chemical Industry Council of California
AS	Ron Chittim, American Petroleum Institute

Note: Cal OES incorporates into each and every response herein the following: Cal OES believes that the proposed regulatory language and related rulemaking documents comply with statutory and regulatory requirements.

COMMENTER AN
Michael Dossey – Contra Costa County Hazardous Material Programs
Emailed dated March 2, 2017

AN-1 Comment

§2762.2(a)
A proper PHA needs to make sure there are adequate safeguards in place during all modes of operation. The wording selected in this paragraph miss the mark. Specifically, the phrase, "All modes of operation as set forth in subsection 2762.3(a)(1) shall be covered by the PHA", implies this section includes all modes of operation for which it doesn't. If a PHA is limited to only the operational phases listed in 2762.3(a)(1), how is it to assess on-line maintenance since that is not listed in that subsection? What about abnormal operations that do not trigger a shutdown although the situation is outside of normal operations? Facilities do not have written operating procedures for every task performed by an operator. Papers have been written that identified the vast majority of significant industrial incidents have occurred during abnormal modes of operation. Refinery PHAs should include all modes of operation and not just those cited in 2762.3(a)(1). Suggest the wording be revised to state: "All modes of operation, including those set forth in subsection 2762.3(a)(1) shall be covered by the PHA". *[reference: "How to Efficiently Perform the Hazard Evaluation (PHA) Required for Non-Routine Modes of Operation (Startup, Shutdown, Online Maintenance)", Bridges, 2011 Spring Meeting, 7th Global Congress on Process Safety, CCPS]*

AN-1 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AN-2 Comment

§2762.8(c)
The word "answers" has been deleted from this paragraph. In so doing the effectiveness and enforceability of the regulation has been diminished. Instead of relying on documentation to show what was actually done during a compliance audit now auditors will have to rely on circumstantial evidence and interview

AN-2 Response

The deletion of the word "answers" is merely to reduce redundancy, provide clarity, and improve consistency with other sections of the rule that require written findings. The "findings" referenced in §2762.8(c) include the responses to questions asked to assess each program element, as well as documentation of what was actually done. The revision does not diminish the effectiveness and enforceability of the regulation, and does not imply that auditors must rely on circumstantial evidence rather than documentation. Cal OES will take no action on this comment.

AN-3 Comment

§2762.10(a)(1)
Need to add "Human Factors Program" to this list which is specifically referenced in §2762.15(g). If one section of the regulation identified employee participation is required, then the employee participation section needs to be consistent. Although human factors should eventually be incorporated into the various programs, there needs to be some initial employee participation on human factors before it will be incorporated into other programs. During this initial phase of human factors development it may not be integrated into one of the programs that specifically require employee participation so the only way for employees to participate is for them to do so under the human factors program itself.

AN-3 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. The requirement for employee participation in Section 2762.10(a)(2) would include participation in the development of the Human Factors Program. Cal OES will take no action on this comment.

AN-4 Comment

§2762.12(b)(1)
The CalARP regulations have been written to describe what is required to comply with H&SC 25531 to 25543.3. It makes no sense to reference a separate H&SC in the CalARP regulations and tell facilities they have to follow that. If it were that simple and crystal clear, there would be no need to write Title 19, Division 2, Chapter 4.5 (i.e., §2735.1 through §2785.1 that constitute the CalARP regulations).

AN-4 Response

Health and Safety Code § 25536.7 was added to authorizing statutes for the CalARP program effective January 1, 2014. The purpose of section 2762.12(b)(1) is to ensure that owners or operators understand that the requirements in this statute are explicitly included in the CalARP Program 4 procedures. Cal OES will take no action on this comment.

AN-5 Comment

§2762.12(c)(1)
See comment listed under §2762.12(b)(1).

AN-5 Response

See response to comment A-4.

AN-6 Comment

§2762.14(b)
Limiting a PSCA to only the items listed 1-5 is a joke. Safety culture is a complicated area to explore and understand. Obvious areas that are missing from this list include: accountability for all levels of the workforce – includes management, staff, engineers, operators, maintenance, contractors, etc.; following procedures; reporting and repairing of equipment; safety concerns communicated and resolved; trust; communication.

AN-6 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. The list of items in Section 2762.14(b) is not limiting, and the team is free to add additional areas. Cal OES believes that (b)(1) and (b)(2) include reporting and repairing of equipment and communication of safety concerns; (b)(5) includes management accountability, trust, and communication. Cal OES will take no action on this comment.

AN-7 Comment

§2762.15(c)
I have had to deal with regulation grammar for years trying to interpret what a comma means. Do not leave this open for interpretation. Suggest semi-colons be used to separate appropriate items. The following phrase seems to want to remain linked together, “employee fatigue, including contractor employees, and other effects of shiftwork and overtime”. Various interpretations will result if these items are not grouped appropriately and commas cannot do that.

AN-7 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

COMMENTER AO
Joseph J. Bookout – Tesoro
Emailed dated March 3, 2017

AO-1 Comment

Section 2735.3 (ii) Definition of Major Incident.
Tesoro believes that OES should revise the definition of "major incident" to clarify that this classification is reserved for incidents that have the potential to result in death or serious physical harm. The definition proposed by CalOES could significantly expand the scope of incidents classified as "major".

Justification
The classification of an event or a scenario as a "major incident" triggers safeguard protection analyses (SPAs); hierarchy of hazard controls analyses (HCAs) for major incident recommendations; and root cause investigations. Applying those processes to less serious incidents would be a disproportionate and ineffective use of a refinery's resources.

Proposed Revision
OES should revise the draft CalARP regulation to define "major incident" and include a definition for catastrophic release as follows:
a. Major Incident - an event within or affecting a process that causes a catastrophic release that has the potential to result in death or serious physical harm.
b. Catastrophic Release - a major uncontrolled emission, fire, or explosion, involving one or more highly hazardous materials that presents an imminent and substantial endangerment to on site employees or contractors.

AO-1 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AO-2 Comment

Section 2735.3 (x) Definition of Hierarchy of Hazard Controls Analysis.
Tesoro believes that this definition can be written more precisely.

Justification
Definitions in regulations should be precise and easily understood to enable employers to comply.

Proposed Revision
Hierarchy of Hazard Controls Analysis {HCA) - a procedure that applies the Hierarchy of Hazard Controls for the purpose of selecting recommendations that eliminate or minimize a hazard, or that reduce the risk presented by a hazard.

AO-2 Response

Cal OES believes the definition as written is appropriately clear. This definition ensures that refineries evaluate and implement the most effective approaches to preventing or mitigating process safety hazards. This definition clarifies the prioritization of inherent safety measures over passive, active, and procedural safeguards. Cal OES will take no action on this comment.

AO-3 Comment

Section 2735.3 (t) Definition of Employee Representative.
Tesoro believes that the definition of "employee representative" should be revised to clarify that an employee representative is a refinery employee who works at the facility and is qualified for the task in question.

Justification
Employee representatives are required to participate in various elements of the process safety management program. Accordingly, the definition should be clarified to ensure that only individuals who work at the facility and are qualified for their responsibilities may act as an employee representative.

Proposed Revision
Employee Representative - a union representative, where a union exists or an employee-designated representative in the absence of a union, that is on-site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or a refinery employee designated by these parties, such as the safety and health committee representative at the site.

AO-3 Response

For nonunion facilities, the employee representative must be an on-site and qualified employee. Employee representatives from union shops can be whomever the union selects. Cal OES will take no further action on this comment.

AO-4 Comment

"Partial or Unplanned Shutdowns"
The phrase "partial or unplanned shutdowns" has been added to the revised draft CalARP regulation in two places:

A. § 5189.1 (i) Pre-Start-up Safety Review (PSSR)

OES has added a requirement to perform a PSSR for "partial or unplanned shutdowns" without defining those terms or providing a justification for the new requirement. Tesoro believes that this addition is confusing and unnecessary.

Justification
This requirement might be interpreted to require PSSRs for a routine "pause" in operations such as stopping feed to a process unit while maintaining recycle gas circulation. In such situations, there is no potential hazard justifying a PSSR. Furthermore, "partial or unplanned shutdowns" is undefined and ambiguous.

Proposed Revision
Delete "and for partial or unplanned shutdowns" from Subsection (i)(l) Pre Start-up Safety Review.

AO-4 Resposne

As a preliminary matter, there is no section 5189.1 in the proposed CalARP regulation. To the extent the commenter is referring to section 2762.7, Cal OES responds as follows: Cal OES agrees that “partial shutdowns” are a subset of “turnarounds.” In response to comments that this was not sufficiently clear, Cal OES amended the proposed language to ensure that this is an explicit requirement. This amendment does not change the previous intent of the regulatory language.

If changes are made during the partial shutdown, then this amendment serves a safety purpose by ensuring that the changed condition does not introduce any new or changed hazards. If no changes are made during the partial shutdown, this amendment does not make the process more burdensome than it would have been without the amendment. It is simply intended to ensure that nothing is missed. Cal OES will take no action on this comment.

AO-5 Comment

B. 5735.3 (yy) Definition of Process

OES has added "processes under partial or unplanned shutdowns" to the definition of "process" without defining those terms or providing a justification for the new requirement. Tesoro believes that this addition is confusing and unnecessary.

Justification
The addition of "processes under partial or unplanned shutdowns" to the definition for "process" is unnecessary because any processes that are shut down or partially operating are already covered by the current definition of process. There is no class of refinery operations that would now be considered a "process" because of this revision. Furthermore, "partial or unplanned shutdowns" is undefined and ambiguous.

Proposed Revision

Delete "This definition includes processes under partial or unplanned shutdowns." from the definition of Process in Subsection (c) Definitions.

AO-5 Response

There were concerns from environmental and labor groups that the proposed definition did not apply to processes under partial or unplanned shutdowns. The amendment was offered to clarify that these conditions are indeed processes. The inclusion of this language imposes no greater burden on the refineries. Cal OES will take no action on this comment.

AO-6 Comment

Section 2762.12 Contractors
Tesoro believes that OES lacks the authority to make some of the proposed revisions to the subsection on contractors. Tesoro also believes that some of these revisions would require the employer to exert more control over the contractor workforce than is practical, desirable, or warranted.

A. Authority to Regulate

Health and Safety Code Section 25536.7 does not empower OES to implement SB54.

Justification
OES does not have the authority to require employers to use a skilled and trained workforce as a part of the PSM program. Furthermore, SB54 and the PSM standard have different applicability criteria such that this cross-reference may significantly complicate the hiring process for contractors and subcontractors.

Proposed Revision
Delete references to Health and Safety Code Section 25536.7 and the requirements associated with them.

AO-6 Response.

Cal OES strongly disputes that it is not empowered to implement SB54. Health and Safety Code section 25533 states:

> "The program for prevention of accidental releases of regulated substances adopted by the Environmental Protection Agency pursuant to subsection (r) of Section 112 of the Clean Air Act (42 U.S.C. Section 7412(r)), <u>with the additional provisions specified in this article</u>, is the accidental release prevention program for the state. <u>The program shall be implemented by the office</u> and the appropriate administering agency in each city or county."

Health and Safety Code § 25536.7 was added to authorizing statutes for the CalARP program effective January 1, 2014. Consequently, section 25536.7 is an "additional provision" specified in Article 2: Hazardous Materials Management. Cal OES will take no action on this comment.

AO-7 Comment

B. Ensuring Contractor Compliance

OES should revise the Contractors section to clarify that it is the contractor employer's responsibility to ensure that contractor employees are trained.

Justification
Tesoro believes that, although employers can be expected to communicate with their own employees and ensure that they are trained, it is not reasonable for OES to require an employer to ensure that its contractors' employees are trained, etc., since employers do not have the ability to direct the training of their contractors' employees.

Proposed Revision
Change "ensure" to "require" in Subsection (h)(2)(B) Contractors.

AO-7 Response

As a preliminary matter, there is no section 2762.12(h)(2)(B) in the proposed CalARP regulation. To the extent the commenter is referring to section 2762.12(b)(2), Cal OES responds as follows: The proposed revision is consistent with the language and requirements of Health and Safety Code § 25536.7. The revision is necessary to promote safety and accountability. The provision ensures that contractors and contractor employees are informed of the process safety hazards in the refinery and applicable safety procedures, including what actions to take in the event of an emergency. This requirement is necessary to ensure the safety performance of contractor employees, throughout the time when the contractor is performing work at the refinery. The refinery is ultimately responsible for all work conducted at the refinery. Cal OES will take no action on this comment.

AO-8 Comment

Section 2762.5 Mechanical Integrity - Damage Mechanism Review
A. Introduction of Damage Mechanisms.

Tesoro believes that OES should reverse the proposed revision found in paragraph (e)(3) of the draft CalARP regulation which would change "will" to "may". This revision would impose an unwarranted burden by expanding the scope for DMR analyses to the realm of hypothetical changes.

Justification
The owner or operator should be devoting resources to known damage mechanisms and the management and mitigation of their process safety hazards and potential consequences. The proposed revision could require the owner or operator to assess a vastly expanded realm of possibilities regardless of their probabilities and divert the owner or operator from more effectively deploying available resources to mitigate risk.

Proposed Revision
The following sentence should not be revised and should remain: "If a major change will introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change."

AO-8 Response

The commenter states that the revision would impose an unwarranted burden by expanding the scope for DMR analysis into “hypothetical changes.” The plain language does not contemplate hypothetical changes. Program 4 stationary sources are required where a major change may introduce a new damage mechanism. This requirement is necessary to prevent accidental releases. Confining the DMR requirement to instances where the major change “will” introduce a new damage mechanism would allow the regulated entity to evade the requirement by asserting that they did not believe the change introduced a new damage mechanism. Cal OES will take no action on this comment.

AO-9 Comment

B. Materials of Construction

Tesoro believes that OES should revise paragraph (e)(6)(C) in the draft CalARP regulation to require "appropriate materials of construction" rather than materials that are "resistant to potential damage mechanisms."

Justification
The language of the draft CalARP regulation specifies a material of construction that is "resistant to potential damage mechanisms", but the term "resistant" is imprecise given that all materials are resistant to damage mechanisms to some degree and that no material of construction is perfectly resistant to all potential damage mechanisms. Rather, a refiner may determine the appropriate materials of construction by considering the types of damage mechanisms present and planning for a deterioration rate of the material in the specified service.

Proposed Revision
Tesoro recommends the following language for (e)(6)(C):
"Determination that the materials of construction are appropriate considering the potential damage mechanisms."

AO-9 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AO-10 Comment

Section 2762.15 Human Factors
Tesoro believes that OES should not require a Human Factors assessment of all existing operating and maintenance procedures, but should allow the owner or operator to focus on the procedures that are more likely to contribute to causing process safety events.

Justification
Human factors assessments should be concentrated on the modes of operation where human errors are more likely to occur such as start-up, shutdown, and other non-routine procedures. This would enable the employer to focus resources where risks are more likely to occur. However, the draft CalARP regulation requires human factors assessments for modes of operation for which there is no evidence that human error is likely to occur.

Section 2762.15 Proposed Revisions:
(d) The employer shall assess Human Factors in new operating procedures for start-up, shutdown, and emergency shutdown, and new maintenance procedures for process equipment that is on-line, and shall revise these procedures accordingly.

(e) The owner or operator shall develop a schedule for revising existing operating procedures for start-up, shutdown, and emergency shutdown and maintenance procedures (where the process equipment is on-line) based on a human factors assessment. The owner or operator shall complete fifty (SO) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years.

AO-10 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AO-11 Comment

Section 2735.3 Exclusion of Internal Standards from RAGAGEP
Tesoro believes that OES should recognize internal company standards that are equally or more protective than RAGAGEP as RAGAGEP. Tesoro also believes that OES incorrectly makes a distinction between standards, guidelines, and practices with respect to RAGAGEP.

A. Documented Internal Standards, Guidelines. and Practices That Are Equally or More Protective Should Be Considered RAGAGEP.
Documented refinery internal standards, guidelines, or practices should be included as RAGAGEP as long as they are at least as protective as the codes, standards, technical reports or recommended practices published by industry associations and standards organizations.

Justification
RAGAGEP has three fundamental characteristics: 1) proven safe and effective; 2) based on science, judgment and experience; and 3) created and defined under engineering principles.

Therefore, any definition of RAGAGEP must be broad enough to include safe, proven engineering practices currently being utilized by industry and should explicitly include the internal standards developed, proven, and used by petroleum refineries.
The organizations that typically develop industry standards base their codes, standards, and practices on their members' internal standards, which were created by refinery engineers based on their experience at specific refineries. Since RAGAGEP is typically developed from the internal standards and engineering practices used by companies in the industry, refiners should have the flexibility to consider proven internal standards as well as the codes, standards, and practices developed by industry organizations.

Furthermore, OES should accept as RAGAGEP any documented internal guidelines and practices that have the fundamental characteristics of RAGAGEP. The distinctions between standards, guidelines, and practices vary throughout the industry, but as long as they pass the test of having been developed from engineering principles and proven safe and effective based on experience then they should be accepted as RAGAGEP. It is unreasonable for OES to exclude internal standards in all cases, but accept "more protective" practices since it is typically standards that are documented and subjected to a more rigorous development and review process while some practices may not be documented. The same test should be applied to all refinery standards and practices and they should be accepted as RAGAGEP if they pass this three-part test:

- Documented;
- Proven safe and effective; and
- Based on engineering principles, experience, and judgment.

Proposed Revision

a. OES should revise the definition of RAGAGEP by deleting the sentence "RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator."

b. Wherever the phrase "more protective" occurs in the proposed regulation, it should be replaced with "equally or more protective".

i. Section 2762.1 (e)
ii. 2762.5 (b)(2}
iii. 2762.5 (c)

AO-11 Response

RAGAGEP is an acronym that stands for “Recognized and Generally Accepted Good Engineering Practices.” In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, “generally accepted” standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not “generally accepted” or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES recognizes, however, that in some cases a refinery’s internal practices may be more appropriate

than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements. Cal OES will take no action on this comment.

AO-12 Comment

The Draft CalARP regulation May Not Assign Specific Responsibilities or Duties to Specific Positions in a Refinery.
OES should remove references to the position of stationary source manager (i.e. refinery manager for Tesoro) that would assign to a specific individual the responsibility for certification of a PSM element or for a refinery's overall PSM compliance.

Justification
The California statute applies exclusively to "employers" (Sections 25531 and 25534.05 Cal. Health and Safety Code) and the statute does not contemplate assigning responsibility for compliance with its provisions to individual employees.

Furthermore, many PSM elements require complex analyses that are done collaboratively by multi-disciplinary teams. This collaboration is generally beneficial since PSM requires inputs from diverse disciplines and team members with specialized knowledge. Therefore, it is unrealistic and unreasonable for the OES to arbitrarily assign responsibility to a single position in the facility given the extent of collaboration required to implement the rule. Such a complex and multifaceted program is more appropriately divided among a broad team composed of members with relevant skills and individual responsibilities. This responsibility properly belongs to the owner or operator.

The recent revisions to this provision proposed by OES do not resolve this concern. Merely revising the draft CalARP regulation to state that "the employer shall designate the refinery manager as the person ... " [Section 2762.16 (a), emphasis added] does not change the fact that responsibility for compliance has been directed to a specific employee. Regardless of whether the State of California specifies the refinery manager itself, or whether the State requires the employer to specify the refinery manager, it is contrary to Sections 25531 and 25534.05 of the California Health and Safety Code for the draft CalARP regulation to shift responsibility for compliance from the employer to a specific employee.

Proposed Revision
The draft CalARP regulation should be revised to eliminate references to the stationary source manager (refinery manager) in Sections:

a. Section 2762.6(k)(4) Management of Organizational Change:
The stationary source shall specify the management review and approval process to verify that the assessment is accurate and that the proposed organizational change(s) meet the requirements of this section.

b. Section 2762.16 (a) Accidental Release Prevention Program Management System: The owner or operator shall have authority and responsibility for compliance with this section and shall maintain process safety goals that support continuous improvement.

c. Section 2762.14 (g) Process Safety Culture Assessment:
The owner or operator shall specify the management review and approval process to verify that the PSCA reports are accurate and that all PSCA reports, corrective action plans and Interim Assessments are managed in accordance with the requirements of this section.

AO-12 Response

As a preliminary matter, The California Occupational Safety and Health Act is not the authorizing statute for the Cal ARP program. Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a “qualified person” to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any “person” who violates any rule or regulation associated with the Cal ARP program. “Person” for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that the owner or operator is responsible for the designation of the person with such authority. Cal OES will take no action on this comment.

AO-13 Comment

Section 2762.6 (j) Management of Change - Management of Organizational Change
Tesoro believes that the revised management of organizational change (MOOC) requirement to do a MOOC assessment prior to "increasing employee responsibilities at or above 15%" is overly prescriptive, unworkable, and unnecessary.

Justification
The owner or operator has no established method to reasonably quantify employee responsibilities, therefore prescribing a 15% threshold for doing a MOOC assessment is vague and ambiguous and opens the door for arbitrary enforcement by the regulator. Furthermore, the development of a methodology for quantifying employee responsibilities would be extremely difficult because there are significant differences in responsibilities from position to position within the refinery. The effort required to determine a threshold for each position is unlikely to yield improvements in process safety that would justify that effort.

Since there is a high degree of variability in the responsibilities of individual refinery positions and since quantifying responsibilities in a meaningful way would be impractical, it would be more effective to adopt an approach that calls for a MOOC to be done when an organizational change results in a substantive increase in responsibilities, where "substantive" is understood to mean an increase in job responsibilities that hinders employees in effectively performing their existing safety-related functions. The judgment that an increase is substantive would be made by a supervisor or manager who is familiar with roles and responsibilities in the organization.

Proposed Revision
Revise subsection (j) as follows:

The owner or operator shall designate a team to conduct a MOOC assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days affecting operations, engineering, maintenance, health and safety, or emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

AO-13 Response

This revision was made to address industry concerns regarding the imprecision of the term “substantively.” The modification is necessary to clarify and quantify the level at which changes in employee responsibilities trigger a MOOC assessment. The 15% threshold is a recognized industry standard and is used here to provide consistency. Cal OES will take no action on this comment.

AO-14 Comment

Section 2762.2 Process Hazard Analysis
Tesoro agrees that a process hazard analysis (PHA) should include a review of reports for major incidents that have occurred at other similar facilities in the refining industry, but suggests that "publically documented" be understood to mean formal incident reports that are distributed within the industry as a result of alerts from major trade associations or the Center for Chemical Process Safety and are complete with respect to describing the circumstances of the incident and its contributing causes. OES should clarify the meaning of "publically documented" by publishing this guidance in the FSOR.

Section 2762.2 (c)(2) Proposed Revision for:
"Major" should be reinserted - Previous publicly documented major incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;

AO-14 Response

CalOES revised the requirement in 2762.2(c)(2) from “major” to “publically documented” incidents to provide clearer guidance to refiners and to clarify that it did not intend to make gathering of information pertaining to incidents overly burdensome. Cal OES does not intend by

this provision for owners or operators to conduct exhaustive searches of public databases and news sources to find incidents. Rather, Cal OES is referring to those incidents that are well-publicized within the industry, resulting in alerts from entities such as the major trade associations, US EPA, and the Center for Chemical Process Safety. Cal OES will take no action on this comment.

AO-15 Comment

Section 2762.16 Accidental Release Prevention Program Management System.
Tesoro believes that there is no meaningful distinction between on-site and off-site team members and, therefore, no justification for OES to make up distinct communication requirements for team members based on their location. OES should delete the proposed revisions. Furthermore, it is often impractical to maintain the team over the course of implementing recommendations. When recommendations do need to be changed or rejected due to infeasibility or the discovery of superior options, it should be sufficient to make the changes available to team members.

Subsection (e)(4) should be revised as follows:
" ... or rejecting a team recommendation. Each recommendation that is changed or rejected by the owner or operator shall be made available to all team members for comment."

Subsection (e)(6) should be revised as follows:
The owner or operator shall document a final decision for each recommendation and shall make it available to all team members.

AO-15 Response

Cal OES makes a purposeful distinction between “onsite” and “offsite” team members to address concerns raised by some industry commenters and to attempt to reduce the burden on the refiners to reach out and communicate the information to off-site team members. Owners or operators have an affirmative obligation to communicate changed or rejected recommendations only to onsite team members for comment. For offsite team members, there is a lesser burden in that owners or operators are only obligated to make such changes or rejections available. This could be through a more passive means of communication such as posting on an intranet portal or maintaining hard copies in an accessible location, so long as the affected employees are aware where such information is posted. Cal OES will take no action on this comment.

AO-16 Comment

General -Transition from Existing Regulations to Final Regulations
The draft CalARP regulation should include "grandfather" clauses and reasonable implementation timing provisions for the new process safety management elements and new requirements on previously uncovered processes.

Justification
Refiners are currently meeting requirements for existing PSM elements such as PHAs, SPAs, HCAs, PSI, and employee participation, but the draft CalARP regulation includes new requirements for the timing and content of these analyses. The draft CalARP regulation should be revised in several ways to account for analyses that were conducted prior to its implementation. First, timing requirements for these analyses should be based on the timing of the most recent similar analyses conducted by the refinery. Second, the draft CalARP regulation should allow projects and analyses that are begun under one regulatory regime to continue to completion without being subject to a new regulatory regime if the rule is finalized before the work is complete.

For example, process plant changes that meet the definition of "major change" will have longer schedules, larger scopes of work, and MOC/PHA review requirements. If the PSM rule is finalized before a major project is completed, but after the project's MOC/PHA has been completed then the new HCA review requirement should not be required for the project. Imposing a new requirement on an existing project or process would be disruptive and would likely turn into a duplicative paper exercise that would not improve process safety. Due to the number of projects in process in a refinery at any given time, re-evaluating changes for which an MOC/PHA has already been performed would create a significant burden on the refinery.

Finally, the draft CalARP regulation includes requirements for processes that were not previously covered. Without a grandfather clause, all of those newly covered processes would immediately become out-of-compliance. For example, the PSI element requires the retention of material balances back to 1992. It would be unreasonable to expect newly covered units to comply with this PSI requirement (which is unlikely to make to make the operation of the newly covered unit any safer).

Proposed Revision
OES should revise the draft CalARP regulation to include a grandfather clause and reasonable implementation timing provisions for new PSM elements regarding projects that meet the "major change" criteria and are past their design phase and into the execution phase of schedule. A grandfather clause is also needed for PSI, employee participation, etc.

If the final rule does include specific limits on the duration of implementation schedules for corrective actions, then the limits contained in the rule should apply only to corrective actions that are recommended after the date on which the rule becomes final.

AO-16 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. A “grandfather clause” exists in the DMR and was added for the PSCA in response to industry concerns, but additional such clauses are not appropriate in light of the new requirements. Cal OES will take no action on this comment.

AO-17 Comment

Section 2762.9 Incident Investigation
OES should revise the draft CalARP regulation to eliminate the time requirements for incident investigations.

Justification
The requirement to submit a report to the OES within 90 days or five months of the incident is unreasonable and arbitrary given:

- the complexity of process safety incidents;
- existing requirements that regulatory agencies, including OES, participate in and approve activities associated with evidence collection and analysis;
- the significant amounts of analytical work needed to identify contributing causes; and
- the need to engage multiple stakeholders.

Investigation teams should be allowed an appropriate amount of time to conduct complete technical failure analyses and understand the root causes of significant incidents. The five-month limit could impede the ability of the investigation team to conduct a thorough analysis and incentivize the investigation team to finish on time rather than correctly identify an incident's contributing causes.

Section 2762.9 (h) Proposed Revision:
Tesoro requests OES revise the draft CalARP regulation to either 1) eliminate the deadlines for incident investigations; or 2) allow refiners to submit interim investigation reports to the OES where complex analyses or significant amounts of analytical work are needed to identify contributing causes.

AO-17 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AO-18 Comment

Section 2762.13 HCA update provision

Justification
The requirement to update all HCAs found in paragraph (c) should be applied only to process unit HCAs that recur on a five-year schedule. Therefore, this paragraph should be moved and placed under paragraph (a).

Section 2761.13 (a) proposed revision:
(a) The owner or operator shall conduct an HCA for all existing processes. The HCA for existing processes shall be performed in accordance with the following schedule, and may be performed in conjunction with the PHA schedule:

(1) 50% of existing processes within three (3) years of the effective date of this Article;
(2) Remaining processes within five (5) years of the effective date of this Article;
(3) All HCAs shall be updated consistent with the requirements of this section at least every five years, in conjunction with the PHA schedule.

AO-18 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

AO-19 Comment

Public Reporting Requirements in Sections 2762.9 Incident Investigation; 2762.13 Hierarchy of Hazard Controls Analysis; and 2762.16 Accidental Release Prevention Program Management System
OES should eliminate the requirements for submitting incident investigation reports, HCA reports, and process safety performance indicators to UPA.

Justification
These sections of the proposed CalARP rule all require that final reports from the incident investigations, HCA design analyses, and process safety indicators be made available to the public on the UPA web site. However, these reports are unlikely to provide any real value to the public since these reports are very technical in nature. Furthermore, publishing this information does not make process safety events less likely or reduce the risk of accidental releases. Although the ISOR claims that publishing the reports is necessary "for the purpose of demonstrating to the local community that a full investigation occurred and that changes were made to prevent future incidents", UPA can make attestation to the public that those changes have been made without publishing these reports.

OES is required to identify the "specific purpose" of regulatory changes, i.e. "the problem the agency intends to address" and the agency's rationale for each [change] being reasonably necessary to carry out the purpose and address the problem for which it is proposed." (Cal. Gov. Code§ 11346.2(b)(1)). The ISOR fails to address the causal linkage between publishing the full reports and the specific purpose of enhancing process safety. Furthermore, OES has failed to consider and discuss reasonable alternatives which are "less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation" as it is required to do by Cal. Gov. Code§ 11346.2(b)(4)(A); see also Cal. Gov. Code§ 11346.S(a)(13).

Making engineering reports available to the public is not germane to the agency's purpose to prevent accidental releases and minimize the impacts of those releases and it should not be done simply to satisfy public curiosity.

Proposed Revision
Eliminate the requirements to submit reports to UPA that are found in Section 2762.9 Incident Investigation; Section 2762.13 Hierarchy of Hazard Controls Analysis; and Section 2762.16 Accidental Release Prevention Program Management System.

AO-19 Response

This comment is beyond the scope of the revisions made in the February 14, 2017 draft. Cal OES will take no action on this comment.

COMMENTER AP
Thomas Umenhofer – Western States Petroleum Association
Emailed dated March 3, 2017

AP-1 Comment

For reference, some of the issues raised in WSPA's previous comments that do not appear to be addressed by the Proposed Modifications are:

• CalOES continues, in many respects, to overstep the statutory bounds of its authority, and seeks to regulate processes and parties outside the scope of permissible regulation under California statutes.

• CalOES continues, in many instances, to include vague, inaccurate and inconsistent definitions (including, for example, "major change" and "major incident", as well as the scope and process to determine regulated substances) that, if left uncorrected, would trigger significant and burdensome operational requirements with little to no benefit in actually enhancing safety (or, worse yet, even having a **negative** impact on safety).

• The Proposed Modifications do not tailor applicability of Proposed CalARP Article 6.5 to ensure coverage of only that refinery equipment and those activities that can reasonably be expected to impact worker safety.

• The Proposed Modifications change, but do not remove, the attempt to assign personal responsibility to the refinery manager for all CalARP compliance activities.

• There continue to be inconsistencies, duplication and lack of coordination between Proposed CalARP Article 6.5 and the amendments currently being proposed by the California Occupational Safety and Health Standards Board to the California Process Safety Management (CalPSM) Program for petroleum refineries and/or comparable federal requirements.

• CalOES continues its failure to adequately explain the use of prescriptive standards in Proposed CalARP Article 6.5 and why less burdensome and more cost-effective alternatives such as performance standards are not preferable. One way for CalOES to at least partially address the concerns expressed in our comments would be to explain in the FSOR the intended meaning of terms and why those concerns will not be realized when the rules are implemented in practice.

• While CalOES addressed "grandfathering" in some instances, Proposed CalARP Article 6.5 needs to include additional "grandfather" provisions to account for refiners whose procedures already meet the proposed requirements, and to allow for reasonable implementation timing that recognizes a refinery's need to meet existing federal and CUPA requirements and to transition to new CalARP and CalPSM requirements.

• Proposed CalARP Article 6.5 fails to adequately protect and safeguard potentially confidential, proprietary, and security sensitive business information that it requires refineries furnish. Public availability or disclosure of this required information could result in significant security consequences to the company, facility, and community.

• The Proposed Modifications do not remove or revise the requirement of public posting of HCAs, process safety performance indicators, and major incident reports, nor has CalOES offered an explanation of why such information disclosure would reduce or prevent accidental releases or produce any benefits that justify the substantial burdens that would be imposed on refineries by complying with this requirement .

AP-1 Response

These comments are outside the scope of this comment period. Each of these issues was addressed in the responses to commenter's 45-day comments. Cal OES will take no further action on these comments.

AP-2 Comment

In addition, the Proposed Modifications present new concerns detailed in the enclosed comment matrix. Some key areas are: …

AP-2 Response

Each of the listed concerns is addressed specifically in the responses below.

AP-3 Comment

Section 2735.3 - Definitions
Proposed language
(t) "Employee representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union <u>that is on-site and qualified for the task</u>. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.

WSPA suggested language
Employee Representative. A union representative, where a union exists, or an employee-designated representative in the absence of a union <u>that is on-site and qualified for the task</u>. The term is to be construed broadly, and may include the local union, the international union, or a refinery or ~~individual~~ <u>employee</u> designated by these parties, such as the safety and health committee representative at the site.

WSPA comments
The 15-day Notice proposes changes to this provision that would limit the definition to individuals on-site and qualified to the assigned task. WSPA suggested this language to address a concern that a person who is not on-site and/or who is unqualified for the task could be designated as an employee representative. We appreciate the California Office of Emergency Services' ("CalOES" or "Agency") consideration of the suggested language. We remain concerned, however, that this term could be misinterpreted to allow an employee representative

to be from any on-site organization, even if unrelated to process safety. Additionally, it would be helpful to clarify what we believe is the intent that individuals who are "on-site" are those who actually work there on a regular basis as opposed to someone visiting. It would be helpful to clarify this in the **Final Statement of Reasons ("FSOR")**.
WSPA suggests that a clarification be provided in the **FSOR** that the revision is intended to narrow the pool of individuals who may serve as employee representative and specifically that the definition excludes contractors and includes only individuals who regularly work at the facility and are qualified in process safety. Accordingly, WSPA offers the following for CalOES to consider including in the **FSOR**:

> *"CalOES has finalized a definition of 'Employee Representative' that clarifies that while the term is to be construed broadly, it includes only those people who are 'onsite and qualified for the task.' By 'onsite,' CalOES intends to include only those individuals who actually work at the refinery on a regular basis (as opposed to an individual who is 'onsite' only temporarily). CalOES acknowledges that a fundamental understanding of the design, operation, and maintenance of specific processes and process equipment is essential to the effective participation by an employee representative. To achieve these ends, OES clarifies that the definition of employee representative does not include contractors and/or any individuals who are not qualified in process safety. "*

AP-3 Response

For nonunion facilities, the employee representative must be an on-site and qualified employee. Employee representatives from refineries at which the employees are represented by a union can be whomever the union selects to be their representatives. Cal OES will take no further action on this comment.

AP-4 Comment

Section 2735.3 - Definitions
Proposed language
(x) "Hierarchy of Hazard Control" means 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.

WSPA suggested language
~~(x) "Hierarchy of Hazard Control" means 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.~~

<u>Hierarchy of Hazard Controls Analysis (HCA). A procedure that applies the Hierarchy of Hazard Controls for the purpose of selecting recommendations that eliminate or minimize a hazard, or that reduce the risk presented by a hazard.</u>

WSPA comments
WSPA previously requested the definition of Hierarchy of Hazards Control from the September 14, 2015 version: *Hierarchy of Hazard Controls Analysis ("HCA"). A procedure that applies the Hierarchy of Hazard Controls for the purpose of selecting recommendations that eliminate or minimize a hazard, or that reduce the risk presented by a hazard.* Although we appreciate that CalOES is seeking to enhance the standard's clarity by adding certain language, WSPA disagrees with this approach because it seeks to reinforce the prioritization of First Order measures over all others even where others are sufficiently protective. This is problematic in conjunction with the term "ineffective." As the California Department of Industrial Relations ("DIR") has noted, "effective" is an enforceable legal term of art by which the Agency measures compliance with regulations.

WSPA requests that CalOES accept WSPA's suggested language in order to avoid confusion and ensure that CalARP remains a performance-based rule.

AP-4 Response

Cal OES believes the definition as written is appropriately clear. This definition ensures that refineries evaluate and implement the most effective approaches to preventing or mitigating process safety hazards. This definition clarifies the prioritization of inherent safety measures over passive, active, and procedural safeguards. Cal OES will take no action on this comment.

AP-5 Comment

Section 2735.3 - Definitions
Proposed language
(~~gg~~hh) "Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in ~~any operational~~ change outside of established ~~in~~ safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

WSPA suggested language
(~~gg~~hh) "Major change" means: any of the following that introduces a new process safety hazard or worsens an existing process safety hazard:
• Introduction of a new process, or new highly hazardous material;
• Any change in operation outside of established safe operating limits; or,
• Any alteration in a process or in process chemistry.

WSPA comments
WSPA appreciates that CalOES has made some changes to this provision to harmonize it with the proposed California Refinery Process Safety Management ("PSM") standard. Nevertheless, WSPA remains concerned regarding the overbreadth of "major change," (i.e., encompassing what should be considered "minor changes" due to use of the word "any" and undefined terms like "alteration"), given the number of CalARP activities it triggers. On the positive side, WSPA interprets the revision to suggest that an "operational change" is an intentional act, addressing

our prior concern that unintended excursions outside of established limits could have been considered a major change, triggering certain regulatory requirements of the proposed rule.

As there was no explanatory language accompanying the 15-day notice, it is still unclear whether an enforcement agency would consider temporary or unintended changes in operating limits to be a "major change."

It is important for all parties that CalOES address this lack of clarity be addressed in the **FSOR**, so that CalOES, the regulated community, and other stakeholders will be able identify a "major change" when it occurs and so that regulated entities can assess their compliance status. Obtaining clarity is important because if the term "major change" is unclear, numerous other requirements will also be unclear. For example, "major change" is a trigger for the need to conduct a Damage Mechanism Review ("DMR"), HCA, Management of Change ("MOC"), and a Human Factors Analysis ("HFA") for a temporary or unplanned operational change.

WSPA emphasizes that it still has significant concerns with this definition that were not addressed by the newly proposed modifications. We urge CalOES to re-consider the overall effect of the proposed definition in the context of other proposed definitions, especially "process equipment" and "process safety hazard." As it stands, a minor equipment change, such as the replacement of a minor piping flange, will be considered a major change and trigger a DMR, HCA, MOC, and HFA. If a refiner is to have any meaningful flexibility to address high-priority process safety hazards over routine or well-known hazards, CalOES must revise this critical definition.

As mentioned above, WSPA is generally concerned with the potential for the proposed definition of "major change" to be interpreted as encompassing numerous minor changes that do not warrant DMR, HCA, MOC, and HFA activities. As an example of our concern is the insufficient differentiation between a "major change" and a "change," as these terms are defined in the proposal. As proposed, "change" means:

"any alteration in process chemicals, technology, procedures, equipment, facilities or organization that could affect a process. A change does not include replacement-in-kind".

19 C.C.R. § 2735.3(m) (proposed)

The "change" definition and the "major change" definition both use the phrase "any alteration" and the distinguishing characteristic for a "major change" is focused on introducing a new hazard or increasing an existing one. WSPA requests that CalOES either revise the regulatory language or provide explanation in the FSOR to explicitly state types of changes that are "not major" and those that would be "major" to provide additional clarity. It is critical that this term not encompass every possible change to allow ensure facilities to focus resources on changes that are actually major and warrant the additional procedures triggered by a major change.

Therefore, WSPA urges that a clarification be provided in the **FSOR** indicating that "operational change" applies to intentional changes, rather than temporary or unintended excursions., among

other clarifications that are needed to confirm the intended scope of this definition. To this end, WSPA offers the following for CalOES to consider including in the FSOR:

> *"CalOES appreciates the concerns of commenters regarding the potential for the proposed definition to be misinterpreted in an inappropriately broad manner, given that any time there is a 'major change,' several substantive, operational requirements are triggered. The final rule definition of a 'major change' is intended to encompass only those changes that are truly 'major' and does not include routine or minor changes at the refinery that are already covered by existing DMRs, PHAs, and the like. Thus, the mere fact that an excursion outside an established operating limit occurred would not be considered a major change. This makes sense because such an action is not an operational change but is rather abnormal operation where the refinery would be taking steps to return to safe operating limits. On the other hand, if the refinery should to permanently alter the safe operating limits so that it could routinely operate outside of the existing limits, that would be a major change that would trigger the relevant requirements for major changes in the regulation.*
>
> *"Likewise, minor equipment changes do not constitute 'major changes.' For example, replacement of a piping flange or minor valve does not involve the 'introduction of new process equipment,' nor would it likely 'introduce a new process safety hazard,' and therefore would not be considered a 'major change.' Similarly, the installation or replacement of insulation or minor piping sections would not amount to major changes. In contrast, the addition of a new coker unit to a refinery would likely be considered the 'introduction of a new process [or] process equipment' and therefore qualify as a 'major change.'*
>
> *"Commenters also asked what the definition means by an 'alteration' in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard. CalOES clarifies that using the word 'alteration' is not intended to expand the definition of 'major change' and that alteration is synonymous with 'change.' The changes that CalOES is concerned with in this definition are those that create hazards or meaningfully change the degree of an existing hazard such that new analyses (e.g., DMRs, PHAs) are warranted. CalOES does not intend for activities that would be expected to occur within the operational flexibility of a process to trigger these requirements. This is consistent with the Contra Costa County Industrial Safety Ordinance, which states that 'whenever a major change is proposed at a facility that could reasonably result in a major chemical accident or release, the stationary source shall conduct an [inherently safer systems analysis].' Contra Costa County Ordinance Chapter 450-8. Consistent with Contra Costa County's approach, CalOES recognizes that there must be a nexus to a major chemical accident in order to trigger additional safety analyses beyond a management of change. While CalOES recognizes that the 'major change' and 'change' definitions overlap to a certain extent, it does not intend for every 'change' to be considered a 'major change' and recognizes that the latter category is much narrower than the former, in that most changes do not introduce new or*

increase existing hazards. Examples of 'changes' that generally do not involve the introduction or increase of hazards—and will not, in most cases, constitute a 'major change'—include replacement or repair of minor equipment components, insulation, structural support components, or other equipment modifications for which the hazards are already well-understood and managed at the refinery. By contrast, CalOES expects that the installation of equipment that fundamentally alters, or adds, a process to the refinery, such as the coker example above or the addition of a new crude tower will generally be 'major changes' within the meaning of the regulation, unless the specific circumstances suggest otherwise. In applying this definition, CalOES will allow owner/operators to draw upon their experience and judgment in differentiating changes that constitute high priority process safety hazards over routine, minor ones."

AP-5 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. However, we hereby reiterate our response to similar concerns in commenter's 45 day comments:

Regulatory changes were made to provide additional clarity. The definition is designed to align with and clarify the existing definition under Cal ARP, and align with the new definition under the PSM regulations. It is not intended to substantially broaden the current Cal ARP definition. The definition of "major change" is intended to focus the attention of the owner or operator on changes that are truly major and does not include routine or minor changes at the refinery that are already covered by existing MOC, DMRs, PHAs and the like. Our definition is not intended to include unplanned changes/excursions outside of an established operating limit. On the other hand, if the refinery deliberately alters safe operating limits on a process so that it could routinely operate outside of the current existing limits, that would be a major change. Likewise, truly minor equipment changes do not constitute "major changes." In particular, we do not believe that "the replacement of a minor piping flange" would be considered a major change under this definition.

Commenters also asked what the definition means by an 'alteration' in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard. CalOES clarifies that using the word 'alteration' is not intended to expand the definition of 'major change' and that alteration is synonymous with 'change.' The changes that CalOES is concerned with in this definition are those that create new hazards or meaningfully change the degree of an existing hazard such that new analyses (e.g., DMRs, PHAs) are warranted. In the examples provided by the commenter above, it almost goes without saying that the addition of a new coker or crude tower would be a "major change." Significant changes in process chemistry, such as significant shifts in crude slate or use of a new catalyst in reactors that requires new operating conditions to achieve the desired results, would also fit this definition. Another example of a major change is when the process conditions are intentionally changed, such as if pressure or temperature are raised beyond the existing safe operating limits.

We therefore conclude that the definition of major change is appropriately narrow and focuses on changes that have the potential to increase process safety hazards. Therefore, this definition serves

as an appropriate trigger to activities under the regulation. Cal OES will take no action on this comment.

AP-6 Comment

Section 2735.3 - Definitions
Proposed language
(~~hh~~ii) "Major incident" means 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 (as defined in Labor Code Section 6432(e)), or ~~which~~ results in an officially declared public shelter-in-place, or evacuation order.

WSPA suggested language
(ii) "Major incident" means an event within or affecting a process that causes a catastrophic release, ~~fire, explosion or release of a highly hazardous material~~, and which has the potential to result in death or serious physical harm, (as defined in Labor Code Section 6432(e)), or ~~which~~ results in an officially declared public shelter-in-place, or evacuation order.

WSPA comments
WSPA restates its concern that the definition of "major incident" will significantly expand the scope of the regulation to include minor incidents that were never intended to be covered by the CalARP regulation. WSPA continues to request clarification of the scope of "Major Incident" in the FSOR or revision of the regulatory language.

If the Agency is unwilling to accept WSPA's language, WSPA requests that a clarification be provided in the **FSOR** stating that the definition of "Major Incident" applies to catastrophic events that have the potential to result in death or serious physical harm.

If CalOES believes that using the term "catastrophic" is too narrow, WSPA suggests that a clarification be provided in the **FSOR** indicating what incidents CalOES is attempting to capture by using broader language. To the extent that CalOES does not incorporate WSPA's requested changes to the definition in the final rule, we offer the following for CalOES to consider including in the FSOR:

> *"While CalOES has not adopted in regulatory language, the commenters' suggestions that major incidents be limited to catastrophic releases, we do not believe that is necessary because CalOES believes the existing language is limited to the same types of events that would be expected to cause death or serious physical harm, not those that have a theoretical possibility of doing so. An officially declared shelter-in-place or evacuation order is an indicator of this type of situation. CalOES does not, therefore, envision that an event will be deemed a 'major incident' where it does not give rise to such conditions. Minor spills or incidents where the potential for death or serious physical harm is only hypothetical or speculative, for example, are not intended to be covered. For these reasons, we believe that as written, the major incident definition will not result in extensive triggering of new requirements.*

"Further, to address commenters' concerns that the use of the word 'potential' in this definition might be misconstrued to unduly expand the scope of the major incident definition, CalOES clarifies that only those incidents that are expected to cause death or serious physical harm, which is similar to an imminent and substantial endangerment, would be considered 'major.'

"CalOES also recognizes that it has defined 'process safety hazard' to include a characteristic of a process that has the potential to cause "a release of highly hazardous material which could result in death or serious physical harm," creating potential overlap between process safety hazards and major incidents. Nevertheless, CalOES does not intend that every process safety hazard be considered as precipitating a "major incident." Again, CalOES will look to whether the incident poses an imminent and substantial endangerment to public health and the environment in determining whether it is 'major'."

AP-6 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. However, we hereby reiterate our response to similar concerns in commenter's 45 day comments:

Deletion of "which" has been made as suggested by the commenter to improve clarity. The second change, of "or" to "and" would significantly weaken the definition and would have the effect that an incident that has the potential to result in death or serious physical harm but does not result in an officially declared public shelter-in-place, or evacuation order, would no longer be considered a major incident. This is contrary to the intent of the regulation, which is to "protect the health and safety of communities and the environment." [Section 2762.0.2, Purpose]. The second proposed change has not been made. Cal OES believes that it is sufficiently clear in the regulation that minor spills or incidents where the potential for death or serious physical harm is purely hypothetical or speculative are not intended to be covered. Cal OES will take no further action on this comment.

AP-7 Comment

Section 2735.3 - Definitions
Proposed language
(~~xx~~yy) "Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident. This definition includes processes under partial or unplanned shutdowns. Ancillary administrative and support functions, including office buildings, laboratories, warehouses, maintenance shops, and change rooms are not considered processes under this definition.

WSPA suggested language
(~~xx~~yy) "Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident ~~This definition includes processes under partial or unplanned shutdowns~~. Ancillary administrative and support functions, including office buildings, laboratories, warehouses, maintenance shops, and change rooms are not considered processes under this definition.

WSPA comments
WSPA appreciates the explicit exclusion of ancillary and support buildings, but does not believe that CalOES' addition that the definition "includes processes under partial or unplanned shutdowns" is necessary. A partial or planned shutdown does not change whether an area is considered a "process." Accordingly, WSPA requests the language be removed.

AP-7 Response

There were concerns from environmental and labor groups that the proposed definition did not apply to processes under partial or unplanned shutdowns. The amendment was offered to clarify that processes undergoing these conditions are indeed still processes. The inclusion of this language imposes no greater burden on the refineries. Cal OES will take no action on this comment.

AP-8 Comment

Section 2735.3 - Definitions
Proposed language
(~~yy~~zz) "Process equipment" for purposes of Article 6.5, means ~~any~~ equipment, including but not limited to: pressure vessels, rotating equipment, piping, instrumentation, process control, safeguard, except procedural safeguards, or appurtenance related to a process.

WSPA suggested language
(zz) "Process equipment," for purposes of Article 6.5, means ~~any~~ equipment, including, but not limited to: pressure vessels, rotating equipment, piping, instrumentation, or process control,. ~~safeguard, except procedural safeguards, or appurtenance related to a process.~~

WSPA comments
WSPA is amenable to the inclusion of "pressure vessels" and "rotating equipment," but it still finds other elements of the definition to be unworkably vague. The scope of "related to a process" is ambiguous, "appurtenance" is undefined and extremely broad, and "safeguard, except procedural safeguards" is too vague to be a useful part of the definition. It is in everyone's interest to have clear regulations and particularly so with an important term like "process

equipment," which is used repeatedly throughout the regulations. Without clarity, it will be difficult for refiners to know with certainty that they are in compliance.

Because new process equipment is considered a major change, which triggers DMR, MOC, HCA, and HFA requirements, it is essential that CalOES provide clarity in the final regulation and **FSOR** (and appropriately limit the process equipment definition as requested). If CalOES does not adopt WSPA's proposed modifications to the regulatory definition, WSPA requests that CalOES consider including the following language in the FSOR in order to clarify its scope:

> *"The 'Process Equipment' definition in the final regulation includes 'pressure vessels, rotating equipment, piping, instrumentation, process control, safeguard, except procedural safeguards, or appurtenance related to a process.' In response to commenters who asked for clarification of what is related to the process and specifically the phrase 'safeguards or appurtenances,' CalOES offers the following clarifications. First, 'related to the process' is intended to convey a direct, process safety-related role in the process and to cover that equipment for which the rule's core requirements, including the mechanical integrity and process safety information elements, would logically apply. As to 'safeguards and appurtenances,' CalOES is referring to elements that are part of or closely connected to the process such that mechanical integrity requirements would be appropriate to apply; specifically, relief and vent systems and devices, emergency shutdown systems, and pumps. CalOES would not include in 'safeguards and appurtenances' items for which there is no clear mechanical integrity component; e.g., sirens, locks, car-seals, suppression systems, insulation, structural support components, drains, pads/grout, and similar items. As a general matter, 'process equipment' would not include items for which there is no Recognized and Generally Accepted Good Engineering Practices ('RAGAGEP') as CalOES has defined it in these regulations, where in such cases there would be no codes, standards, technical reports or recommended practices published by the listed organizations in the RAGAGEP definition".*

AP-8 Response

The "Process Equipment" definition in the final regulation includes "pressure vessels, rotating equipment, piping, instrumentation, process control, safeguard, except procedural safeguards, or appurtenance related to a process." In response to commenters who asked for clarification of what is related to the process and specifically the phrase "safeguards or appurtenances," CalOES offers the following clarifications. First, "related to the process" is intended to convey a direct, process safety-related role in the process. As to 'safeguards and appurtenances,' CalOES is referring to elements that are identified as safeguards or as equipment related to the process by the refinery. In some cases, safeguards and appurtenances may not be physically connected to a process. For example, in the pre-regulatory discussions, commenters discussed the example of radios, which allow emergency communication between employees on process-safety-related issues. Radios, where they are identified by the refinery as relevant to the functioning of safeguards or to the safety of the process itself, may be considered process equipment under this definition.

Cal OES will take no further action on this comment.

AP-9 Comment

Section 2735.3 - Definitions
Proposed language

(~~aaa~~bbb) "Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize process safety over competing goals in order to ensure protection of people and the environment.

WSPA suggested language
None.

WSPA comments
WSPA appreciates CalOES taking its comment into account and revising the proposed regulation.

AP-9 Response

This is a general comment requiring no response.

AP-10 Comment

Section 2735.3 - Definitions
Proposed language
(~~fff~~ggg) "Qualified operator" for the purposes of Article 6.5 means a person designated by the owner or operator, who by fulfilling the requirements of the training program defined in Section 2762.4, has demonstrated the ability to safely perform all assigned duties.

WSPA suggested language
None.

WSPA comments
WSPA agrees with the language changes.

AP-10 Response

This is a general comment requiring no response.

AP-11 Comment

Section 2735.3 - Definitions
Proposed language
(~~iii~~jjj) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" for purposes of Article 6.5 means engineering, operation, or maintenance activities based on codes,

standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator.

WSPA suggested language

Reconsider WSPA previous comment:

(~~iii~~jjj) "Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" for purposes of Article 6.5 means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP also ~~does not~~ includes standards or guidelines developed for internal use by the owner or operator.

WSPA comments

While CalOES has not meaningfully modified its definition of RAGAGEP, later in the regulation the Agency proposes to require that internal standards be *more protective* – rather than equally protective – than RAGAGEP. This modification unreasonably and unfairly biases the requirement against the development of performance-based internal standards that are equally protective as industry codes, and therefore disincentivizes the kind of innovation the accidental release prevention regulations have always sought to promote. Importantly, there is no basis for CalOES to require more protective standards than what should otherwise qualify as RAGAGEP. Companies that develop new ways to achieve protection should be rewarded for doing so, not discouraged.

Additionally, eliminating equally protective internal practices will reduce the number of technical options available to accomplish tasks, which diminishes operational flexibility.

AP-11 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. However, we hereby reiterate our response to similar concerns in commenter's 45 day comments:

RAGAGEP is an acronym that stands for "Recognized and Generally Accepted Good Engineering Practices." In keeping with the name, Cal OES interprets RAGAGEP to be constrained to published, "generally accepted" standards, and not to internal policies specific to one facility or one company, or ad-hoc standards that have not achieved general acceptance. The purpose of limiting the definition in this manner is to establish the minimum steps necessary to ensure good engineering practices. Internal practices by definition are not "generally accepted" or widely available. Consequently, they do not and cannot gain industry consensus. Cal OES

recognizes, however, that in some cases a refinery's internal practices may be more appropriate than RAGAGEP based on the refinery's operating history. For instance, a refinery should utilize more stringent standards where the unique characteristics of the refinery's process implicate a hazard not contemplated or shared by RAGAGEP. A refinery should also feel free to create its own internal standards and implement them; such standards are allowed and even encouraged in CalARP, even though they are not considered RAGAGEP. As a result, the CalARP program permits refineries to utilize internal practices that are more stringent than published RAGAGEP. Whether the internal standards are adequately protective will be reviewed on a case-by-case basis and the refinery must provide documentation demonstrating that their internal process is more protective than published RAGAGEP requirements.

AP-12 Comment

Section 2735.3 - Definitions
Proposed language
(~~rrr~~sss) "Temporary pip~~e~~ing or equipment repair" means a repair of an active or potential leak ~~to~~ from process piping or equipment ~~hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident~~. This definition includes active or potential leaks in utility piping or utility equipment that could affect a process and that could result in a major incident.

WSPA suggested language
(sss) "Temporary piping or equipment repair" means a repair of an active or potential leak to hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident.

WSPA comments
The proposed revisions would significantly modify and broaden the definition of "temporary piping repair," which was originally developed by CalOES (see Column 1) with input from industry representatives who have extensive process safety management experience and knowledge.
Clarification is required regarding the inclusions of utility piping and utility equipment. Does CalOES mean to expand the definition to include "*temporary repairs* of active or *potential* leaks in utility piping…"?

Regardless, the expansion of the definition to include "utility piping" is an example of the over-breadth of the proposed definitions which, in turn, exacerbates the over-breadth of other defined terms. Put differently, CalOES has embedded throughout the proposed standard broad language in several critical definitions such that owner/operators could spend innumerable resources accounting for hypothetical scenarios.

For example, a temporary pipe repair now includes a "*potential* leak in utility piping that could cause a major incident," and a major incident includes events with the *potential* to cause death or serious injury. Accordingly, the PHA team would need to identify and address all potential leaks

throughout the refinery and develop relevant recommendations. Additionally, the refinery may be forced to conduct full SPA and HCA for each hypothetical scenario.

AP-12 Response

The proposed revisions to the cited definition were necessary to clarify and narrow the types of repair to utility piping and equipment such that only those that affect a process and could result in a major incident is included. If the PHA team considers the leak potential in a pipe or piece of equipment to be sufficiently concerning to recommend a temporary repair pending a full repair (for example, at a future turnaround), then that *potential* leak and the associated temporary repair would be covered under this definition. This definition does not require the PHA team to take any actions that it would not otherwise undertake to address potential leaks. Cal OES will take no action on this comment.

AP-13 Comment

Section 2745.7.5 Risk Management Plan ("RMP") Program 4 Prevention Program Component
Proposed language
[unmodified sections removed for brevity]
e) The date of completion of the most recent PHA or PHA revalidation ~~update~~ and the technique used.
~~(g) The date of the most recent review or revision of training programs.~~
~~(1) The type of training provided--classroom, classroom plus on the job, on the job; and,~~
~~(2) The type of competency testing used.~~

~~(h) The date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested.~~

(i) ~~The date of the most recent change that triggered management of change procedures and~~ The date of the most recent review or revision of management of change procedures.

WSPA suggested language
None.

WSPA comments
WSPA appreciates CalOES streamlining the requirements for information provided to the Agency. However, WSPA still maintains that a reporting tool is necessary to provide uniformity in Cal-RMP reporting as is currently done with Federal RMP today.

AP-13 Response

Cal OES notes commenter's request for a reporting tool. Cal OES will take no action on this comment.

AP-14 Comment

Section 2762.0.1 Applicability
Proposed language
(a) This Article shall apply to processes within petroleum refineries.

(b) All processes ~~portions~~ of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory.

NOTE: Authority cited: Section 8585, Government Code; and Sections 25531 and 25534.05, Health and Safety Code. Reference: Section 8585, Government Code; and Sections 25531, 25531.2, 25534, Health and Safety Code.
WSPA suggested language

None.

WSPA comments
WSPA appreciates the increased specificity of this provision.

We nevertheless believe that a specific list of chemicals with associated threshold quantities is the only way to provide the regulated community with the ability to determine whether or not an area of a refinery is subject to the proposed regulatory requirements.

This would not only help meet the requirements for clarity and necessity but it would aid both inspectors and regulated entities in complying and evaluating compliance with the regulations.

AP-14 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Nonetheless, a specific list of chemicals with associated threshold quantities is not needed or desired for program 4 facilities. Unlike program 2 and program 3, program 4 is intended for all processes in a petroleum refinery as clearly stated in the regulatory text. There is a clear and explicit definition of petroleum refinery. If program 4 requirements were limited to the list of regulated substances as a threshold, the Chevron or Torrance incidents may not have been addressed by the proposed regulatory language. These incidents illustrate the need to focus on the potential hazards and look beyond the list. The proposed regulatory language provides the necessary specificity and exclusions. Cal OES will take no action on this comment.

AP-15 Comment

Section 2762.1 Process Safety Information
Proposed language
(a) The owner or operator shall develop and maintain a compilation of written process safety information before conducting any PHA, Hierarchy of Hazard Control Analysis, Safeguard Protection Analysis, or Damage Mechanism Review, as required by this Article. The compilation of written process safety information shall be sufficient to enable the owner or operator and the employees involved in operating or maintaining a process to identify and understand the hazards posed by the process. This process safety information shall include information pertaining to (1) the hazards of any highly hazardous materials used or produced by the process; (2) the technology of the process; (3) process equipment used in the process; and (4) results of previous Damage Mechanism Reviews. The process safety information shall be made available to all ~~refinery and contractor~~ employees and relevant process safety information shall be made available to affected employees of contractors. Information pertaining to the hazards of the process shall be effectively communicated to all affected employees.

WSPA suggested language
None

WSPA comments
WSPA appreciates the clarification that only relevant Process Safety Information ("PSI") needs to be made available to affected employees of contractors.

AP-15 Response

This is a general comment requiring no response.

AP-16 Comment

Section 2762.1 Process Safety Information
Proposed language
(e~~d~~) The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other equally or more protective internal practices ~~standards~~ that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.

WSPA suggested language
(e~~d~~) The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other ~~equally or~~ more protective internal practices ~~standards~~ that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that

the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.

WSPA comments
The CalOES proposed modification arbitrarily and capriciously stifles the development of performance-based internal standards that are equally protective as industry codes, and therefore disincentivizes the kind of innovation the accidental release prevention standards sought to promote. Importantly, there is no rational or legal basis for CalOES to require more protective standards than what would otherwise qualify as RAGAGEP. The goal is to have appropriate practices in place at a facility. If a practice is equally as protective as an industry standard, then it is by definition appropriate and should be encouraged.
Additionally, eliminating equally protective internal practices will reduce the number of technical options available to accomplish tasks, which diminishes operational flexibility.

It is possible that CalOES is seeking to respond to comments submitted by other stakeholders arguing that internal standards should be disallowed altogether. These commenters suggest that employer internal practices by definition do not constitute RAGAGEP. This is incorrect. OSHA has long recognized that internal standards can be RAGAGEP. To the extent that these commenters are concerned regarding the burden on CalOES to establish the lack of equivalence of an internal standard, such concerns are misplaced as appropriate RAGAGEP documentation is typically available at the company. If CalOES seeks to hold internal standards to a standard of greater protectiveness, it should include in the record an explanation as to why this is authorized and why objectively allowing equivalent standards presents a risk.

If, however, CalOES moves forward with a specific requirement on this topic, the agency should include in this regulation a performance-based provision, such as requiring owner/operators to develop a process to evaluate updates to RAGAGEP, rather than creating a prescriptive requirement that owner/operators modify their RAGAGEP where existing practices are safe.

CalOES should also clarify its terminology in both the regulation and the **FSOR**. Some WSPA members distinguish between “practices” and “standards.” For these members, standards are formal, written documents, and practices are informal documents. CalOES should clarify that the provision applies to internal “standards,” which are a company’s RAGAGEP equivalent.

AP-16 Response

See response to comment AP-11.

AP-17 Comment

Section 2762.2 Process Hazard Analysis [PHA]
Proposed language
(c)(2) Previous publicly documented ~~major~~ incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;

WSPA suggested language

(c)(2) Previous publicly documented ~~major~~ incidents in the petroleum refinery ~~and petrochemical~~ industry sectors that are relevant to the PHA and includes information sufficient for an owner or operator to determine the applicability to the technology of the process and the causes of the incident.

WSPA comments
WSPA supports this minor improvement, as the proposed rule implied that exhaustive searches would be required for a wide range of "major incidents." WSPA remains concerned that it is impractical to require a refiner to track every publicly reported incident worldwide, particularly when CalOES offers no definition of "publicly documented." For example, most incidents are covered by the news media – does such coverage constitute "publicly documented"? Moreover, incidents "publicly documented" in the news media often do not contain any information that would be useful in preventing future incidents and therefore it is unclear what should be taken into consideration for these incidents.

Owner/operators simply should not be required to comply with such an overbroad standard. WSPA suggests that CalOES could provide industry with specific, reliable database(s) that provides for such information, either of its own creation or by reference. Additionally, this option would ensure that all the necessary information about the incident be included with the record including specific root causal information to provide for tangible learnings. For example, a reference to the U.S. Chemical Safety Board and the Mary Kay O'Connor Process Safety Center may provide initial databases for this provision. Alternatively, the CalOES could maintain a searchable database for owner/operators to use.

WSPA offers the following clarification for the **FSOR**:

> *"CalOES acknowledges commenters' concerns that in theory there are a large number of incidents could be considered 'publicly documented' where they are covered by national or local news media, or otherwise noted in sources that are available to the public. CalOES does not intend by this provision for owner/operators to conduct exhaustive searches of public databases and news sources to find incidents. Rather, CalOES is referring to those incidents that are well-publicized within the industry, resulting in alerts from the major trade associations and the Center for Chemical Process Safety. Also, CalOES would only require incidents to be considered for which enough information is available for an owner or operator to understand its nature and causes to make it meaningful for the PHA. Moreover, CalOES expects to develop a searchable database for owner/operators to use to fulfill this requirement. Until then, an owner/operator's review of incidents documented in the databases maintained by the Chemical Safety Board and the Mary Kay O'Connor Process Safety Center is what CalOES would expect in fulfilling the requirement to address previous 'publicly documented' incidents in the PHA".*

Finally, CalOES should harmonize the proposed refinery PSM standard with the proposed CalARP regulation by applying this requirement to major incidents that are relevant to the "PHA," not the process.

AP-17 Response

CalOES revised the requirement in 2762.2(c)(2) from "major" to "publically documented" incidents to provide clearer guidance to refiners and to clarify that it did not intend to make gathering of information pertaining to incidents overly burdensome. Cal OES does not intend by this provision for owners or operators to conduct exhaustive searches of public databases and news sources to find incidents. Rather, Cal OES is referring to those incidents that are well-publicized within the industry, resulting in alerts or publications from organizations such as the Environmental Protection Agency, the Chemical Safety Board, major trade associations, the Mary Kay O'Connor Process Safety Center, and the Center for Chemical Process Safety. Cal OES would also expect refineries to be familiar with publicly documented major incidents that occur or have occurred in California at refineries or petrochemical facilities. Cal OES will take no action on this comment.

AP-18 Comment

Section 2762.2 Process Hazard Analysis [PHA]
Proposed language
(f) For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct <u>in a timely manner</u> a Hierarchy of Hazard Control Analysis pursuant to section 2762.13.

WSPA suggested language
None.

WSPA comments
WSPA appreciates the inclusion of this language over a rigid six-month deadline that was included in the September 14, 2015 pre-regulatory draft.

WSPA requests that a clarification be provided in the **FSOR** indicating that "in a timely manner" does not suggest a specific timeline.

WSPA offers the following clarification for CalOES to consider including in the FSOR:

> *"CalOES has specified in this provision that an HCA must be conducted 'in a timely manner' for all recommendations made by the PHA team for major incident scenarios but has intentionally refrained from prescribing a specific time frame. CalOES recognizes that a specific deadline may not be appropriate in response to the comments submitted. CalOES intends for owners and operators to conduct the HCA within a reasonable amount of time, and recognizes that this may take longer than six months depending on the recommendations that may come out of the PHA. At the same time, CalOES believes timely implementation is appropriate and has left the timeliness requirement in the regulatory language."*

AP-18 Response

Although the commenter is correct that there is no timeline specified in Section 2762.2, the requirement is not less effective or enforceable than the pre-regulatory draft. Cal OES has specified in this provision that an HCA must be conducted "in a timely manner" for all recommendations made by the PHA team for major incident scenarios but has intentionally refrained from prescribing a specific time frame. Cal OES recognizes that a specific deadline may not be appropriate in response to the comments submitted. Cal OES intends for owners and operators to conduct the HCA within a reasonable amount of time, and recognizes that this may take longer than six months depending on the recommendations that may come out of the PHA. However, this change does not remove the owner or operator's obligation to complete the HCA quickly. Section 2762.2 (i) requires the owner or operator to follow the corrective action work process in section 2762.16 (d) and (e) "when resolving the PHA team's findings and recommendations, determining action items for implementation, tracking to completion, and documentation of closeout." Section 2762.16 (e) (10)-(13) does contain strict timelines, and the HCA must be completed prior to the corrective actions. In the case of PHA recommendations, the deadline is two and half years after completion of the PHA, or the next regularly scheduled turnaround. The combined effect of the two sections will impose a sufficiently strict timeline on the owner or operator for completion of the HCA. The longer the HCA takes, the less time remains for the implementation of the corrective action. These strict deadlines, benchmarked to the completion of the PHA, effectively remove any incentive for the owner or operator to delay completion of the HCA. Recognizing the concern expressed by the commenter, however, a change was made to require that the HCA be completed "in a timely manner." Cal OES will take no further action on this comment.

AP-19 Comment

Section 2762.5 Mechanical Integrity
Proposed language
(b)(2) The frequency of inspections and tests of process equipment shall be consistent with (1) the applicable manufacturers' recommendations, ~~or~~ (2) RAGAGEP, or (3) ~~other equally or more protective~~ internal ~~standards~~ practices that are more protective than (1) or (2). Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment.

WSPA suggested language
(b)(2) The frequency of inspections and tests shall be consistent with (1) the applicable manufacturer's recommendations, ~~or~~(2) RAGAGEP, or (3) other equally or more protective internal ~~practices~~ standards ~~that are more protective than (1) or (2)~~. Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment.

WSPA comments

CalOES' proposed modification arbitrarily and capriciously stifles the development of performance-based internal standards that are equally protective as industry codes, and therefore disincentives the kind of innovation the accidental release prevention standards sought to promote.

Importantly, there is no rational or legal basis for CalOES to require more protective standards than what would otherwise qualify as RAGAGEP. If it is as protective, CalOES is not legally permitted to reject it. CalOES originally proposed to allow owner/operators to use equally protective internal standards, but now proposes to require that internal standards be more protective than RAGAGEP or manufacturer's recommendations. This is nonsensical – why eliminate an equally protective option? Unless supported by sufficient evidence that internal standards are less protective than RAGAGEP or a manufacturer's standards, this modification is unnecessary and arbitrary.

Additionally, eliminating equally protective internal practices will reduce the number of technical options available to accomplish tasks, which diminishes operational flexibility.

CalOES should also clarify its terminology in both the regulation and the FSOR. Some WSPA members distinguish between "practices" and "standards." For these members, standards are formal, written documents, and practices are informal guidance documents. CalOES should clarify that the provision applies to internal "standards," which are a company's RAGAGEP equivalent.

AP-19 Response

See response to comment AP-11.

AP-20 Comment

Section 2762.5 Mechanical Integrity
Proposed language
(e)(2) A DMR shall be updated ~~revalidated~~ at least once every five (5) years consistent with the requirements of this section.

WSPA suggested language
(e)(2) A DMR shall be ~~updated~~ revalidated at least once every five (5) years

WSPA comments
Changing the word "revalidate" to "updated" makes this provision inconsistent with OSHSB's proposed refinery PSM standard, although the intended meaning may be the same. As there is no explanation in the Initial Statement of Reasons ("ISOR") for why this change is being made, we request that OES confirm in the FSOR—if this change is finalized—that "updated" means the same process that OSHSB would require in revalidation. If a different meaning is intended, WSPA would like the opportunity to comment on that issue and for CalOES to issue a new 15-day notice that explains its intent as is required by the Administrative Procedures Act.

If CalOES decides not to adopt the change to the regulatory language suggested by WSPA, we request that the following clarification be included in the **FSOR**:

> *"CalOES has finalized a requirement that the DMR be 'updated' at least once every five years. CalOES received comments expressing concern that this requirement might be interpreted differently from the comparable PSM standard promulgated by OSHSB, which requires that a DMR be 'revalidated' at least once every five years. 8 C.C.R. § 5189.1(k)(3). This is not the intention of CalOES, however, and we confirm that the 'update'to a DMR entails the same process that employers would undertake to 'revalidate' the DMR under the OSHSB regulations. CalOES does not intend any inconsistency in the process required under the two standards".*

AP-20 Response

Cal OES has finalized a requirement that the DMR be 'updated' at least once every five years. Under CalARP, the term "revalidate" has a specific meaning, and applies only to the Process Hazard Analysis. It would be improper to apply this definition to the DMR. CalOES received comments expressing concern that this requirement might be interpreted differently from the comparable PSM standard promulgated by OSHSB, which requires that a DMR be "revalidated" at least once every five years. 8 C.C.R. § 5189.1(k)(3). This is not CalOES' intention, however, and we confirm that the "update" to a DMR under CalARP entails the same process that owners or operators would undertake to "revalidate" the DMR under the OSHSB regulations. CalOES does not intend any inconsistency in the process required under the two standards. Cal OES will take no further action on this comment.

AP-21 Comment

Section 2762.5 Mechanical Integrity
Proposed language
(e)(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change <u>may</u> ~~will~~ introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change.

WSPA suggested language
(e)(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change ~~may~~ <u>will</u> introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change.

WSPA comments
This proposed modification introduces significant uncertainty into, and expands the scope of, the requirement. Rather than assess only those damage mechanisms an owner/operator knows will be created or affected by a change, this change appears to require the owner/operator to expend resources assessing hypothetical damage mechanisms, however unlikely. This could divert resources away from the management and mitigation of known process safety hazards. Therefore, this modification should be removed.

WSPA also requests that CalOES include language to acknowledge that many refiners are already conducting DMRs by including a grandfathering clause for the DMRs that meet the requirements of this subsection.

AP-21 Response

The commenter states that the revision would impose an unwarranted burden by expanding the scope for DMR analysis into "hypothetical changes." The plain language does not contemplate hypothetical changes. Program 4 stationary sources are required to conduct a DMR where a major change may introduce a new damage mechanism. This requirement is necessary to prevent accidental releases. The DMR itself is the method for determining whether the new damage mechanism(s) will actually be introduced, and for evaluating and addressing the damage mechanism(s). Confining the DMR requirement to instances where the major change "will" introduce a new damage mechanism could allow the regulated entity to evade performing any analysis by asserting that they did not believe the change introduced a new damage mechanism. Paragraph 2762.5(e)(1) grandfathers DMRs that have been performed in the previous five years if the DMR includes the elements identified in paragraph 2762.5 (e)(8). Cal OES will take no action on this comment.

AP-22 Comment

Section 2762.6 Management of Change
Proposed language

(b)(3) Modifications to <u>operating and maintenance</u> procedures or development of new operating and maintenance procedures;

WSPA suggested language
(b)(3) Modifications to <u>operating</u> ~~and maintenance~~ procedures ~~or development of new operating and maintenance procedures~~;

WSPA comments
This is a significant expansion of the proposed standard's MOC requirement. Including all "new" procedures is not an appropriate use of the MOC procedure, because there has been no "change." As a result, companies cannot address specific MOC requirements such as "technical basis for change."

AP-22 Response

The proposed language is not a substantive expansion, but rather a clarification that the "modification of" language also applies to operating and maintenance procedures. The intent is to insure that new or modified procedures do not add risks or unintended consequences. Cal OES disagrees that the implementation of new procedures is not a change. Cal OES will take no further action on this comment.

AP-23 Comment

Section 2762.6 Management of Change
Proposed language
(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in, the change in a timely manner, prior to implementation of the change ~~prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors.~~ For contractors and employees of contractors who are operating the process and whose job tasks are affected by a change, the owner or operator shall make the MOC documentation available to and require effective training in the change prior to implementation of the change, pursuant to section 2762.12 ~~of the contractor employee prior to the change.~~

WSPA suggested language
None.

WSPA comments
WSPA remains concerned with the potential dangerous dissemination of MOC documentation to third parties such as contractors and contractor employees. We would appreciate CalOES' reconsideration of WSPA's suggested language to reduce the possibility of competitive harm related to unauthorized disclosure by contractors and their employees.

Additionally, WSPA requests that CalOES make similar changes regarding the dissemination of confidential information under other provisions, particularly in the Employee Participation and Incident Investigation. We remain concerned with the use of the term "effectively" trained as stated in WSPA's previous comments on the proposed rule submitted on September 15, 2016.

AP-23 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AP-24 Comment

Section 2762.6 Management of Change
Proposed language
(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities at or above 15%. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

WSPA suggested language

(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of employees, changing shift duration, or substantively increasing employee responsibilities at or above 20% ~~15%.~~. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

WSPA comments

We appreciate CalOES' recognition that a meaningful change is needed before triggering MOOC assessment. The ISOR is unclear, however, as to why the proposed 15% increase in employee responsibilities was selected. Because job responsibilities are not typically quantified, implementation may be somewhat challenging but **WSPA supports the use of a threshold to indicate that there has been a substantive increase to employee responsibilities.** To the extent that a percentage increase is used, WSPA supports using 20% because this value generally correlates to an extra day's work for a week and is a measure that personnel can understand. A value of 15% would be harder to implement, and 20% is equally supportable.

WSPA suggests that the following clarification be provided in the **FSOR** indicating that this modification does not apply to specific employees, but rather to employee positions.

> *"CalOES included the percentage increase in job responsibility language to address concerns by commenters that any increase could trigger MOOC requirements. CalOES acknowledges that job responsibilities may not typically be quantified, and that this provision may therefore be challenging in implementation. CalOES anticipates that an owner/operator/employers can use a 'rule of thumb' approach to assess when a new MOOC assessment is needed, for example, adding tasking that will consume an additional day of time for a specific employee would trigger this requirement but simply adding responsibilities within the employee's classification level and incorporated into performance of existing responsibilities would not."*

AP-24 Response

This revision was made to address industry concerns regarding the imprecision of the term "substantively." The modification is necessary to clarify and quantify the level at which changes in employee responsibilities trigger a MOOC assessment. The 15% threshold a recognized industry standard and is used here to provide consistency. Cal OES will take no action on this comment.

AP-25 Comment

Section 2762.6 Management of Change
Proposed language
(k)(4~~5~~)The stationary source manager, or his or her designee, shall certify based on information and belief formed after reasonable inquiry that the MOOC assessment is accurate and that the proposed organizational change(s) meets the requirements of this section.

WSPA suggested language
(k)(5) The stationary source shall specify the management review and approval process to verify ~~petroleum refinery manager, or his or her designee, shall certify~~ that the assessment is accurate and that the proposed organizational change(s) meet the requirements of this section.

WSPA comments
WSPA appreciates the clarification that certifications must only be based on information and belief formed after a reasonable inquiry and do not create strict liability of the stationary source manager or designee.

However, we continue to be concerned with the Agency's attempts in general to increase personal liability for a single individual and that these may actually negatively impact safety. This will force the refinery manager to further spread his/her time across individual CalARP processes, rather than overseeing general reliability and improving safety culture at a refinery.

AP-25 Response

Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that certifications must only be based on information and belief formed after a reasonable inquiry. Cal OES will take no action on this comment.

AP-26 Comment

Section 2762.7 Pre-Startup Safety Review
Proposed language
(a) The owner or operator shall perform a pre-startup safety review (PSSR) for new processes, and for modified processes if the modification necessitates a change in the Process Safety Information, and for partial and unplanned shutdowns. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process.

WSPA suggested language
(a) The owner or operator shall perform a pre-startup safety review (PSSR) for new processes, and for modified processes if the modification necessitates a change in the Process Safety Information~~, and for partial and unplanned shutdowns~~. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process.

WSPA comments
WSPA requests that this modified language be removed, as it is unnecessary and confusing, given that the definition of "turnaround" already includes "partial shutdowns." CalOES must explain in the **FSOR** why this modification meets the Agency's statutory goals of reducing releases, rather than merely increasing confusion and administrative burden as it appears to do. This may be motivated by a concern that unplanned shutdowns will be used in lieu of planned turnarounds to avoid triggering certain requirements. To clarify, it would be nearly impossible to mask a turnaround as an unplanned shutdown. Major turnarounds require years of planning and significant capital investment. Moreover, California refineries are required to submit to the DIR a schedule of turnarounds. Accordingly, this language should be removed from the standard.

AP-26 Response

Cal OES agrees that "partial shutdowns" are a subset of "turnarounds." In response to comments that this was not sufficiently clear, Cal OES amended the proposed language to ensure that this is an explicit requirement. This amendment does not change the previous intent of the regulatory language. Unplanned shutdowns were added in response to comments requesting clarification that a refinery that experiences an unplanned shutdown should not be able to start up again without conducting a PSSR.

If changes are made during the partial shutdown, then this amendment serves a safety purpose by ensuring that the changed condition does not introduce any new or changed hazards. If no changes are made during the partial shutdown, this amendment does not make the process more burdensome than it would have been without the amendment. It is simply intended to ensure that nothing is missed. Cal OES will take no action on this comment.

AP-27 Comment

Section 2762.7 Pre-Startup Safety Review
Proposed language
(b)(5) Training of each operating employee and maintenance employee affected by the change has been completed.

WSPA suggested language
None.

WSPA comments
WSPA supports this change to narrow the scope of the requirement to those actually impacted by a change instead of all employees.

AP-27 Response

This is a general comment requiring no response.

AP-28 Comment

Section 2762.8 Compliance Audits
Proposed language
(c) The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with ~~answers and~~ findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report available to employees and employee representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any written employee or employee representative comments on the written audit report.

WSPA suggested language
None.

WSPA comments
WSPA appreciates these modifications to the extent they improve consistency between the CalARP and PSM regulations.

AP-28 Response

This is a general comment requiring no response.

AP-29 Comment

Section 2762.9 Incident Investigation
Proposed language
(i)(3) A detailed description of the incident, including all of the data required under 2750.9(b);

WSPA suggested language
(i)(3) A detailed description of the incident~~, including all of the data required under 2750.9(b);~~

WSPA comments
The proposed modification cross-references the data required in the Five-Year Accident History section of the CalARP regulation, significantly expanding the volume and types of information that will need to be included in an incident investigation report, which is more problematic given that the scope of incidents to be investigated is broader than the federal RMP rule's requirement for five-year accident histories.

For example, the five-year accident history must include "weather conditions, if known." The weather conditions, and other information required by this section, will be wholly irrelevant to a

large number of the incidents for which stationary sources will need to investigate, given the dramatic expansion of what constitutes a "major incident."

Moreover, this section requires "[o]perational or process changes that resulted from investigation of the release and that have been made by the time this information is submitted in accordance with Section 2745.5." It is unclear how stationary sources would comply with this provision. Should the incident investigation report contain *potential* operational or process changes? Will stationary sources be required to retroactively modify incident investigation reports based on the five-year accident history submission? CalOES should remove this additional language to avoid an unduly burdensome and confusing standard.

AP-29 Response

This requirement is identical to the requirement under Program 3 (section 2760.9) with which the stationary source should already be complying. Much of this information should be data considered by the incident investigation team as a part of the investigation. For example, with respect to wind and weather information, this may have been a factor whether other units or communities were impacted or not. No new burdens are being imposed. Cal OES notes that there is no need to go back and retroactively modify incident investigation reports – as part of the incident investigation process, these should be closed out anyway. Cal OES will take no action on this comment.

AP-30 Comment

Section 2762.9 Incident Investigation
Proposed language

(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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 shall be provided <u>upon request</u> to employee representatives, and where applicable, contractor employee representatives.

WSPA suggested language

None.

WSPA comments

We appreciate CalOES inserting the words "upon request," so that there is no automatic dissemination of the incident investigation report.

WSPA further requests, however, that CalOES take other authorized steps to prevent disclosure of other proprietary and confidential information.

AP-30 Response

This is a general comment that does not require a response. With regard to the comment concerning proprietary and confidential information, section 2762.10(d) allows the owner or operator to require a confidentiality agreement from an employee or employee representative. Cal OES will take no action on this comment.

AP-31 Comment

Section 2762.9 Incident Investigation
Proposed language
(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. ~~The owner or operator shall pay the costs of the independent analysis.~~

WSPA suggested language
None.

WSPA comments
WSPA appreciates the removal of this sentence to clarify that owners and operators are not required to pay the costs of such independent analyses.

WSPA remains concerned with the lack of parameters for how third-party process safety analyses should be conducted, specifically who would conduct the analysis, how and when it would occur, and its maximum duration.

WSPA further requests that CalOES reconsider the significant transactional costs of an independent Process Safety Culture Assessment ("PSCA"). Regulatory agencies often impose time limits on these types of requirements to ensure that the regulatory costs are reasonable and quantifiable, as required by state and federal statutes. For example, in the U.S. Environmental Protection Agency ("EPA") Boiler Maximum Achievable Control Technology ("MACT") Rule, which requires an energy assessment, the Agency imposed hour time limits on assessments based on the complexity of the facility. *See 40 C.F.R.* § 63.11237 (defining "energy assessment"). By establishing parameters, CalOES will ensure that third-party auditors conduct themselves responsibly and are not incentivized to increase costs for state and local entities.

WSPA has a number of concerns over this requirement in the regulation. The definition of Major Incident is a key piece for this section, but that is only one small part of the concern. To begin, CalOES also is required to adopt regulations that are written so that the meaning of the regulations will be easily understood. Cal. Gov. Code §§ 11349, 11349.1. In this proposed provision, there are no controls on when this requirement may be triggered. Rather, it appears it can be arbitrarily administered. Because there is no control in-place, nor an established process, this section is subject to abuse by any 3rd party contractor. Additionally, there are no established criteria, such as a qualification, a selection process, or a procedure on the administration of the

assessment. There is no standard established to ensure objectivity of the assessment. There is also no requirement that this effort should involve consultation with the stationary source.

AP-31 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AP-32 Comment

Section 2762.10 Employee Participation
Proposed language
(a)(1) Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases ~~at the earliest possible point~~, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;

WSPA suggested language
(a)(1) Effective participation by affected operating and maintenance employees and employee representatives, during relevant phases ~~throughout all phases at the earliest possible point~~, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs;

WSPA comments
The addition of "throughout all phases" is unworkably vague and burdensome and WSPA suggests using the phrase "during relevant phases." This modification was requested by commenters responding to the proposed refinery PSM standard, who believed that an employer could reasonably interpret this requirement to mean employee participation at one or a few aspects of the PSM activities listed. This statement misunderstands that employees and employee representatives are already heavily involved during substantive phases of PSM/CalARP activities. Moreover, the modification fails to recognize that certain phases, such as preliminary engineering or final administrative phases, may be irrelevant or inappropriate for wide-spread employee participation.

WSPA is concerned that an open-ended requirement that could allow for unlimited participation by labor groups in all or most CalARP processes will significantly impede normal operations of a refinery, particularly during labor negotiations periods. CalOES should remove the requirement of "throughout all phases."

AP-32 Response

The modification ensures meaningful participation and decision making for affected operating and maintenance employees and employee representatives in all program teams for all analyses required in the section. The suggested change language would limit employee participation throughout the regulation and undermine the mandate for such participation outlined in the Governor's Task Force report. Cal OES will take no action on this comment.

AP-33 Comment

Section 2762.10 Employee Participation
Proposed language
(b)~~ In accordance with the collective bargaining agreement in effect with the stationary source, a~~An authorized collective bargaining agent may select ~~representative~~employee(s) to participate in overall Accidental Release Prevention program development and implementation planning and for ~~person~~employee(s) to participate in each team-based activity pursuant to this Article.

WSPA suggested language
(b) In accordance with the collective bargaining agreement in effect with the stationary source, an authorized collective bargaining agent may select ~~representative~~employee(s) to participate in overall Accidental Release Prevention program development and implementation planning and for ~~person~~employee(s) to participate in each team-based activity pursuant to this Article.

WSPA comments
WSPA supports the change to limit the individuals who may participate on CalARP teams to employees only. However, WSPA disagrees that the first sentence referring to the "collective bargaining agreement" can be deleted. Rather that employee participation is achieved by the earlier paragraphs in employee participation and by requiring the proper qualifications of personnel in each subsection with team requirements. One example is the language used in PHA that specifies an operator be used. One example is the language used in PHA that specifies an operator be used.

This provision will allow labor representatives to effectively re-assign refinery employees, or assign non-employees, to work processes unrelated to their own roles and in unlimited numbers. As a result, work assignments and overall operations at a refinery can be immediately crippled according to state safety provisions. This definition is clearly at odds with OES' position of neutrality with respect to labor relations, and the ISOR fails to substantiate "that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law." Cal. Gov. Code § 11346.9(a)(4).

AP-33 Response

This revision was made to more closely align the Cal ARP language with language in the PSM regulation. This provision does not allow labor representatives to effectively re-assign refinery employees, or assign non-employees, to process safety work processes unrelated to their own roles and in unlimited numbers for reasons unrelated to process safety. Cal OES will take no action on this comment.

AP-34 Comment

Section 2762.12 Contractors

Proposed language

(b)(2) The owner or operator shall inform the contract owner or operator and shall ensure that the contract owner or operator has informed each of its employees of the work practices necessary to safely perform his or her jobs, including but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan ~~of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.~~

WSPA suggested language

(b)(2) The ~~owner or operator~~ refinery employer shall inform the contractor ~~owner or operator~~ and shall ~~ensure~~ require that the contractor~~contract owner or operator has informed~~ informs each of its employees of the work practices necessary to safely perform his or her jobs, including but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan~~. of the potential hazards associated with the contractor's work and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.~~

WSPA comments

WSPA believes the WSPA requested language better encompasses the fundamental intent of this section.

WSPA believes that by using the term "ensure," CalOES means that there is documentation of the training and that the contract requires the contractor to provide the required information to its employees. To the extent that CalOES is suggesting with this proposed modification that more is required, WSPA believes that the proposal is not reasonable and has not met the requirements for necessity or alternatives analysis. Additional obligations beyond maintaining training documentation and ensuring appropriate contract provisions would impose significant administrative burdens on employers, and so WSPA requests that CalOES look to these reasonable steps as satisfying the requirement.

AP-34 Response

The ultimate responsibility for any activity that occurs at the stationary source lies with the owner or operator of that stationary source. The revision is necessary to promote safety and accountability. The provision ensures that contractors and contractor employees are informed of the process safety hazards in the refinery and applicable safety procedures, including what actions to take in the event of an emergency. A requirement without assurance is not sufficient. Cal OES will take no action on this comment.

AP-35 Comment

Section 2762.12 Contractors
Proposed language
(c) Contract owner or operator responsibilities.

(1) The contract owner or operator shall ensure that each contract employee is trained in the work practices necessary to safely perform his or her jobs, including but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan, and shall meet the requirements of Health and Safety Code Section 25536.7.

~~(2) The contract owner or operator shall ensure that each contract employee is instructed in the potential hazards related to his or her jobs and the process, including fires, explosions, loss of containment, highly hazardous materials and high temperatures and pressures.~~

[unmodified sections removed for brevity]

(5) Nothing in this subsection shall preclude the stationary source owner or operator from requiring a contractor or an employee of a contractor to whom information is made available under this section to enter into a confidentiality agreement prohibiting him or her from disclosing such information, as set forth in CCR Title 8, Section 5194(i).

WSPA suggested language
(c) Contract owner or operator responsibilities.
(1) The contract owner or operator shall ensure that each contract employee is trained in the work practices necessary to safely perform his or her jobs, including but not limited to: the potential hazards related to their jobs; applicable refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan~~. and shall meet the requirements of Health and Safety Code Section 25536.7~~.

WSPA comments
This provision effectively provides a California Unified Program Agency ("CUPA") with enforcement authority under the CalARP standard to issue findings related to SB54, which was not explicitly granted directly by the legislature. Moreover, SB 54 and the CalARP regulation have different applicability criteria, such that this arbitrary cross-reference may significantly complicate the contractor and subcontractor hiring process. These legislative efforts are entirely separate, and as a result should not be unlawfully linked through regulatory action. Given that SB54 was not directed by the legislature to be part of a CalARP program, and it is not CalARP-related, this inclusion is inappropriate.

Further, in its current form, SB54 is too vague for either employers or contractors to implement. For example, it provides no guidance regarding what curricula or materials will satisfy the 20-hour training requirement. Without this information, contractors cannot train its employees. Otherwise, the contractor risks having its training deemed insufficient by an owner/operator.

Owner/operators, in turn, are reluctant to approve a contractor's training program because there is little to no guidance about what is considered compliant.

Additionally, there are still multiple elements that require disclosure of documents and provide limited protection for proprietary information, including:

Employee Participation Plan: [Must provide for] Access by employees and employee representatives to all documents or information developed or collected by the owner or operator, including information that might be subject to protection as a trade secret.

Incident Investigation Reports: Investigation reports shall be provided upon request to employee representatives, and where applicable, contractor employee representatives.

Despite CalOES' proposed modification regarding confidentiality agreements, WSPA remains concerned about these information disclosure provisions. Regardless of any agreement, if information is disclosed to unauthorized third parties, the competitive harm has been inflicted and cannot be easily undone.

AP-35 Response

Cal OES strongly disputes that the CUPAs are not empowered to implement SB54. Health and Safety Code section 25533 states:

> "The program for prevention of accidental releases of regulated substances adopted by the Environmental Protection Agency pursuant to subsection (r) of Section 112 of the Clean Air Act (42 U.S.C. Section 7412(r)), <u>with the additional provisions specified in this article</u>, is the accidental release prevention program for the state. The program shall be implemented by the office <u>and the appropriate administering agency</u> in each city or county."

Health and Safety Code § 25536.7 was added to authorizing statutes for the CalARP program effective January 1, 2017. Consequently, section 25536.7 is an "additional provision" specified in Article 2: Hazardous Materials Management. Cal OES will take no action on this comment.

AP-36 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis
Proposed language
(b) The owner or operator shall also conduct an HCA <u>in a timely manner</u> in the following instances:

WSPA suggested language
None.

WSPA comments
While WSPA does not object to the addition to the requirement for "timely" responsiveness, we note that the appropriate timing will be case-specific. In addition, CalOES should clarify that timeliness will vary depending upon the circumstances. For example, HCAs associated with an MOC or the design phase of a new process unit may take significantly longer than other HCAs.

WSPA suggests that the following clarification be provided in the **FSOR** indicating that "in a timely manner" does not suggest a specific timeline:

> *"CalOES has finalized a requirement that an HCA be conducted in certain instances 'in a timely manner.'By requiring that HCAs be 'timely,' CalOES has intentionally refrained from prescribing any specific timeframe for conducting this analysis. As previously noted with respect to the timeliness requirement in Section 2762.2(f), CalOES intends for owners and operators to conduct the HCA within a reasonable amount of time, and recognizes that this may take longer than six months depending on the recommendations that may come out of the PHA. At the same time, CalOES believes timely implementation is appropriate and has left the timeliness requirement in the regulatory language."*

AP-36 Response

Cal OES has specified in this provision that an HCA must be conducted "in a timely manner" but has intentionally refrained from prescribing a specific time frame. Cal OES recognizes that a specific deadline may not be appropriate in response to the comments submitted. Cal OES intends for owners and operators to conduct the HCA within a reasonable amount of time. However, this change does not remove owner or operator's obligation to complete the HCA quickly. Section 2762.2 (i) requires the owner or operator to follow the corrective action work process in section 2762.16 (d) and (e) "when resolving the PHA team's findings and recommendations, determining action items for implementation, tracking to completion, and documentation of closeout." Section 2762.16 (e) (10)-(13) does contain strict timelines, and the HCA must be completed <u>prior</u> to the corrective actions. In the case of PHA recommendations, the deadline is two and half years <u>after completion of the PHA</u>, or the next regularly scheduled turnaround. The combined effect of the two sections will impose a sufficiently strict timeline on the owner or operator for completion of the HCA. The longer the HCA takes, the less time remains for the implementation of the corrective action. These strict deadlines, benchmarked to the completion of the PHA, effectively remove any incentive for the owner or operator to delay completion of the HCA. Recognizing the concern expressed by the commenter, however, a change was made to require that the HCA be completed "in a timely manner." Cal OES will take no further action on this comment.

AP-37 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis
Proposed language
(c) All HCAs shall be updated consistent with the requirements of this section ~~and revalidated~~ at least every five years, in conjunction with the PHA schedule.

WSPA suggested language
(a)(3~~c~~) All HCAs shall be updated consistent with the requirements of this section ~~and revalidated~~ at least every five years, in conjunction with the PHA schedule.

WSPA comments
The regulation has a requirement out of order. The requirements in paragraph c apply only to paragraph a. The HCAs in paragraph b are one-time events and cannot be subject to 5 year revalidations.

WSPA requests that a clarification be provided in the **FSOR** indicating that "update" has the same meaning as "revalidate" or that CalOES revert to the originally proposed language (see Column 1).

If, however, a different meaning is intended, WSPA would like the opportunity to comment on that issue and for CalOES to issue a new 15-day notice that explains its intent as is required by the Administrative Procedures Act. This modification heightens the inconsistencies between CalARP and OSHSB's proposed refinery PSM standard. Specifically, the term "revalidated," which is used in the refinery PSM standard, has been deleted by CalOES and only "updated" remains. CalOES does not provide explanation for creating yet another inconsistency in its 15-Day Notice documentation. As a result, CalOES should modify its proposed rule in keeping with its statutory mandate.

Consistent with these comments, we request that the following clarification be included in the FSOR:

> *"CalOES has finalized a requirement that all HCAs be 'updated' at least once every five years in conjunction with the PHA schedule. CalOES received comments expressing concern that this requirement might be interpreted differently from the comparable PSM standard promulgated by OSHSB, which requires that HCAs be 'updated and revalidated' at least once every five years. 8 C.C.R. § 5189.1(l)(1)(C). This is not the intention of CalOES, however, and we confirm that the 'update' to an HCA entails the same process that employers would undertake to 'update and revalidate' the HCA under the OSHSB regulations. CalOES does not intend any inconsistency in the process required under the two standards."*

AP-37 Response

Cal OES disagrees that the requirements are out of order. See response to comment AP-20. Cal OES will take no action on this comment.

AP-38 Comment

Section 2762.13 Hierarchy of Hazard Control Analysis
Proposed language
(e)(3) Identify, analyze, and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. Identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards. ~~The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team~~. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report.

WSPA suggested language
(e)(3) Identify, analyze and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. The owner or operator shall develop a~~an effective~~ review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team. This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining ~~industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report~~.

WSPA comments
While WSPA appreciates the removal of the subjective “effective” language, this change still does not include a performance-oriented requirement to establish an appropriate protocol, which we would prefer. WSPA requests that the previous language be reinserted with the word “effective” removed.

If applied literally, the language could be interpreted to create an unworkable standard by requiring every “publicly available” safety measure to be found and analyzed. There needs to be bounds on the burdens imposed by this requirement. Otherwise, companies would be faced with significant administrative burdens, and these costs have not been included in CalOES’ analysis of the rule’s burdens. This provision may have the unintended consequence of incentivizing owners/operators to devote their time and resources to checking administrative boxes, rather than focusing on substantive process safety priorities.

WSPA, as previously stated in its comments, emphasizes that a requirement to conduct searches and analysis regarding inherent safety implemented at, or recommended for, other facilities will require excessive resources while producing no significant additional safety benefit. If the CalOES feels strongly that owners/operators should review inherent safety measures and safeguards, it should establish its own database. Accordingly, CalARP should revert to the appropriate performance-oriented requirement to develop an effective review protocol, in keeping with the statutory goals of CalARP.

AP-38 Response

Cal OES intends to keep the scope of the information appropriate in scope by including the qualifier "relevant" in the draft language. Relevant "publically documented" sources would include industry conferences, well known and widely covered same state's media, Chemical Safety Board, Environmental Protection Agency, Center for Chemical Process Safety publications or database, information provided by the local CUPA, and OSHA or Cal OSHA. Cal OES will take no action on this comment.

AP-39 Comment

Section 2762.14 Process Safety Culture Assessment
Proposed language
(b) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter<u>. If the owner or operator has conducted and documented a PSCA up to eighteen (18) months prior to the effective date of this section, and that PSCA includes the elements identified in this subsection, that PSCA may be used to satisfy the owner or operator's obligation to complete an initial PSCA under this subsection.</u> The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:

WSPA suggested language
None.

WSPA comments

WSPA appreciates the addition of this grandfathering clause.

AP-39 Response

This is a general comment that does not require a response.

AP-40 Comment

Section 2762.14 Process Safety Culture Assessment
Proposed language
(f) The PSCA team shall conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three (3) years following the completion of the PSCA report. If a corrective action is found to be ineffective, the owner or operator ~~PSCA team~~ shall implement changes necessary to ensure effectiveness in a timely manner not to exceed six months.

WSPA suggested language
(f) The PSCA team shall conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three (3) years following the completion of the PSCA report. If a corrective action is found to be ineffective, the owner or operator ~~PSCA team~~ shall implement changes necessary to ensure effectiveness ~~in a timely manner not to exceed six months~~.

WSPA comments
While WSPA appreciates that a general timeliness requirement may be desired, it is important not to prescriptively dictate a six-month deadline. A six-month timeframe should not be imposed for the following reasons. If, after three years, a corrective action is found to be ineffective, it would not be surprising for development of a different corrective action to take longer than six months. This does not include the time required to implement such a corrective action.

With respect to the phrase "implement changes necessary to ensure effectiveness," owners/operators will certainly make every effort for the new corrective action to be effective and are well-incentivized to do so. Still, it may take more than six months to determine if the new corrective action is effective and any certification of compliance will be based on the intent that the new corrective action be effective.
As CalOES is aware, safety culture evolves over time, often taking multiple years to implement fully. Prescriptive limitations, either temporal or process-based, are not generally consistent with such an evolutionary process.

WSPA is concerned that strict timing requirements will have the unintended consequence of stifling innovative action items and far-reaching long-term cultural improvement. To the extent that any timeframe is included, it should only require reasonable efforts to accomplish within the specified timeframe and should not impose a hard limit, as we recognize that CalOES may be seeking to ensure that action items are tracked to completion.

AP-40 Response

The PSCA occurs every 5 years. The interim assessment serves as a midterm review for the refinery to determine if their efforts are showing improvement. The interim assessment reduces the likelihood that the refinery arrives at the next PSCA without addressing identified issues from the prior PSCA. Rather than having more frequent PSCAs, this interim assessment is a limited focus, less effort-intensive approach to assess the impact of the corrective action and

make any necessary adjustment. It also facilitates a successful 5 year revalidation. Providing an open-ended timeline for the mid-course correction could mean that the next full PSCA could arrive without properly addressing identified issues from the previous PSCA. Cal OES will take no action on this comment.

AP-41 Comment

Section 2762.14 Process Safety Culture Assessment
Proposed language
(h) The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within 60 ~~30~~ calendar days of the completion of the report.

WSPA suggested language
None.

WSPA comments
WSPA appreciates the change from 30 to 60 days for this requirement but continues to believe that "communicating" the PSCA, corrective action plans, and interim assessments is still an unnecessary administrative burden, especially if owner/operators have robust internal websites where these items could be made easily accessible to any employee, representative, or participating contractor.

AP-41 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AP-42 Comment

Section 2762.15 Human Factors Program
Proposed language
(d) The owner or operator shall include an assessment of human factors in new and revised operating and maintenance procedures.

WSPA suggested language
(d) The owner or operator shall include an assessment of human factors in new operating procedures for startup, shutdown, and emergency shutdown, and maintenance procedures wherein the process equipment is online.

For consistency, this section will also need to be changed.

(e) The owner or operator shall develop a schedule for revising existing operating procedures for startup, shutdown, and emergency shutdown, and maintenance procedures wherein the process equipment is online based on a human factors assessment. The owner or operator shall complete

fifty (50) percent of assessments and revisions within three (3) years following the effective date of this Article and one hundred (100) percent within five (5) years

WSPA comments
Human factors analysis is most effective for non-routine operations where the frequency/probability of a process safety event is higher. According to CCPS Guidelines for Risk Based Process Safety, "the risks associated with startup, shutdown, and other non-routine operations can exceed that of routine operations, even though the risk exposure (in hours per year) for routine operations dwarfs all other operating modes." These processes or activities are perceived to be high risk since the causal factors tend to be human error related and/or when the hazard event consequence is most severe since one or more personnel are in the hazard zone.

AP-42 Response

Although the risks associated with non-routine operations may exceed the risk of normal operations, the commenter correctly points out that the CCPS Guidelines say that "risk exposure (in hours per year) for routine operations dwarfs all other operating modes." For these reasons, CalOES believes that it is critically important to analyze human factors both during routine operations and non-routine operations. Human factors in all procedures should be considered to prevent human error from occurring. Contra Costa County CUPA has found many human factor errors in normal procedures that if followed as written would lead to accidents. Contra Costa County CUPA has also found that five years is an appropriate time to complete the initial review of the procedures. All new and revised operating and maintenance procedures, online and offline, benefit from human factors analysis to ensure the safety of the workers and the surrounding community. Limiting the scope of the human factors program is inappropriate here. Because this is a process safety requirement, the analysis will be limited to where process safety is an issue. Cal OES will take no action on this comment.

AP-43 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The owner or operator shall designate the stationary source manager as the person with authority and responsibility for compliance with this section ~~stationary source manager shall be responsible for compliance with this Article~~, and shall maintain process safety goals that support continuous improvement.

WSPA suggested language
(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The owner or operator shall have ~~designate the stationary source manager as the person with~~ authority and responsibility for compliance with this section ~~stationary source manager shall be responsible for compliance with this Article~~, and shall maintain process safety goals that support continuous improvement.

WSPA comments
We appreciate Cal OES's recognition that its legal authority is over the owner/operator of the stationary source and is not over the individual employees of the refinery.

WSPA is concerned to the extent that CalOES would seek to use this language to unlawfully impose personal liability on the refinery manager.

WSPA requests that a clarification be provided in the **FSOR** stating that the CalOES proposed language is not intended to impose personal liability on the refinery manager.

We are also concerned that it is unclear what the regulation means by "authority and responsibility" for compliance.

By providing the clarity needed in the regulation and/or the **FSOR**, CalOES will meet its requirement to issue regulations that provide clarity. Any provision related to responsibility would of course be directly related to the certifications provided--i.e., "based on information and belief formed after reasonable inquiry."
In keeping with the above comments, WSPA requests that the following clarification be included in the FSOR:

> *"CalOES appreciates the concerns raised by commenters as to potential personal responsibility for process safety compliance of the refinery manager as compared with imposing the obligation as an agent of the owner of the refinery. It is not to impose liability on the stationary source manager in an individual capacity, since the manager acts as an agent of the refiner. The purpose of the provision is to emphasize to owner/operators in California that the refinery manager should be involved in process safety and accidental release prevention. OES wants to ensure that the owner or operator designates the stationary source manager as the person with authority and responsibility for compliance so that there is a clear chain of command for implementation of the regulatory requirements, with the manager at the helm. CalOES believes that designation of a refinery manager as the person with 'authority and responsibility' will be helpful to refineries in organizing and delegating compliance responsibilities, but does not intend by this provision to compliance upon the refinery manager. By 'responsibility,' CalOES means simply that overseeing implementation of the CalARP standard falls within the job description of the refinery manager. By 'authority,' CalOES means that the stationary source manager has a reasonable amount of decision-making authority over the operations of the refinery and that he / she oversees the individuals tasked with implementing the requirements of the regulation and does not intend to usurp normal processes in companies for authorizing significant expenditures.*
>
> *"CalOES is not seeking to exercise authority individual employees of the refinery. It does not intend this provision to act to impose personal liability upon an individual employee for compliance with the CalARP standard. Additionally,*

CalOES recognizes that all provisions in this standard for which individuals bear responsibility are qualified by the certifications provided (i.e., 'based on information and belief formed after reasonable inquiry'). To clarify that the person certifying may base that certification on inquiry of those directly implementing the requirements."

AP-43 Response

Cal ARP derives its authority from Health and Safety Code sections 25531 et seq. The authorizing statute extends authority for a "qualified person" to attest to the completeness of an RMP. This person is not required to be an owner or operator. The authorizing statute also permits the administering agency to take enforcement action against any "person" who violates any rule or regulation associated with the Cal ARP program. "Person" for purposes of the statue is defined broadly. The Legislature did not intend to limit the applicability of the Cal ARP regulations to only owners or operators. Consequently, Cal OES is well within its legislative authority to require a manager to have authority and responsibility for compliance. In response to industry concerns, Cal OES clarified that certifications must only be based on information and belief formed after a reasonable inquiry. Cal OES will take no action on this comment.

AP-44 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. Each recommendation that is changed or rejected by the owner or operator shall be communicated to onsite team members for comment and made available to offsite team members for comment. ~~If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.~~

WSPA suggested language
(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. Each recommendation that is changed or rejected by the owner or operator shall be made available to ~~communicated to onsite team members for comment and made available to offsite~~ team members for comment. ~~If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment.~~

WSPA comments
As documented in the WSPA comments of November 24, 2015, employees have expressed concern about retention and documentation of comments from employees regarding health and safety issues. As a result, employers should not be required to document conversations against the wishes of employees where CalOES can readily access the needed information pursuant to its inspection and enforcement authority. There are numerous requirements for developing recommendations throughout this regulation. It is impractical to have an active closed loop

communication process for each of these that may change. For example, all PSSR punch list items and HCA recommendations that may change in engineering process. Making information available and discussing process for obtaining information is a practical way to deal with this issue. In addition, if an employee is concerned that there is a process safety hazard associated with changing recommendations, they could report it in the hazard communication process. Some employees will not want their concerns documented transparently, but would rather have their concerns understood and understand the outcome.

Further, WSPA suggests that a clarification be provided in the FSOR. The proposed language implies a distinction between "communicated" and "made available," creating two different standards for on-site and off-site employees. Again, because there was no explanatory language included with the new proposed regulatory text, it is not possible for the public or regulated entities to understand how this provision was intended to be interpreted.

In keeping with these comments, WSPA requests that the following clarification be included in the **FSOR**:

> *"In this provision, CalOES makes a purposeful distinction between 'onsite' and 'offsite' team members. Consistent with the use of the term 'onsite' in Section 2735.3(t), CalOES intends that an 'onsite' team member include only those team members who actually work at the refinery on a regular basis (as opposed to those who are 'onsite' only temporarily). Any team member who does not fit within this description would be considered 'offsite.' Owners and operators have an affirmative obligation to communicate changed or rejected recommendations only to 'onsite' team members for comment. For 'offsite' team members, there is a lesser burden on owners or operators, in that they are only obligated to make such changes or rejections available. This could be by a more passive means of communication—such as posting on an intranet portal or maintaining hard copies in an accessible location—than is required for onsite team members."*

AP-44 Response

Cal OES makes a purposeful distinction between "onsite" and "offsite" team members. Owners or operators have an affirmative obligation to communicate changed or rejected recommendations only to onsite team members for comment. For offsite team members, there is a lesser burden in that owners or operators are only obligated to make such changes or rejections available. This could be through a more passive means of communication such as posting on an intranet portal that is accessible to the offsite members, so long as the offsite team members are aware where such information is posted and can access it if they choose to do so. Cal OES will take no action on this comment.

AP-45 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(e)(5) The owner or operator shall document any written ~~the~~ comments from all team members on any rejected or changed findings and recommendations.

WSPA suggested language
None.

WSPA comments
WSPA appreciates the added specificity and clarification of this provision.

AP-45 Response

This is a general comment requiring no response.

AP-46 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(e)(6) The owner or operator shall document a final decision for each recommendation and shall communicate it to onsite team members and make it available to offsite ~~all~~ team members.

WSPA suggested language
(e)(6) The owner or operator shall document a final decision for each recommendation and shall make it available to team members~~. communicate it to onsite team members and make it available to offsite all team members.~~

WSPA comments
See Comment 43.

AP-46 Response

Cal OES makes a purposeful distinction between "onsite" and "offsite" team members. Owners or operators have an affirmative obligation to communicate changed or rejected recommendations only to onsite team members for comment. For offsite team members, there is a lesser burden in that owners or operators are only obligated to make such changes or rejections available. This could be through a more passive means of communication such as posting on an intranet portal that is available to offsite members, so long as the offsite team members are aware where such information is posted and can access it if they choose. Cal OES will take no action on this comment.

AP-47 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(e)(12) Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation unless the owner or operator demonstrates in writing that it is infeasible to do so.

feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation unless the owner or operator demonstrates in writing that it is infeasible to do so.

WSPA suggested language
None.

WSPA comments
WSPA agrees with language changes.

AP-47 Response

This is a general comment requiring no response.

AP-48 Comment

Section 2762.16 Accidental Release Prevention Program Management System
Proposed language
(f)(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to and correct ~~reports of~~ hazards that present the potential for death or serious physical harm.

WSPA suggested language
(f)(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing ~~within 30 calendar days~~ to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to or correct deficiencies ~~reports of hazards~~ that present the potential for death or serious physical harm.

WSPA comments
CalOES' explicit inclusion that owner/operators "correct" hazards that have the potential for death or serious physical harm is acceptable, but WSPA requests that the 30 day time frame to respond be removed.

An arbitrary time limit requirement does not improve safety, but serves only to prioritize closing findings to label issues corrected over looking more deeply at the most appropriate actions, even if they would take longer to address. Additionally, WSPA believes the term "hazards" should be corrected as technically hazards cannot be "corrected;" rather, hazards present issues that may need to be corrected. For example, some chemicals are inherently flammable – this is a hazard that cannot be "corrected." CalOES should consider phrasing this requirement as deficiencies that present the potential for death or serious harm.

AP-48 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AP-49 Comment

Section 2775.7 Unified Program Agency Training
Proposed language
~~(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4.~~

~~(b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal OES.~~

~~NOTE: Authority cited: Section 8585, Government Code; and Sections 25531 and 25534.05, Health and Safety Code. Reference: Section 8585, Government Code; and Sections 25533(b), 25535(a), and 25540.5, Health and Safety Code.~~

WSPA suggested language
(a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4.

(b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal OES.

NOTE: Authority cited: Section 8585, Government Code; and Sections 25531 and 25534.05, Health and Safety Code. Reference: Section 8585, Government Code; and Sections 25533(b), 25535(a), and 25540.5, Health and Safety Code.

WSPA comments

The ISOR provides no explanation as to why the requirement for CUPA inspectors to maintain a basic level of training should be deleted. This requirement is both logical and necessary, given the incredible authority provided to them under this standard. While it is unclear given the lack of explanation, the concern is that there is a recognition that CUPAs will be unlikely to consistently meet these basic training requirements, and that the selected solution was to "lower the bar" for the enforcement community rather than revising the substantive provisions of its rule accordingly to require the appropriate training.

To the extent that this is viewed as easing enforcement burden, the fact is that the Agency cannot shortcut safety and training. Such an approach leaves the state vulnerable to the most important and foundational aspect of the significant criticism leveled against California agencies by their federal counterparts, specifically that the state has (1) insufficiently trained its inspection staff and (2) failed to adequately enforce deficiencies. Before creating a more complex and byzantine CalARP standard, CalOES owes it to its employees and to all stakeholders to address California's significant training and skill gap.

AP-48 Response

This section was deleted from Title 19 because all other CUPA training requirements are located in Title 27. This section is being forwarded to Cal EPA for inclusion in California Code of Regulations, Title 27, Division 1, Subdivision 4, Part II, Article 5, section 15260. The CUPA Forum Board is currently developing a certification and registration process. Cal OES will take no action on this comment.

COMMENTER AQ
David L. Ingram – Torrance Refining Company LLC ("TORC")
Emailed dated March 3, 2017

AQ-1 Comment

TORC adopts and incorporates by reference herein the following comments, which have been filed under separate cover:

- Western States Petroleum Association's ("WSPA") March 3, 2017 comments on the Proposed Modifications;

- TORC's and WSPA's September 15, 2016 comments on the proposed amended CalARP regulations; and

- TORC's and WSPA's July 15, 2016 comments on the proposed CalARP regulations.

AQ-1 Response

To the extent WSPA submitted comments relevant to the February 14, 2017 draft of the proposed regulations. They have been considered and responded to. Cal OES direct the commenter to the responses to Commenter C - Thomas Umenhofer – Western States Petroleum Association.

AQ-2 Comment

Many of our core concerns remain and are not addressed by the Proposed Modifications. In addition, in some areas the Proposed Modifications create new areas of concern. For reference, some of the issues raised in TORC's previous comments, which are of particular significance to TORC, that do not appear to be addressed by the Proposed Modifications are:

- The proposed definitions are overbroad, not cost-effective, and far more burdensome than equally effective alternatives.

- OES fails to consider equally effective and less burdensome alternatives for costly proposed regulations that create little or no benefit.

- The proposed regulations create unnecessarily prescriptive standards that remove flexibility needed to ensure safety and minimize accidental releases.

- The proposed regulations appear to go beyond OES' authority to regulate facilities and fail to harmonize with the proposed CalPSM regulations that regulate employers, not employees.

AQ-2 Response

To the extent the commenter believes that his concerns regarding the previous regulatory draft were not addressed in changes to the proposed regulations, Cal OES directs the commenter to its responses to comments from the 45 day comment period. The listed concerns are outside the scope of the modified draft. Cal OES will take no action on this comment.

COMMENTER AR

Thomas Jacob and John Ulrich – Chemical Industry Council of California

Emailed dated March 3, 2017

AR-1 Comment

Process for any Future Additions

Should consideration be given to extension of these standards beyond the refining industry, we note that the mechanisms by which this could be done seem to differ between the PMS and CalARP proposals. In either case, though, we strongly urge that any consideration given in the future to incorporation of any additional types of facilities under the new PSM standards and/or the new CalARP provisions, be undertaken only after a deliberate and inclusive process to shape their application to the facilities and processes for which they are being considered. Those almost certainly will be very distinct from the refineries for which these amendments were designed.

It is essential to understand that the chemical industry in California is a specialty industry rather than commodity industry. Individual chemistries and aspects of facilities and processes that are unique must be taken into account. This includes the reality that processes relied upon in such facilities are often trade-secret protected sources of competitive advantage. More still are tailored to unique applications of chemistries, and simply not readily amendable to regulations borne of commodity processes. Any effort to extend the reach of these provisions to such facilities should therefore include direct consultation with potentially effected industries and facilities – consultation commensurate to that afforded the refiners - to assure that unique characteristics of such operations are specifically considered, with an eye toward accommodation under any applicable regulations.

In light of the above considerations, it is all the more significant that the extensive dialogue and negotiation leading to definition of the PSM and CalARP proposed standards has been focused almost exclusively on the refining industry, and has not directly involved stakeholders within industry outside of those refining interests. Given these circumstances, it should not surprise that there are many elements of the proposed standards about which many in our industry have serious concerns in the context of any potential application to more specialized chemical facilities.

It is our sense of the proposed regulations that the PSM standard has clearly been set out in a new regulatory section focusing exclusively upon the refining industry. It would seem, therefore, that any initiative to draw any non-refining facilities into this standard would require a similarly new section or, at the very least, a substantial amendment of the proposed section 5189.1. It would therefore be our recommendation that the Board, in any final action ratifying this proposed new standard, respect the significance of any potential future expansion by incorporating a resolution reflecting the following:

Should consideration be given at some point to extension of standards promulgated under section 5189.1 to include any facilities beyond the refining industry, a consultative process shall be initiated to include key stakeholders directly involved with the subject facilities and processes. This should ensure that the provisions of this article that would be applicable thereto are tailored to be responsive to and respectful of their unique circumstances and other aspects that would operationally differentiate them from petroleum refining.

In parallel consideration, with respect to the proposed CalARP standard we note that a new "Program 4" has been created as the vehicle to house the proposed changes. It would seem a potentially easier task to add new facilities to this standard, simply by expanding its coverage. While it could be envisioned that that would be a simple matter, we would submit that non-refining chemical facilities are going to be sufficiently different that such a simple solution would be ill-advised. To that end, we strongly urge that a commitment parallel to the one above be added to Section 2762, to read:

2762.0.1.1 Should consideration be given at some point to extension of Program 4 to include any facilities beyond the refining industry, a consultative process shall be initiated to include key stakeholders directly involved with the subject facilities and processes, This should ensure that the provisions of this article that would be applicable thereto are tailored to be responsive to and respectful of their unique circumstances and other aspects that would operationally differentiate them from petroleum refining.

AR-1 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. However, Cal OES notes that the CalARP Program 4 only applies to petroleum refineries and is tailored to prevent accidental releases from petroleum refineries. Cal OES will take no action on this comment.

AR-2 Comment

Concerns regarding linkage of "Hierarchy of Hazard Control" and "Inherent Safety"

The language defining "Hierarchy of Hazard Control" and "Inherent Safety" appears in both the proposed PSM and CalARP standards. We regard these as having very significant implications. Each has its own context, and clearly notions at the heart of these have been evolving within industry as they have evolved among stakeholders outside of the industry. The linkage of the two concepts as they have been defined in these proposals, however, seems to raise particularly concerning implications.

In contrast to the objective engineering considerations at the core of our highly-evolved disciplines around risk assessment and risk management, the definitions of inherent safety, in particular, seem dominantly subjective. Important considerations, to be sure, but they should be framed in an additive sense within the larger risk calculus. Likewise the notion of a hierarchy of hazard control is not foreign to our companies, particularly those dealing with some of the most

hazardous of chemicals. As drafted, however, these concepts of a "Hierarchy" and "Inherent Safety" are linked, essentially, as a closed system - closed in a way that seems to deny legitimacy to consideration of "risk." In the handling of hazardous chemicals (most of which are "hazardous" because of reactive properties that are at the very core of their value to the society), management of risk has been a core discipline. It is highly developed and essential to the ultimate safety of operations.

We would strongly urge that both the "closed loop" linkage of these definitions and, indeed, the definitions themselves, be reconsidered in this express context.

AR-2 Response

The Hierarchy of Control is a well-established concept that includes risk reduction, but places risk reduction (through safeguards) as less-preferred than actions that directly reduce the hazard itself. This hierarchy is based on the fact that risk reduction can and does fail, whereas actions that incorporate inherent safety are much less likely to fail. If there is not a way to reduce the hazard, then layers of protection can be used the most robust means to reduce the risk. The regulation does not "deny the legitimacy to consideration of "risk"" as the commenter claims. Rather, the regulation creates a clear preference for measures that are inherently safer, and then allows the refinery to focus on risk reduction for those that remain. Cal OES disputes the commenter's claim that this is a "closed loop" and instead sees this process as one that promotes continuous improvement towards inherently safer approaches and technologies. This concept is consist with the concept as discussed in the Center for Chemical Process Safety book Inherently Safer Chemical Processes Second Edition 2009, specifically pages 10 and 17.

AR-3 Comment

Concerns about the placement of the CalARP definitions of the "Hierarchy" and "Inherent Safety"

It is significant – and in our minds, appropriate - that in the PSM Standard, the definitions of both the "Hierarchy" and "Inherent Safety" are incorporated within the new regulatory section dedicated to the refining industry, with which they have been negotiated.

In contrast, however, the CalARP proposal positions the two definitions in the primary "Definitions" section of the regulation, applicable not just to the Program 4 area occupied by the refineries, but potentially to all the Program areas. While this does not "operationalize" these until they are addressed in some manner within a particular program area, the positioning of these definitions can be interpreted as a declaration of intent to ultimately apply them more broadly.

For the reasons discussed above, we have serious reservations about this and strongly urge that these definitions be moved from Section 2735.3, to parallel the PSM standard and incorporate them directly within the refinery section that is the object of this exercise. That would not preclude their ultimate incorporation into other areas, but it does reflect more honestly that dialogue about their drafting and inclusion has not yet been informed by broad engagement

within the community of entities subject to CalARP. This repositioning could be accomplished by relocating these definitions to a new Section 2762.0.3 on "Definitions" within Article 6.5, with a preamble to the effect that:

2762.0.3 Within the context of this Article, the following definitions apply:
(a) Hierarchy of Hazard Control…
(b) Inherent Safety…

AR-3 Response

The CalARP regulation is structured so that all definitions appear in the first Article. Article 1 is not specific to any one program. These two definitions are used only in proposed Article 6.5, so where the definitions are placed is immaterial. Cal OES will take no action on this comment.

COMMENTER AS
Ron Chittim – American Petroleum Institute
Emailed dated March 3, 2017

AS-1 Comment

API supports performance-based regulations that are reasonable and are written, applied, and enforced in a manner that enhances safety. API notes that, in several areas of the rule, CalOES appears to have considered stakeholder input and modified the regulation in positive ways, primarily by way of aligning the CalARP with the California Process Safety Management for Petroleum Refineries (PSM). These areas of note are delineated in the attached comments. While API shares CalOES's goal to strengthen process safety management at refineries, we are concerned that several important matters have not been addressed, and a few new modifications to the regulation further weaken its effectiveness. API addressed a number of flaws in the CalARP proposed regulation when it submitted joint comments with the American Fuels & Petrochemical Manufacturers (AFPM) on September 15, 2016. Many of these concerns were not acknowledged by CalOES in the Notice of Proposed Modifications published on February 14, 2017. Comments directed at CalOES's methodology of application and language of the Notice of Proposed Modifications can be found in the attachment. While the matrix specifically addresses CalOES's February 14, 2017 Notice of Proposed Modification, we restate, incorporated herein by reference, the comments on Proposed New Article 6.5 of the California Accidental Release Prevention Program, Program 4 for Petroleum Refineries submitted jointly by API and AFPM on September 15, 2016. Since this document is in the administrative record, we are not providing an additional copy with this letter.

For reference, some of the foundational issues with the regulation raised in API's previous comments that do not appear to have been addressed by CalOES are listed below:

• New regulations should be based upon evidence that a need exists. API is concerned that the proposed CalARP program singles out refineries for increased regulation, particularly when CalOES has not provided compelling data to show that California refineries are unique from a process safety performance perspective.

• Because the ISOR provides neither an adequate explanation of why the proposed regulation is reasonably necessary, a proper enumeration of the benefits, nor a meaningful explanation of the alternatives that CalOES considered, the proposed regulation should be withdrawn.

• The proposed CalARP program lacks clarity in the use of some terms. Some clarity issues that have been previously addressed by industry comments remain in the Notice of Proposed Modifications. These include use of undefined terms such as "effective" and "document" as well as the vague definitions of "major change" and "major incident."

• CalOES lacks statutory authority to issue the CalARP Program 4 Regulations. CalOES relies on Health and Safety Code § 25531 and § 25534.05 as statutory support for its proposed Program 4 regulations. However, neither of these provisions, nor any other sections of Article 2 of Chapter 6.95, provides the requisite authority for CalOES' proposed Program 4 regulations.

• CalOES has not shown that the CalARP regulations are reasonably necessary to effectuate the Purpose of Health and Safety Code § 25531 and § 25534.05. API is troubled by the requirement to conduct inherent safety measure assessments during a hierarchy of hazard controls analysis.

AS-1 Response

These comments are outside the scope of this comment period. Each of these issues was addressed in the responses to commenter's 45-day comments. Cal OES will take no further action on these comments.

AS-2 Comment

Section 2735.3 – Definitions

Proposed language

"Employee representative" means a union representative, where a union exists, or an employee designated representative in the absence of a union that is on-site and qualified for the task. The term is to be construed broadly, and may include the local union, the international union, or an individual designated by these parties, such as the safety and health committee representative at the site.

API Comments

The definition still allows for individuals who are **not** site/company employees to be designated as employee representatives, which leads to potential risks of inappropriate disclosure of business confidential information and other sensitive information to non-employees. API recommends deleting "or contract" from the definition and include only individuals who regularly work at the facility and are qualified in process safety.

AS-2 Response

The words "or contract" do not appear within this section of the February 14, 2017 draft of the proposed regulations. For nonunion facilities, the employee representative must be an on-site and qualified employee. Employee representatives from union shops can be whomever the union selects to be their representatives. Cal OES will take no further action on this comment.

AS-3 Comment

Section 2735.3 – Definitions

Proposed language

Add to definition section: "Hierarchy of Hazard Control" means 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.

API Comments

API disagrees with the prioritization of First Order measures over all others even where others are sufficiently protective. In addition, the use of the word "effective" is problematic because it is subjective and creates regulatory uncertainty for the sites.

API supports the wording below:
Hierarchy of Hazard Controls Analysis (HCA) - a methodology that applies the Hierarchy of Hazard Controls for the purpose of selecting recommendations that eliminate or minimize a hazard, or that reduce the risk presented by a hazard.

AS-3 Response

Cal OES believes the definition as written is appropriately clear. This definition ensures that refineries evaluate and implement the most effective approaches to preventing or mitigating process safety hazards. This definition clarifies the prioritization of inherent safety measures over passive, active, and procedural safeguards. Cal OES will take no action on this comment

AS-4 Comment

Section 2735.3 – Definitions

Proposed language

"Major change" means: (1) introduction of a new process, or (2) new process equipment, or new regulated substance that results in <u>any operational</u> change <u>outside of established</u> in safe operating limits; or (3) any alteration in a process, process equipment, or process chemistry that introduces a new hazard or increases an existing hazard.

API Comments

The definition remains overly broad and will require refineries to perform extensive time-consuming and labor-intensive analyses (e.g., DMR, HCA, MOC, etc.) for routine or minor equipment changes or for brief deviations from safe operating limits with no indication that process safety will actually be improved.

AS-4 Response

Please see the response to comment AP-5.

AS-5 Comment

Section 2735.3 – Definitions

Proposed language

"Major incident" means 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 (as defined in Labor Code Section 6432(e)), or which results in an officially declared public shelter-in-place, or evacuation order.

API Comments

API continues to be concerned about this overly broad definition. The ambiguity of the term "potential" extends burdensome analyses to a multitude of processes with no clear safety improvement. Adding wording such as "substantial" or "imminent" would help clarify and narrow the scope to a more realistic level. In addition, API does not support the "shelter-in-place or evacuation order" wording since such scenarios may be precautionary where an actual major incident did not occur.

AS-5 Response

Please see the response to comment AP-6.

AS-6 Comment

Section 2735.3 – Definitions

Proposed language

"Process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process. <u>This definition shall not apply to Article 6.5.</u>

<u>"Process" for purposes of Article 6.5, means petroleum refining activities involving a highly hazardous material, including use, storage, manufacturing, handling, piping, or on-site movement. For the purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that an incident in one vessel could affect any other vessel, shall be considered a single process. Utilities and safety related devices shall be considered part of the process if, in the event of an unmitigated failure or malfunction, they could potentially contribute to a major incident. This definition includes processes under partial or unplanned shutdowns. Ancillary administrative and support functions, including office buildings, laboratories, warehouses, maintenance shops, and change rooms are not considered processes under this definition.</u>

API Comments

API does not support the added wording that the definition "includes processes under partial or unplanned shutdowns" – such wording is redundant and unnecessary. A partial or planned shutdown does not change whether an area is considered a "process." API recommends that the language be deleted.

AS-6 Response

Please see the response to comment AP-7.

AS-7 Comment

Section 2735.3 – Definitions

Proposed language

"Process equipment" for purposes of Article 6.5, means any equipment, <u>including but not limited to: pressure vessels, rotating equipment, piping</u>, instrumentation, <u>process</u> control, safeguard, except procedural safeguards, or appurtenance related to a process.

API Comments

API does not object to the inclusion of "pressure vessels" and "rotating equipment." However, API finds other elements of the definition to be vague and unclear. The scope of "related to a process" is ambiguous, and "appurtenance" is undefined.

The term "process equipment" is important and is used repeatedly throughout the regulations, so its definition must be clear. API recommends deleting "non-procedural" and "appurtenance."

AS-7 Response

Please see the response to comment AP-8.

AS-8 Comment

Section 2735.3 – Definitions

Proposed language

"Process safety culture" means a combination of group values and behaviors that reflect whether there is a collective commitment by leaders and individuals to emphasize <u>process</u> safety over competing goals in order to ensure protection of people and the environment.

API Comments

No API comment

AS-8 Response

Please see the response to comment AP-9.

AS-9 Comment

Section 2735.3 – Definitions

Proposed language

"Qualified operator" for the purposes of Article 6.5 means a person designated by the owner or operator, who by fulfilling the requirements of the training program defined in Section 2762.4, has demonstrated the ability to safely perform all assigned duties.

API Comments

No API comment

AS-9 Response

Please see the response to comment AP-10.

AS-10 Comment

Section 2735.3 – Definitions

Proposed language

"Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)" for purposes of Article 6.5 means engineering, operation, or maintenance activities based on codes, standards, technical reports or recommended practices published by 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), Instrument Society of America (ISA), or other standard-setting organizations. RAGAGEP does not include standards or guidelines developed for internal use by the owner or operator.

API Comments

API does not agree that standards or guidelines developed by owner/operators are not RAGAGEP. The definition fails to recognize that practices incorporated in published design

codes and standards originated from the practices of individual employers, and that internal standards also often form the basis of API and other industry standards. By taking away the flexibility to use internal guidelines as a source of RAGAGEP, CalARP is essentially stifling creativity that can lead to improvements in industry standards. RAGAGEP is not a finite, static collection of engineering principles which have been completely and definitively explained in written codes and standards. Rather, codes and standards are simply a subset of all of the principles which make up RAGAGEP. The proposed definition of RAGAGEP fails to include internal standards created by on-site engineers with specific experience at the worksite in question. In other words, this narrow approach fails to recognize that all "established codes, standards, published technical reports or recommended practices" originated from the individual practices of individual employers at their individual sites. RAGAGEP is not based on established codes, standards, etc. as asserted; codes and standards are based upon RAGAGEP. It is industry-created engineering practices that inform and shape industry-accepted standards. Certainly, codes and standards may function as RAGAGEP, but they are not the source of RAGAGEP. In short, RAGAGEP has three fundamental characteristics: (1) proven safe and effective, (2) based on science, judgment and experience and (3) is created and defined under the principles of engineering. Therefore, any definition of RAGAGEP must be broad enough to include all the safe engineering practices currently being utilized by industry, specifically including the internal standards formed and implemented by employers.

API also contends that it is inappropriate to redefine RAGAGEP contrary to the federal OSHA definition. The Preamble to the Final Rule to the Federal PSM Standard states, "appropriate internal standards of a facility" were to be accepted as RAGAGEP, so the proposed definition here directly contradicts the federal rule.

Also, note that some areas of the CalPSM rule allow for compliance with internal practices that are more protective (removing "equally") than RAGAGEP.

AS-10 Response

Please see the response to comment AP-11.

AS-11 Comment

Section 2735.3 – Definitions

Proposed language

"Temporary pipe ~~ing~~ or equipment repair" means a repair of an active or potential leak to <u>from process</u> piping or equipment ~~hydrocarbon, chemical, or high energy utility pipe or equipment due to a damage mechanism or manufacturing flaw of the pressure boundary. This includes flange or valve packing leaks that could result in a major incident~~. <u>This definition includes active or potential leaks in utility piping or utility equipment that could affect a process and that could result in a major incident.</u>

API Comments

This definition has been significantly modified and broadened – note that this definition was originally developed with input from industry representatives who have extensive process safety management experience and knowledge. If retained, clarification is required regarding the inclusions of utility piping and utility equipment.

AS-11 Response

Please see the response to comment AP-12.

AS-12 Comment

Section 2745.7.5 – RMP Program 4 Component

Proposed language

~~The date of the most recent review or revision of operating procedures. (g) The date of the most recent review or revision of training programs. (1) The type of training provided--classroom, classroom plus on the job, on the job; and, (2) The type of competency testing used. (h) The date of the most recent review or revision of maintenance procedures and the date of the most recent equipment inspection or test and the equipment inspected or tested. (i) procedures and tThe date of the most recent review or revision of management of change procedures.~~

API Comments

API supports this proposed modification.

AS-12 Response

This is a general comment requiring no response.

AS-13 Comment

Section 2762.1 Process Safety Information

Proposed language

(1)(a) The process safety information shall be made available to all ~~refinery and contractor~~ employees <u>and relevant process safety information shall be made available to affected employees of contractors.</u>

API Comments

API supports this additional wording as long as the site is the entity that determines what process safety information is relevant.

AS-13 Response

This is a general comment requiring no response. It is acceptable for the owner or operator of the site to determine what is relevant as long as they also document and support that determination. This would be subject to a challenge from the CUPA. Cal OES will take no action on this comment.

AS-14 Comment

Section 2762.1 Process Safety Information

Proposed language

(1)(d)(8) CalARP uses "safety systems"

API Comments

API supports this proposed modification and recommends that "safety systems" be defined.

AS-14 Response

This is a general comment requiring no response.

AS-15 Comment

Section 2762.1 Process Safety Information

Proposed language

The owner or operator shall document that process equipment complies with recognized and generally accepted good engineering practices (RAGAGEP), where RAGAGEP has been established for that process equipment, or with other ~~equally or~~ more protective internal practices ~~standards~~ that ensure safe operation. If the owner or operator installs new process equipment for which no RAGAGEP exists, the owner or operator shall document that the equipment is designed, constructed, installed, maintained, inspected, tested and operated in a safe manner.

API Comments

API supports retaining the "equally or" wording for use of internal practices since such practices will provide the same level of protection. It is not clear why the internal practice has to provide <u>more</u> protection than external or public RAGAGEP.

AS-15 Response

Please see response to comments AP-11 and AP-16.

AS-16 Comment

Section 2762.2 Process Hazard Analysis

Proposed language

(2)(c) The PHA shall address: (1) The hazards of the process; (2) Previous publicly documented ~~major~~ incidents in the petroleum refinery and petrochemical industry sector that are relevant to the PHA;

API Comments

API supports this proposed modification with the stipulation that the publicly documented information be relevant to the PHA, not necessarily the process.

AS-16 Response

This is a general comment requiring no response..

AS-17 Comment

Section 2762.2 Process Hazard Analysis

Proposed language

(2)(f) For all recommendations made by the PHA team for each scenario that identifies the potential for a major incident, the owner or operator shall conduct in a timely manner a Hierarchy of Hazard Control Analysis pursuant to section 2762.13.

API Comments

It is unclear what "in a timely manner" means. Less ambiguity here would be helpful as long as the time provided is reasonable. The added wording would be more acceptable if is it clear that such wording does not mean a specific timeframe.

AS-17 Response

This is a general comment requiring no response. With regard to the phrase "in a timely manner" generally, see comment AP-18.

AS-18 Comment

Section 2762.3 – Operating Procedures

Proposed language

(3)(a)(4) CalARP uses "safety systems"

API Comments

API supports this proposed modification and recommends that "safety systems" be defined.

AS-18 Response

This is a general comment requiring no response. The term "safety systems" is in common usage in the industry. Cal OES will take no action on this comment.

AS-19 Comment

Section 2762.4 – Training

Proposed language

(4)(b)(2) At least every three years, and more often if necessary, the owner or operator shall provide effective refresher and supplemental training to each maintenance employee to ensure that each employee understands and adheres to current maintenance procedures.

API Comments

API supports this proposed modification.

AS-19 Response

This is a general comment requiring no response.

AS-20 Comment

Section 2762.12 - Contractors

Proposed language

(12)(c) Contract owner or operator responsibilities. (1) The contract owner or operator shall ensure that each contract employee is trained in the work practices necessary to safely perform his or her jobs, including <u>but not limited to</u>: the potential hazards related to their jobs; applicable

refinery safety rules; and in the applicable provisions of the stationary source's emergency action plan, and shall meet the requirements of Health and Safety Code Section 25536.7.

API Comments

See API comment on items CalARP Section 2762.12(b)(1) above.

AS-20 Response

Cal OES cannot determine which comment the commenter is referencing. Cal OES will take no action on this comment.

AS-21 Comment

Section 2762.12 - Contractors

Proposed language

Add (12)(c)(5) Nothing in this subsection shall preclude the stationary source owner or operator from requiring a contractor or an employee of a contractor to whom information is made available under this section to enter into a confidentiality agreement prohibiting him or her from disclosing such information, as set forth in CCR Title 8, Section 5194(i).

API Comments

API supports these proposed modifications.

AS-21 Response

This is a general comment requiring no response.

AS-22 Comment

Section 2762.7 - Pre Start-Up Safety Review

Proposed language

(7)(a) The owner or operator shall perform a pre-startup safety review (PSSR) for new processes, ~~and~~ for modified processes if the modification necessitates a change in the Process Safety Information, and for partial and unplanned shutdowns. The owner or operator shall also conduct a PSSR for all turnaround work performed on a process.

API Comments

API recommends that this modified language be deleted, as it is unnecessary and confusing, given that the definition of "turnaround" already includes "partial shutdowns." It is not clear how

this added wording will reduce releases. On the contrary, it will increase confusion and the administrative burden on sites.

AS-22 Response

Please see response to comment AP-26.

AS-23 Comment

Section 2762.7 - Pre Start-Up Safety Review

Proposed language

(b)(5) Training of each operating employee and maintenance employee affected by the change has been completed.

API Comments

API supports this proposed modification.

AS-23 Response

This is a general comment requiring no response.

AS-24 Comment

Section 2762.5 - Mechanical Integrity

Proposed language

(5)(b)(2) The frequency of inspections and tests of process equipment shall be consistent with (1) the applicable manufacturers' recommendations, ~~or~~(2) RAGAGEP, or (3)~~other equally or more protective~~ internal ~~standards~~ practices that are more protective than (1) or (2). Inspections and tests shall be conducted more frequently if necessary, based on the operating experience with the process equipment.

API Comments

API supports retaining the “equally or” wording for use of internal practices since such practices will provide the same level of protection. It is not clear why the internal practice has to provide more protection.

AS-24 Response

Please see response to comment AP-11.

AS-25 Comment

Section 2762.5 - Mechanical Integrity

Proposed language

(5)(c) Equipment deficiencies. The owner or operator shall correct deficiencies to ensure safe operation of process equipment. Repair methodologies shall be consistent with RAGAGEP or ~~other equally or~~ more protective internal ~~standards~~ practices.

API Comments

API supports retaining the "equally or" wording for use of internal practices since such practices will provide the same level of protection. It is not clear why the internal practice has to provide more protection.

AS-25 Response

Please see response to comment AP-11.

AS-26 Comment

Section 2762.5(e) - Damage Mechanism Review

Proposed language

(5)(e)(3) A DMR shall be reviewed as part of a major change on a process for which a damage mechanism exists, prior to approval of the change. If a major change may ~~will~~ introduce a damage mechanism, a DMR shall be conducted, prior to approval of the change.

API Comments

API does not support changing "will" to "may" in this section. Such a change adds uncertainty about what change may or may not introduce a damage mechanism and seems to require the employer to assess hypothetical damage mechanisms, however unlikely, which is a poor use of resources. Additionally, this change could divert resources away from the management and mitigation of known process safety hazards. Therefore, the original wording should be retained.

AS-26 Response

Please see response to comment AP-21.

AS-27 Comment

Section 2762.13 - Hierarchy of Hazard Controls Analysis

Proposed language

(13)(b) The owner or operator shall also conduct an HCA in a timely manner in the following instances: …….

API Comments

It is unclear what "in a timely manner" means. Less ambiguity here would be helpful as long as the time provided is reasonable. The added wording would be more acceptable if it is made clear that such wording does not mean a specific timeframe.

AS-27 Response

Please see response to comment AP-36.

AS-28 Comment

Section 2762.13 - Hierarchy of Hazard Controls Analysis

Proposed language

(13)(e)(3) Identify, analyze, and document all inherent safety measures and safeguards (or where appropriate, combinations of measures and safeguards) in an iterative manner to reduce each hazard to the greatest extent feasible. Identify, analyze, and document relevant, publicly available information on inherent safety measures and safeguards. ~~The owner or operator shall develop an effective review protocol to ensure that relevant, publically available information on inherent safety measures and safeguards is analyzed and documented by the team.~~ This information shall include inherent safety measures and safeguards that have been: (A) achieved in practice by for the petroleum refining industry and related industrial sectors; or, (B) required or recommended for the petroleum refining industry, and related industrial sectors, by a federal or state agency, or local California agency, in a regulation or report.

API Comments

API recommends that the previous language be retained with the deletion of the word "effective" removed.

The proposed wording could be interpreted in a way that is not practical whereby the site would be required to analyze every publicly available safety measure. A level of reasonableness needs to be available for sites. In addition, this provision may have the unintended consequence of

incentivizing refiners to devote their time and resources to checking administrative boxes, rather than focusing on substantive process safety priorities.

For the CalARP proposed modification, although not new wording, API does not support the use of the phrase "to the greatest extent feasible." From a due process standpoint, the "greatest extent feasible" standard is vague as written and fails to provide employers with any sense as to what compliance would entail.

AS-28 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AS-29 Comment

Section 2762.6 - Management of Change

Proposed language

(6)(a) The employer shall develop, implement and maintain effective written MOC procedures to manage changes in process chemicals, technology, procedures, process equipment and ~~or~~ facilities.

API Comments

API supports this proposed modification.

AS-29 Response

This is a general comment requiring no response.

AS-30 Comment

Section 2762.6 - Management of Change

Proposed language

(6)(b)(3) The MOC procedures shall ensure that the following items are addressed and documented prior to any change: (1) The technical basis for the proposed change; (2) Potential process safety impacts of the change; (3) Modifications to operating and maintenance procedures or development of new operating and maintenance procedures; (4) The time period required for the change; and (5) Authorization requirements for the proposed change.

API Comments

API does not object to the addition of "maintenance," but the inclusion of "new" operating and maintenance procedures is problematic. The proposed modification is a significant expansion of the proposed standard's MOC requirement. Including all "new" procedures is not warranted since there has not been a "change."

AS-30 Response

Please see response to comment AP-22.

AS-31 Comment

Section 2762.6 - Management of Change

Proposed language

(6)(f) Employees involved in the process as well as maintenance workers whose job tasks will be affected by a change, shall be informed of, and effectively trained in the change in a timely manner prior to implementation of the change prior to its start-up. The owner or operator shall make the MOC documentation available to and require effective training for contractors and employees of contractors. For contractors and employees of contractors who are operating the process and whose job tasks will be affected by a change, the employer shall make the MOC documentation available to and require effective training in the change prior to implementation of the change, pursuant to section 2762.12.

API Comments

API is concerned about the potential sharing of MOC documentation with contractors and contractor employees. Wording needs to be included to reduce the possibility of harm being incurred by unauthorized disclosure of information by contractors and their employees.

API supports the proposed modifications, in general. However, API does not support the use of the phrase "in a timely manner." It is unclear what "in a timely manner" means. Less ambiguity here would be helpful as long as the time provided is reasonable. The added wording would be more acceptable if it is made clear that such wording does not mean a specific timeframe.

AS-31 Response

With respect to proprietary and confidential information, section 2762.10(d) allows the owner or operator to require a confidentiality agreement from an employee or employee representative. See the response to Comment AS-2.

"In a timely manner" is acceptably clear. Use of generic terms like "sufficient" and "timely" do not render a regulation unconstitutionally vague. See the response to Comment AS-27.

Cal OES will take no action on this comment.

AS-32 Comment

Section 2762.6 - Management of Change

Proposed language

(6)(k)(4) The stationary source manager, or his or her designee, shall certify based on information and belief formed after reasonable inquiry that the MOOC assessment is accurate and that the proposed organizational change(s) meets the requirements of this section.

API Comments

Rather than attempting to increase the personal liability for the "stationary source manager", API recommends the following wording:

"The stationary source shall specify the management review and approval process to verify the MOOC assessment, based on information and belief formed after reasonable inquiry, is accurate
……"

AS-32 Response

See response to comment AP-25.

AS-33 Comment

Section 2762.9 - Incident Investigation - Root Cause Analysis

Proposed language

(9)(e) The incident investigation team shall implement the owner or operator's root cause analysis method to determine the underlying causes of the incident. The analysis shall include identification of management system causes, including organizational and safety culture causes.

API Comments

API recommends adding "if applicable" after "management system causes." Not all incidents necessarily have a management system failure component.

AS-33 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AS-34 Comment

Section 2762.9 - Incident Investigation - Root Cause Analysis

Proposed language

(9)(k) The report shall be provided to and, upon request, reviewed with employees whose job tasks are affected by the incident. Investigation reports shall 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 shall be provided upon request to employee representatives, and where applicable, contractor employee representatives.

API Comments

API supports the added wording of "upon request." API also recommends that the regulations take additional authorized steps to prevent disclosure of other proprietary and confidential information.

AS-34 Response

This is a general comment requiring no response.

AS-35 Comment

Section 2762.9 - Incident Investigation - Root Cause Analysis

Proposed language

(9)(n) If the UPA chooses to perform an independent Process Safety Culture Assessment (PSCA), Incident Investigation, evaluation of the ARP management system or Human Factors Analysis after a major incident pursuant to section 2775.2.5, the owner or operator shall assist the UPA in conducting the independent analysis. ~~The owner or operator shall pay the costs of the independent analysis.~~

API Comments

API supports this proposed modification.

AS-35 Response

This is a general comment requiring no response.

AS-36 Comment

Section 2762.10 - Employee Participation

Proposed language

(10)(a)(1) Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases ~~at the earliest possible point~~, in performing PHAs, DMRs, HCAs, MOCs, MOOCs, Process Safety Culture Assessments (PSCAs), Incident Investigations, SPAs, and PSSRs.

API Comments

API recommends deleting the proposed modification and instead using the phrase "during relevant phases."

While not an element of the "modifications," API continues to be concerned about the use of the word "effective" – this word is subjective and can be interpreted in many ways. From a compliance perspective, the use of "effective" is inherently unclear and could pose legal obstacles. Regulations are supposed to be clear and easily understood by those persons directly affected by them. The use of the word "effective" does not meet this requirement. Note that the use of "effective" occurs in several places in the proposed regulations and most of these uses add ambiguity, not clarity, to the rules.

AS-36 Response

Please see response to comment AP-32. The concerns about the word "effective" are outside the scope of the revised language.

AS-37 Comment

Section 2762.10 - Employee Participation

Proposed language

(10)(a)(2) Effective participation by affected operating and maintenance employees and employee representatives, throughout all phases, ~~at the earliest possible point,~~ in the development, training, implementation and maintenance of the Accidental Release Prevention elements required by this Article.

API Comments

API comments on this proposed modification are the same as those in the item above.

AS-37 Response

Please see response to comment AP-32.

AS-38 Comment

Section 2762.10 - Employee Participation

Proposed language

(10)(b) ~~In accordance with the collective bargaining agreement in effect with the stationary source, a~~ An authorized collective bargaining agent may select ~~representative~~ employee(s) to participate in overall Accidental Release Prevention program development and implementation planning and for ~~person~~ employee(s) to participate in each team-based activity pursuant to this Article.

API Comments

API supports this proposed modification.

AS-38 Response

This is a general comment requiring no response.

AS-39 Comment

Section 2762.14 - Process Safety Culture Assessment

Proposed language

(14)(b) The owner or operator shall conduct an effective PSCA and produce a written report and action plan within eighteen (18) months following the effective date of this Article and at least once, every five (5) years thereafter. <u>If the owner or operator has conducted and documented a PSCA up to eighteen (18) months prior to the effective date of this section, and that PSCA includes the elements identified in this subsection, that PSCA may be used to satisfy the owner or operator's obligation to complete an initial PSCA under this subsection.</u> The PSCA shall include an evaluation of the effectiveness of the following elements of process safety leadership:

API Comments

API supports this proposed modification.

AS-39 Response

This is a general comment requiring no response.

AS-40 Comment

Section 2762.14 - Process Safety Culture Assessment

Proposed language

(14)(e) The owner or operator in consultation with the PSCA team shall develop corrective actions based on the PSCA Team recommendations and implement the corrective actions within twenty-four (24) months of the completion of the report.

API Comments

API supports this proposed modification.

AS-40 Response

This is a general comment requiring no response.

AS-41 Comment

Section 2762.14 - Process Safety Culture Assessment

Proposed language

(14)(f) The PSCA team shall conduct a written interim assessment of the implementation and effectiveness of each PSCA corrective action within three (3) years following the completion of the PSCA report. If a corrective action is found to be ineffective, the owner or operator ~~PSCA team~~ shall implement changes necessary to ensure effectiveness in a timely manner not to exceed six months.

API Comments

API does not support a specific 6 month deadline. If a timeline is needed, it should be a requirement for a reasonable effort to accomplish within the specified timeframe and should not impose a hard limit.

AS-41 Response

Please see response to comment AP-40.

AS-42 Comment

Section 2762.14 - Process Safety Culture Assessment

Proposed language

(14)(h) The PSCA report and action plan and the three year interim assessment shall be communicated and made available to employees, their representatives and participating contractors within 60 ~~30~~ calendar days of the completion of the report.

API Comments

API supports this proposed modification.

AS-42 Response

This is a general comment requiring no response.

AS-43 Comment

Section 2762.15 - Human Factors

Proposed language

(15)(d) The owner or operator shall include an assessment of human factors in new and revised operating and maintenance procedures.

API Comments

API supports this proposed modification.

AS-43 Response

This is a general comment requiring no response.

AS-44 Comment

Section 2762.6 - Management of Organizational Change

Proposed language

(6)(j) The owner or operator shall designate a team to conduct a Management of Organizational Change (MOOC) assessment prior to reducing staffing levels, reducing classification levels of

employees, changing shift duration, or substantively increasing employee responsibilities at or above 15%. The MOOC assessment is required only for changes with a duration exceeding 90 calendar days, affecting operations, engineering, maintenance, health and safety and emergency response. This requirement shall also apply to stationary sources using contractors in permanent positions.

API Comments

API does not support this proposed modification. What metric or methodology will be used to measure if an employee's responsibilities have increased by a numerical percentage – 15% in this case? This provision already uses the word "substantively" which is subjective but still is more reasonable that trying to measure work responsibilities numerically. API suggests deleting the wording proposed to be added.

AS-44 Response

Please see response to comment AP-24.

AS-45 Comment

Section 2762.6 - Management of Organizational Change

Proposed language

(4~~5~~)The stationary source manager, or his or her designee, shall certify based on information and belief formed after reasonable inquiry that the MOOC assessment is accurate and that the proposed organizational change(s) meets the requirements of this section.

API Comments

Rather than attempting to increase the personal liability for the "stationary source manager", API recommends the following wording:

"The stationary source shall specify the management review and approval process to verify the MOOC assessment, based on information and belief formed after reasonable inquiry, is accurate …….."

AS-45 Response

Please see response to comment AP-25.

AS-46 Comment

Section 2762.8 - Compliance Audits

Proposed language

(8)(c) The owner or operator shall prepare a written report of the compliance audit that includes the scope, methods used, questions asked to assess each program element along with ~~answers and~~ findings and recommendations of the compliance audit. The written report shall also document the qualifications of those persons performing the compliance audit. The owner or operator shall make the report available to employees and employee representatives, in accordance with section 2762.10. The owner or operator shall respond in writing within 60 calendar days to any written employee or employee representative comments on the written audit report.

API Comments

API supports the proposed modification in the CalARP wording. No changes were made to the CalPSM wording.

AS-46 Response

This is a general comment requiring no response.

AS-47 Comment

Section 2762.16 - Accidental Release Program Management System

Proposed language

(16)(a) The owner or operator shall develop and implement an effective written Accidental Release Prevention Program (ARP) Management System, which shall be reviewed and updated every three (3) years. The owner or operator shall designate the stationary source manager as the person with authority and responsibility for compliance with this section ~~stationary source manager shall be responsible for compliance with this Article~~, and shall maintain process safety goals that support continuous improvement.

API Comments

API does not agree that the refinery manager has to be the sole person responsible for compliance with the CalARP regulations. No information is provided for the basis for this requirement. In fact, this provision may in fact decrease effective accountability where qualified individuals will be discouraged from accepting a role as “stationary source manager” based on a regulatory and legal responsibility that is disproportionate to the reality of managing an effective facility.

AS-47 Response

Please see comment AP-43.

AS-48 Comment

Section 2762.16 - Accidental Release Program Management System

Proposed language

(16)(e)(4) The owner or operator shall document where any of the conditions in subsection (e)(2) or (e)(3) is applied for the purpose of changing or rejecting a team recommendation. Each recommendation that is changed or rejected by the owner or operator shall be communicated to onsite team members for comment and made available to offsite team members for comment ~~If a finding or recommendation from an applicable team-based ARP element analysis is changed or rejected, each occurrence shall be made available to all team members for comment~~.

API Comments

API supports sharing recommendations that are changed or rejected with onsite team members only. API does **not** sharing that same information offsite. API also does not support taking comments on changed or rejected recommendations. Such a step could lead to ongoing deliberations and discussions that could divert resources from other site activities.

AS-48 Response

Please see comment AP-44.

AS-49 Comment

Section 2762.16 - Accidental Release Program Management System

Proposed language

(16)(e)(5) The owner or operator shall document any written ~~the~~ comments from all team members on any rejected or changed findings and recommendations.
(16)(e)(6) The owner or operator shall document a final decision for each recommendation and shall communicate it to onsite team members and make it available to offsite ~~all~~ team members.

API Comments

API does not support taking comments on changed or rejected findings nor does API support communicating such information offsite.

AS-49 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AS-50 Comment

Section 2762.16 - Accidental Release Program Management System

Proposed language

(16)(e)(12) Each corrective action from a compliance audit shall be completed within one and half years after the completion of the analysis or review unless the owner or operator demonstrates in writing that it is not feasible to do so. Each corrective action from an incident investigation shall be completed within one and half years after completion of the investigation unless the owner or operator demonstrates in writing that it is infeasible to do so.

API Comments

API support this proposed modification.

AS-50 Response

This is a general comment requiring no response.

AS-51 Comment

Section 2762.16 - Accidental Release Program Management System

Proposed language

(16)(f)(2) Effective procedures to ensure the right of all employees, including employees of contractors, to anonymously report hazards. The owner or operator shall respond in writing within 30 calendar days to written hazard reports submitted by employees, employee representatives, contractors, employees of contractors and contractor employee representatives. The owner or operator shall prioritize and promptly respond to and correct ~~reports~~ of hazards that present the potential for death or serious physical harm.

API Comments

API supports the proposed modification to "correct" hazards that have the potential for death or serious physical harm. However, API does not support the 30 day requirement; it is arbitrary and does not necessarily improve process safety. Also, a site cannot "correct" a hazard – a site can "mitigate" a hazard. This should be clarified in the final wording.

See API's comment above on the use of the word "effective."

AS-51 Response

The comment is beyond the scope of the revisions to the proposed regulatory language. Cal OES will take no action on this comment.

AS-52 Comment

Accidental Release Prevention Program Management

Proposed language

This topic is covered in Section 2762.16(e)(4), (e)(5) & (e)(6) above.

API Comments

API supports sharing recommendations that are changed or rejected with onsite team members only. API does **not support** sharing that same information offsite. API also does not support taking comments on changed or rejected recommendations. Such a step could lead to ongoing deliberations and discussions that could divert resources from other site activities.

AS-52 Response

Please see response to comments AP-44 and AP-45. The general concern about taking comments on changed or rejected recommendations is outside the scope of the revised language.

AS-53 Comment

Accidental Release Prevention Program Management

Proposed language

This topic is covered in Section 2762.16(e)(12) above.

API Comments

API support this proposed modification.

AS-53 Response

This is a general comment requiring no response.

AS-54 Comment

Section 2762.0.1 - Article 6.5 Program 4 Prevention Programs

Proposed language

(0.1)(b) All processes ~~portions~~ of the petroleum refinery are covered except process plant laboratories or laboratories that are under the supervision of a technically qualified individual as

defined in section 720.3(ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory.

API Comments

API commented on the previous CalARP regulation that the use of the word “portions” was confusing and incompatible with other sections. This concern seems to have been addressed in proposed modifications. Thus, API supports this proposed modification.

AS-54Response

This is a general comment requiring no response.

AS-55 Comment

Section 2775.7 - Unified Program Agency Training

Proposed language

~~Section 2775.7 Unified Program Agency Training. (a) Unified Program Agency inspectors and auditors will be required to meet minimum educational qualifications and professional experience requirements as well as complete a specialized training program that will be developed or recognized by Cal OES. The training program will include certification to document that the inspector or auditor met all mandatory requirements. Cal OES shall develop three levels of training and certification for inspectors that are certified for program levels 1 and 2, program levels 1, 2, and 3, and program levels 1, 2, 3, and 4. (b) Each inspector will be required to take every two years, at least 24 hours of refresher training, curriculum to be determined by Cal OES. DRAFT CalARP Program Regulations February 14, 2017 Page 118 NOTE: Authority cited: Section 8585, Government Code; and Sections 25531 and 25534.05, Health and Safety Code.~~
~~Reference: Section 8585, Government Code; and Sections 25533(b), 25535(a), and 25540.5, Health and Safety Code.~~

API Comments

CalARP deleted this section – no API comment.

AS-55 Response

This is a general comment requiring no response.