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CALIFORNIA ACCIDENTAL RELEASE PREVENTION PROGRAM PROGRAM 4, CCR TITLE 19, CHAPTER 4.5, ARTICLE 6.5 SELF-AUDIT GUIDANCE DOCUMENT

This document has been prepared for facilities subject to Article 6.5, Program 4, requirements. **The purpose of Program 4 is to prevent major incidents at petroleum refineries in order to protect the health and safety of communities and the environment.** The definitions, milestone dates, and requirements listed have been summarized in this document. The complete text of these laws and regulations can be viewed on the Internet. Title 19 of the California Code of Regulations (CCR) is available on the Internet at <http://www.oal.ca.gov/>. Additional information on the California Accidental Release Prevention Program (CalARP) can be found at <http://www.caloes.ca.gov>

APPLICABILITY:

All 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.***

DEFINITIONS, PROGRAM 4, NEW & MODIFIED:

- **“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.
- **“Damage mechanism”** means the mechanical, chemical, physical, or other process that results in equipment or material degradation.
- **“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.
- **“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.
- **“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.
- **“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,

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§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.

- **“Human factor”** means a discipline concerned with designing machines, operations, and work environments so that they match human capabilities, limitations, and needs. Human factors include environmental, organizational, and job factors, and human and individual characteristics, such as fatigue, that can affect job performance, process safety, and health and safety.
- **“Independent Protection Layer (IPL)”** means a safeguard that reduces the likelihood or consequences of a major incident through the application of devices, systems, or actions and is (1) independent of an initiating cause and (2) independent of other IPLs. Independence ensures that an initiating event does not affect the function of an IPL and that failure in any one layer does not affect the function of any other layer.
- **“Inherent safety”** means an approach to safety that focuses on eliminating or reducing the hazards associated with a set of conditions. A process is inherently safer if it reduces or eliminates the hazards associated with materials or operations used in the process, and this reduction or elimination is permanent and inseparable from the material or operation. A process with reduced hazards is described as inherently safer compared to a process with only passive, active, and procedural safeguards. The process of identifying and implementing inherent safety in a specific context is known as inherently safer design.
- **“First Order Inherent Safety measure”** is a measure that eliminates a hazard. Changes in the chemistry of a process that eliminate the hazard(s) of the chemicals used or produced are usually considered First Order Inherent Safety measures; for example, by substituting a flammable chemical with an alternative chemical that can serve the same function but with lower vapor pressure and narrower flammable range.
- **“Second Order Inherent Safety measure”** is a measure that reduces the severity of a hazard or the likelihood of a release without the use of add-on safety devices. Changes in process variables to minimize, moderate and simplify a process are usually considered Second Order Inherent Safety measures; for example, redesigning a high-pressure, high-volume, and high-temperature system to operate at lower temperatures, volumes, and pressures.
- **“Initiating cause”** means an operational error, mechanical failure, or other internal or external event that is the first event in an incident sequence and marks the transition from a normal situation to an abnormal situation.
- **“Interested parties”** means those residents, workers, students and others who would be potentially affected by an accidental or catastrophic release.
- **“Isolate”** means to cause equipment to be removed from service and completely protected against the inadvertent release or introduction of material or energy by such means as blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; implementing a double block and bleed system; or blocking or disconnecting all mechanical linkages.
- **“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.
- **“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.
- **“Petroleum refinery”** means a stationary source engaged in activities set forth in North American Industry Classification System (NAICS) code 324110.
- **“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, must be considered a single process. Utilities and safety related devices must 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.

- **“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.
- **“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.
- **“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.
- **“Process safety performance indicators”** means measurements of the facility’s activities and events that are used to evaluate the performance of process safety systems.
- **“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.
- **“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.
- **“Safeguard”** means a device, system, or action designed and maintained to interrupt the chain of events or mitigate the consequences following an initiating cause.
 - (1) **“Passive Safeguards”** means minimizing the hazard through process and equipment design features that reduce either the frequency or consequence of the hazard without the active functioning of any device; for example, by providing a diked wall around a storage tank of flammable liquids.
 - (2) **“Active Safeguards”** means using controls, alarms, safety instrumented systems, and mitigation systems to detect and respond to deviations from normal process operations; for example, by using a pump that is shut off by a high-level switch in the downstream tank when the tank is 90% full.
 - (3) **“Procedural Safeguards”** means using policies, operating procedures, training, emergency response and other administrative approaches to prevent incidents or to minimize the effects of an incident. Examples include hot work procedures and permits and emergency response procedures implemented by employees.
- **“Safety instrumented systems”** means systems designed to achieve or maintain safe operation of a process in response to an unsafe process condition.
- **“Temporary pipe or equipment repair”** means a repair of an active or potential leak from process piping or equipment. This definition includes active or potential leaks in utility piping or utility equipment that could affect a process and that could result in a major incident.
- **“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.
- **“Unified Program Agency (UPA)”** means the local agency, pursuant to HSC Section 25501, responsible to implement the CalARP Program.
- **“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.

LIST OF KEY MILESTONE DATES:

SUBJECT	DUE DATE(s)
Stop Work Procedures	December 29, 2017
System to Anonymously Report Hazards	December 29, 2017
Develop list of Individual Process Safety Performance Indicators	March 31, 2018
Process Safety Culture Assessment	March 31, 2019
Common Process Safety Performance Indicator Report	June 30, 2019 (to Cal OES and annually thereafter)
Revised Risk Management Plan	September 30, 2019
Revised Training Program	September 30, 2019
Process Hazard Analysis, all processes not previously addressed by Program 3, Article 6.0, requirements	September 29, 2020
Hierarchy of Hazard Control Analysis	50% September 30, 2020 & 100% September 30, 2022
Human Factors Program	<u>Implement & maintain by March 31, 2019</u> 50% September 29, 2020 & 100% September 30, 2022
Damage Mechanisms	50% September 29, 2020 & 100% September 30, 2022

A. Registration Requirements

Regulatory
Citation
CCR
2740.1

Registration – The following registration information must be submitted to Solano County CUPA:

- The business name, address, latitude/longitude;
- The Dun & Bradstreet number;
- The name, telephone and address of owner/operator;
- The name of responsible Risk Management Plan (RMP) person;
- The name, telephone number, and 24-hour phone number of emergency contact;
- The regulated substances: chemical name, maximum quantity in a process, CAS number; program level and NAICS code;
- The stationary source USEPA identifier;
- The number of full-time employees;
- Whether source is subject to 5189 and 5189.1 Title 8 CCR;
- Whether source is subject to part 355 Title 40 CFR;
- Whether source is subject to operating permit under Title V of CAA;
- The date of last safety inspection by a Federal, State or Local government agency and identify agency.

B. Risk Management Plan (RMP) Components and Submission Requirements

Regulatory
Citation
CCR
2745.1

Submission - The owner or operator of a facility that is subject to Program 4 must submit a revised RMP to address all the processes in the petroleum refinery specified in Article 6.5 by **September 30, 2019.**

CCR
2745.3

Executive Summary- A brief description of the following elements must be included in the Executive Summary of the RMP:

- Accidental release prevention and emergency response policies at the facility;

Facility and regulated substances handled;

- Worst-case release scenario(s) and alternate release scenario(s), including administrative controls and mitigation measures to limit the distances for each reported scenario;
- General accidental release prevention program and chemical-specific prevention steps;
- Five-year accident history;
- Emergency response program;
- Planned changes to improve safety.

CCR
2745.4

Offsite Consequence Analysis – The following information must be included in the RMP:

Program 4 processes:

- One worst-case release scenario to represent *all regulated toxic substances* held above the threshold quantity for Program 4 processes; and
- One worst-case release scenario to represent *all regulated flammable substances* held above threshold quantity for Program 4 processes.
- The owner or operator, as required by Section 2750.3(a) (2) (C), must submit additional worst-case scenarios for toxics or flammables.
- One *alternative release scenario for each regulated toxic substance* held above the threshold quantity for program 4 processes; and
- One *alternative release scenario to represent all regulated flammable substances* held above the threshold quantity for program 4 processes.

Each Offsite Consequence Analysis must include:

- Chemical name;
- Physical state ;
- Basis of results (give model name if used);
- Scenario (explosion, fire, toxic gas release, or liquid spill and vaporization);
- Quantity released in pounds;
- Release rate;
- Release duration;

- Wind speed and atmospheric stability class;
- Topography ;
- Distance to endpoint;
- Public and environmental receptors within the distance;
- Passive mitigation considered; and
- Active mitigation considered (alternative releases only).

Regulatory
Citation
CCR
2745.5

Five-year Accident History – The Risk Management Plan must include a Five-year Accident History Component pursuant to Section 2750.9.

CCR
2745.7.5

RMP Program 4 Plan Components

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- NAICS code for the process
- Name of the highly hazardous material(s) covered
- Date safety information last reviewed
- Date of most recent PHA or PHA revalidation and technique used
- Expected date to complete PHA changes
- Major hazards identified
- Process controls in use
- Mitigation systems in use
- Monitoring and detection systems in use
- Changes since last PHA
- The date of the most recent pre-startup safety review
- The date of the most recent compliance audit and the expected date of completion of any changes resulting from the compliance audit
- Date of most recent major incident investigation and expected date of completion of any changes resulting from the investigation
- The date of the most recent review or revision of employee participation plans
- The date of the most recent review or revision of hot work permit procedures
- The date of the most recent review or revisions of contractor safety procedures
- Date of most recent review or revision of contractor safety performance
- The date of the most recent Hierarchy of Hazard Control Analysis
- The date of the most recent Process Safety Culture Assessment
- The date of the most recent evaluation of the Accidental Release Prevention Program Management policies and procedures
- The date of the most recent evaluation of the Human Factors Program
- The date of the most recent Safeguard Protection Analysis

- The date of completion of the most recent Damage Mechanism Review or update including:
 1. The expected date of completion
 2. Major damage mechanisms identified
 3. Changes since the last Damage Mechanism Review

- External events analysis information:
 1. Types of natural and human caused external events considered in PHA Section 2762.2
 2. Magnitude or scope of external events considered. For seismic events including parameters used in consideration of the seismic analysis and which edition of the Building Code when the process was designed
 3. Sections (e)(1) through (e)(6) applied to external event for each event with a potential to create a release of a regulated substance that will reach an endpoint offsite
 4. Date of most recent field verification equipment is installed and maintained as designed

Regulatory
Citation
CCR
2745.8

RMP Emergency Response Program Component

- Written emergency response plan
- Plan include actions to be taken in response to an if accidental release of a regulated substance occurs
- Procedures to inform public and local agencies responsible for responding to accidental releases
- Plan includes information on emergency health care
- Date of most recent review or revision of ER plan
- Date of most recent employee training
- Provide name and telephone number of the local emergency response agency with which the plan is coordinated
- The list of other federal and state emergency plan requirements to which the stationary source is subject
- The last date that a drill was performed with the emergency response agencies that may respond to an incident at the stationary source including the Solano County CUPA

CCR
2745.9

Certification – The following certification must be submitted:

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- A single certification that, to the best of the signer’s knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

CCR
2745.12

Certificate of Occupancy - New or modified stationary sources must comply with Section 65850.2(b) of the Government Code prior to the issuance of a certificate of occupancy.

C. Program 4 Prevention Program Requirements

Regulation
Citation
CCR
2762.1

Process Safety Information - Information pertaining to the hazards of the regulated substances in the process. This information must consist of at least the following:

- Toxicity information;
- Permissible exposure limits;
- Physical data;
- Reactivity data;
- Corrosion data;
- Thermal and chemical stability data; and,
- Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

Information concerning the technology of the process must include at least the following:

- A block flow diagram or simplified process flow diagram;
- Process chemistry;
- Maximum intended inventory;
- Safe upper and lower limits for such items as temperatures, pressures, flows or compositions;
- An evaluation of the consequences of deviations.
- Where the original technical information no longer exists, such information may be developed in conjunction with the PHA in sufficient detail to support the analysis.

Information pertaining to the equipment in the process must include:

- Materials of construction;
- Piping and instrument diagrams (P&ID's);
- Electrical classification;
 - Electrical supply and distribution;
- Relief system design and design basis;
- Ventilation system design;
- Design codes and standards employed;
- Material and energy balances for processes built after June 21, 1999; and,
- Safety systems (e.g., interlocks, detection, or suppression systems).
- The owner or operator must document that equipment complies with recognized and generally accepted good engineering practices (RAGAGEP). If no RAGAGEP exists, then owner/operator must document equipment is designed, installed, maintained, inspected, tested and operated in a safe manner for its intended purpose.
- For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator must determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner for its intended purpose.

Process Hazard Analysis (PHA)

The owner/operator must perform and document an effective PHA appropriate to the complexity of each process in order to identify, evaluate, and control hazards associated with each processes not previously addressed by Article 6.0 by **September 29, 2020** and address all modes of operation. The owner or operator must determine and document priority order based on process hazards, number of people affected, the age of the process, and process history. The owner or operator must work closely with Solano County in deciding which PHA methodology is best suited to determine the hazards of the process being analyzed. The owner or operator must use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed:

- What-If;
- Checklist;
- What-If! Checklist;
- Hazard and Operability Study (HAZOP);
- Failure Mode and Effects Analysis (FMEA);
- Fault Tree Analysis; or,
- Other PHA methods recognized by engineering organizations or governmental agencies

The PHA must address:

- The hazards of the process;
- The identification of any previous incident in the petroleum refinery or petrochemical industry sector that are relevant to the PHA;
- Damage Mechanism Review Reports that are applicable to the process units;
- Hierarchy of Hazard Control Analysis reports
- Review of Management of Change documents
- Consequences of failure of engineering and administrative controls;
- Stationary source siting including processes, equipment, buildings and employee work stations;
- Human factors;
- A qualitative evaluation of a range of the possible safety and health effects of failure of controls,
- The PHA must include the consideration of external events, including seismic events, if applicable. PHAs completed for other programs where external events were not considered must be updated to include external events.
- The findings of incident investigations relevant to the process

Requirements of the PHA:

- The PHA must be performed by a team with expertise in engineering and process operations, and the team must include at least one employee who has experience and knowledge specific to the process being evaluated. The team must consult with individuals with expertise in damage mechanisms, process chemistry, and control systems. Also, one member of the team must be knowledgeable in the specific PHA methodology being used.
- The owner/operator must provide for employee participation in this process

- ❑ For each scenario in PHA that identifies the potential for a major incident a Safeguard Protection Analysis (SPA) must be performed and be appended to PHA report
- ❑ For all recommendations in PHA that identifies the potential for a major incident a Hierarchy of Hazard Control Analysis must be done
- ❑ The team must document all findings and recommendations in a report that includes the method analyses and factors considered by the team, findings of the team, and recommendations which must be available in the work area for review by any person working in the that area.
- ❑ The owner/operator must follow the corrective action work process specified in 2762.16 when resolving PHA team, findings, recommendations, actions items for implementation, tracking completion, and documentation of closeout
- ❑ The PHA must be updated and reevaluated at least once every five-years:
- ❑ Owner/operator must retain for the life of the process all PHAs and PHA updates and reevaluations for each process covered by this section

Regulatory
Citation
CCR
2762.2.1

Safeguard Protection Analysis

- ❑ The owner/operator must have a SPA team that perform a written SPA to determine the effectiveness of existing safeguards, combined effectiveness of safeguards; the individual and combined effectiveness of safeguards in the PHA, and the individual and effectiveness of additional or alternative safeguards that may be needed
- ❑ Independent protection layers (IPL); each failure scenario must be independent of each other and independent of initiating causes
- ❑ The SPA must use a quantitative or semi-quantitative method such as Layer of Protection Analysis or an equally effective method;
- ❑ The IPL must use site-specific failure rate
- ❑ Completion of SPAs for the PHA within **6-months** of completion of each PHA;
- ❑ SPA will be performed by a team that includes at least one employee knowledgeable in the process, one member knowledgeable in SPA methodology, consult with individuals knowledgeable in damage mechanisms, process chemistry, or an engineer knowledgeable in control systems and instrumentation.
- ❑ Employee participation in the process
- ❑ SPA report that includes the potential initiating events and their likelihood and consequences, risk reduction achieved by each IP, necessary maintenance and testing to ensure IPL function as designed, and recommendations to address deficiencies in the report
- ❑ SPA findings and recommendations appended to PHA report
- ❑ Corrective action work process documented pursuant to 2762.16 when resolving findings and recommendations determining action items and tracking to completion and closeout
- ❑ All SPA docs maintained for process life

Operating Procedures

The owner or operator must develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and must address at least the following elements:

Steps for each operating phase:

- Startup;
- Normal operations;
- Temporary operations as need arises;
- Emergency shutdown including the conditions under which emergency shutdown is required, and the provisions granting authority for shutdown to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner;
- Normal shutdown; and,
- Startup following a turnaround, or after an emergency shutdown.

Operating limits:

- Consequences of deviation; and,
- Steps required correcting or avoiding deviation.
- Safety and health considerations:
- Properties of, and hazards presented by, the chemicals used in the process;
- Precautions necessary to prevent exposure, including passive, active, and procedural safeguards, and personal protective equipment;
- Protective measure to be taken if physical contact or inhalation exposure occurs;
- Verification of the composition raw materials and control of hazardous chemical inventory levels; and,
- Any special or unique hazards.
- Safety systems and their function.

Operating procedure requirements:

- The Operating Procedures must include emergency operations for each process, including any response to over-pressurizing or overheating of equipment or piping and the handling of leaks, spills, releases, and discharges and specify that only qualified operators may initiate these operations and provide that owner/operator must at the minimum do one of the following shutdown and depressurize all the process operations where a leak, release or discharge is occurring, isolate any vessel, piping, and equipment where a leak, spill or discharge is occurring;
- Follow established criteria for handling leaks, spills or discharges that are equivalent to or safer than shutting down or isolating the process
- Operating procedures must be readily accessible to employees who work in near the process area, or maintain a process.
- The operating procedures must be reviewed as often as necessary to assure that they reflect current safe operating practice, including changes that result from alterations in process chemicals, technology, and equipment, or other changes to stationary sources.

Changes in operating procedures must be managed in accordance with Management of Change requirements. The owner or operator must certify annually that these operating procedures are current and, accurate.

The owner or operator must develop, implement and maintain safe work practices to prevent or control hazards during specific activities such as opening process equipment or piping that include tasks such as lock-out/tag-out; confined space entry; handling, controlling, and stopping leaks, spills, releases, and discharges; control over entry into hazardous work areas by maintenance, contractor, laboratory, or other support personnel. These safe work practices must apply to employees and contractor employees.

Regulatory
Citation
CCR
2762.4

Training

- The owner/operator must ensure that each employee presently operating a process, and each employee newly assigned to a process has been trained in an overview of the process and in the operating procedures as specified in 2762.3. the training must include material on specific safety and health hazardous applicable to the employee's job tasks, procedures, including emergency operations, and safe work practices applicable to the employee's job tasks.
- The owner/operator must train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazardous 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.

Refresher and supplemental training.

- Effective refresher and supplemental training must be provided at least every three years, and more often if necessary, to each employee operating a process to ensure that the employee understands and adheres to the current operating procedures of the process. The owner or operator, in consultation with the employees operating the process, must determine the appropriate frequency and content of refresher training.
- Effective refresher and supplemental must be provided to each maintenance employee to ensure that each employee understands and adheres to current maintenance procedures
- The owner/operator must ensure that each person involved in operating a process has received, understood, and successfully completed training as specified by this section.
- The owner/operator must prepare a certification record containing the identity of an employee, the dates of training and means use to verify the employee understood the training, and the signature(s) of the person administering the training after initial or refresher training
- The owner/ operator must develop and implement an effective written program that includes the requirements that an employee must meet in order to be designated as qualified, 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 by **September 30, 2019**

- ❑ The owner/operator must develop and implement an effective training program that includes the requirements that employees must meet in order to be designated as qualified and employee testing procedures to verify understanding to ensure competency in job skill levels and work practices that protect employee and public safety and health, and the signature of the person administering the training.
- ❑ Employees and employee representatives participating in specialized teams shall be trained on the applicable program elements to that team.

Regulatory
Citation
CCR
2762.5

Mechanical Integrity

- ❑ The owner/operator must develop implement and maintain effective to ensure the on-going integrity of process equipment.
- ❑ The owner or operator must establish and implement clear written procedures for safely conducting maintenance activities on process equipment that is consistent with Process Safety Information.
- ❑ The procedures and inspections documents must be readily accessible to employees and employee representatives

Inspection and testing:

- ❑ Inspections and tests must be performed on process equipment.
- ❑ Inspection and testing procedures must follow recognized and generally accepted good engineering practices (RAGAGEP)
- ❑ The frequency of inspections and tests of process equipment must be consistent with applicable manufacturers' recommendations, RAGAGEP, internal practices that are more protective than manufacturers recommendations or RAGAGEP, and more frequently if determined to be necessary by prior operating experience.
- ❑ The owner or operator must retain a certification record to document each inspection and test that has been performed on process equipment. The certification record must identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

Equipment deficiencies:

- ❑ The owner or operator must correct deficiencies in equipment to ensure safe operation of process equipment. Repair methodologies must be consistent with RAGAGEP or more protective internal processes

Quality assurance:

- ❑ The owner/operator must assure that all equipment at a minimum complies with the criteria established in subsection 2762.1 (d) and as it is fabricated is suitable for the process application for which they will be used; fabricated from the proper materials of construction.
- ❑ Appropriate checks and inspections must be performed to assure that equipment is designed, constructed, installed, maintained, inspected, tested, operated, and replaced in compliance with design

specifications, the manufacturer's instructions, and all applicable codes and standards

- ❑ The owner/operator installs or has existing process equipment for which no RAGAGEP exists then the owner/operator must ensure and document that these are designed, built, installed, maintained, inspected, tested, and operated in a safe manner
- ❑ The owner/operator must conduct regularly scheduled checks and inspections as necessary to ensure compliance with the requirements specified in paragraph 1.
- ❑ The owner or operator must assure that maintenance material, spare parts and equipment meet design specifications and applicable codes
- ❑ for the process application for which they will be used.

Damage Mechanism Review (DMR)

- ❑ The owner/operator must complete a DMR for each process for which a damage mechanism exists.
- ❑ The owner/operator must document the rationale for determination that no damage mechanism exists
- ❑ The owner/operator must determine and document the priority order for conducting the DMR based on process operating history, PHA schedule, and inspection records
- ❑ The owner/operator must complete at least 50 % of DMRs within 3-years **(September 29, 2020)** of this Article and remainder of DMRs within 5- years **(September 30, 2022)** of the effective date of this Article
- ❑ A DMR will be updated at least every 5-years consistent with the requirements of this section
- ❑ DMR must be reviewed as part of a major change on a process for which a damage mechanism exists before the approval of the change
- ❑ DMR must be conducted if a major change may introduce a damage mechanism before approval of the change
- ❑ DMR must be conducted as part of an incident investigation where a damage mechanism is identified as a contributing factor a must review the most recent DMRs that are relevant to the investigation and conduct and complete DMR if it has not been performed on the processes that are relevant to the investigation before implementing corrective actions
- ❑ The DMR for a process unit must be available to the team performing a PHA for that process unit.
- ❑ The DMR must be performed by a team with expertise in engineering, operation of processes under review, equipment and piping inspection, damage, and failure mechanisms.
- ❑ At least one team member must be knowledgeable in the specific DMR method used
- ❑ The owner/operator must provide for employee participation in this process

DMR Process must include:

- ❑ Assessment of Process Flow Diagrams
- ❑ ID of all potential damage mechanisms

- ❑ Determination that materials of construction are appropriate and resistant to potential damage mechanisms
- ❑ Discussion of the conditions that cause the damage mechanism and how rapidly the damage may progress
- ❑ Methods to prevent or mitigate damage
- ❑ Review of operating parameter to ID operating conditions that could accelerate damage or that could minimize or eliminate damage
- ❑ The owner/operator must evaluate at the minimum the following
- ❑ Mechanical loading failures such as ductile fractures, brittle fracture, mechanical fatigue, and buckling
- ❑ Erosion such as abrasive wear, adhesive wear, and fretting
- ❑ Corrosion such as uniform corrosion, localized corrosion, and pitting
- ❑ Thermal related failures such as creep, metallurgical transformation, and thermal fatigue
- ❑ Cracking such as stress-corrosion
- ❑ Embrittlement such as high temperature hydrogen attack
- ❑ The DMR must include an assessment of the previous experience with the process including inspection history, all damage mechanism data, review of industry wide experience with the process, and applicable standards codes and practices.
- ❑ The team must prepare a written DMR report that includes the process unit(s) reviewed, damage mechanisms analyzed, Results of the analyses conducted, recommendation for temporary mitigation and recommendation for prevention
- ❑ The report must be provided to reviewed with all operating, maintenance, and other personnel whose work assignments are with the process unit covered in the DMR
- ❑ The owner/operator must follow the corrective action work process documented in subsections 2762.16(d)&(e) when resolving findings, recommendations, determining corrective action for implementation, tracking to completion, and documentation of closeout
- ❑ The owner/operator must retain DMR reports for the life of the process unit

Regulatory
Citation
CCR
2762.6

Management of Change (MOC)

The owner or operator must establish and implement written procedures to manage changes of process chemicals, technology, equipment, and procedures; and, facilities. The owner must also develop implement and maintain a written Management of Organizational Change (MOOC) program

- ❑ The MOC procedures must assure that the following considerations are addressed prior to any change:
 - ❑ The technical basis for the proposed change;
 - ❑ Potential process safety impacts of the change;
 - ❑ Modifications to operating procedures or development of new operating and maintenance procedures;
 - ❑ Necessary time period for the change; and,
 - ❑ Authorization requirements for the proposed change.
- ❑ The owner/operator must review the DMR and perform a Hierarchy of Hazardous Control Analysis(HCA).
- ❑ The finding of the DMR and HCA will be included in the MOC documentation

- ❑ The owner/operator must use qualified personnel and appropriate methods for MOCs based upon hazard, complexity, and type of change.
- ❑ The owner/operator must provide for employee participation
- ❑ Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process must be informed of, and trained in, the change prior to start-up of the process or affected part of the process.
- ❑ If a change covered by this section result in a change in the process safety information required by Section 2762.1, such information must be updated as soon as possible.
- ❑ If a change covered by this section results in a change in the operating procedures or practices required by Section 2762.3, such procedures or practices must be updated before the start-up of the process
- ❑ The owner/operator must develop, implement and maintain written MOOC procedures to manage organizational change.
- ❑ The owner/operator must designate a team to conduct a MOOC assessment before reducing staffing levels, reducing classification levels of employees, changing shift duration or increasing employee responsibilities at or above **15%**. For any changes that exceed **90 calendar days** that affect operations, engineering, maintenance, health and safety, emergency response, and contractors assigned to permanent positions.
- ❑ The MOOC must be in writing and include a description of the proposed change, the makeup of the team responsible for assessing the proposed change, factors evaluated, the rationale for the decision to implement or not implement the change and the findings and recommendations.
- ❑ Before conducting the MOOC, the owner/operator must ensure that the job function descriptions are current and accurate for all positions that potentially affected by the change.
- ❑ The owner/ operator must allow for employee participation
- ❑ All MOOC analyses must include an assessment of human factors pursuant to 2762.15
- ❑ The stationary source manager, or his/her designee must certify based on information and after reasonable inquiry that the MOOC assessment is accurate that the proposed organizational changes meets the requirement of this section.
- ❑ The owner/operator must inform all employees potentially affected by the change

Regulatory
Citation
CCR
2762.7

Pre-Startup Safety Review

The owner or operator must perform a pre-startup safety review for new stationary sources and for modified stationary sources when the modification is significant enough to require a change in the process safety information. The pre-startup safety review must confirm that prior to the introduction of regulated substances to a process:

- ❑ Construction and equipment is in accordance with design specifications;
- ❑ Process equipment has been maintained and is operable in accordance with design specs;

- ❑ Effective safety, operating, maintenance, and emergency procedures are in place;
- ❑ For new process units, PHA, HCA, DMR, and SPA have each been performed and recommendations have been resolved or implemented before startup, New or modified stationary sources meet the requirements contained in management of change, Section 2762.6; and,
- ❑ Training of each employee involved in operating and maintenance of affected process has been completed.
- ❑ An operating employee who currently works in the unit and has expertise and experience in the process must be designated as the employee representative pursuant to 2762.10

Regulatory
Citation
CCR
2762.8

Compliance Audits:

- ❑ The owner/operator must conduct an effective compliance audit with the provisions of this article at least every **three years**.
- ❑ The owner/operator must certify and verify that the procedures and practices developed under the chapter are adequate and are being followed.
- ❑ The compliance audit must be conducted by at least one person knowledgeable in Article 6.5 section under review.
- ❑ Report of the findings of the audit must be developed that includes the scope, methods used, questions asked to assess each program element, findings and recommendations
- ❑ The written report must include the qualifications of those persons performing the compliance audit
- ❑ The owner/operator must follow the corrective action work process documented in subsection 2762.16 (d) &(e) when developing resolution and implementation of the compliance audit recommendations
- ❑ The owner/operator must respond in writing with 60 calendar days to any written employee or employee comments on the written audit report
- ❑ The owner/operator must consult with operators with expertise and experience in each process audited and must document the findings and recommendations for these consultations in the audit report.
- ❑ The owner or operator must retain the 3 most recent compliance audit reports

Regulatory
Citation
CCR
2762.9

Incident Investigation:

- ❑ The owner or operator must develop, implement, and maintain effective procedures for promptly investigating and reporting each incident that resulted in, or could reasonably have resulted in, a major release.
- ❑ The written procedures must include an effective method for conducting a thorough root cause analysis.
- ❑ An incident investigation must be initiated as promptly as possible, but not later than **48 hours** following the incident.
- ❑ An incident investigation team must be established and consist of at least one person knowledgeable in the process involved, including contractor employee or employee representatives if the incident

involved work of the contractor, one person knowledgeable in the owner/operator root cause methodology, and other persons with appropriate knowledge and expertise in overseeing the investigation analysis to thoroughly investigate and analyze the incident.

- ❑ The owner/operator must allow employee participation in the process
- ❑ The investigation team will use the owner/operator root cause analysis methodology to determine the underlying cause of the incident.
- ❑ The team will review DMR that were performed and incorporate the applicable findings into the incident investigation
- ❑ The investigation team must prepare a report at the conclusion of the investigation which includes at a minimum includes:
 - ❑ Date of incident;
 - ❑ Date investigation began;
 - ❑ A description of the incident;
 - ❑ The factors that contributed to the incident including direct causes, indirect causes, and root causes, determined through root cause analysis
 - ❑ A list of DMRs, PHAs, HCAs and SPA(s) that were reviewed as part of the investigation
 - ❑ Interim recommendations to prevent a recurrence or similar incident
 - ❑ Recommendations from invest.
- ❑ The owner/operator must submit a written report for major incidents to Solano County with **90 calendars days** of the incident, unless the owner/operator can demonstrate additional time is needed due to complexity of the investigation
- ❑ In cases where additional time is necessary the Owner/operator must prepare a status report within **90 calendar days** and **every 30 days** thereafter until the investigation is complete
- ❑ The final report must be completed within **5 months** of initiating the investigation and provided to Solano County CUPA as a public document.
- ❑ The owner/operator must follow the corrective action system in subsection 2762.16(d)&(e) when resolving the incident team's findings and recommendations, implementation, tracking to completion, and corrective action closeout must be documented.
- ❑ Incident investigation reports must be retained for **life of the process**.
- ❑ The owner/operator must assist Solano County if the CUPA chooses to perform and independent Process Safety Culture Assessment (PSCA), an incident investigation, evaluation of Accidental Release Prevention management system, or Human factor analysis pursuant to section 2775.2.5

Regulatory
Citation
CCR
2762.10

Employee Participation:

- ❑ In consultation with employees and employee representatives, the owner or operator must develop implement, and maintain a written plan to effectively provide for employee participation required by this Article and include the following.
- ❑ The owner/operator must ensure effective participation of operations and maintenance employees and their representatives throughout all phases of PHAs, DMRs, HCAs, MOCs, MOOCs, PSCAs, Incident Investigations, SPAs and PSSRs

- ❑ Effective participation by affected operating and maintenance employees and representatives throughout all phase of the development, training, implementation, and maintenance of the Accidental Release Prevention elements required by this Article.
- ❑ The owner/operator must provide employees and their representatives with access to all documents or information developed or collected and to all other information required to be developed under this Article including information that might be subject to protection as trade secret.
- ❑ The owner/operator must establish an effective process in consultation with employees for employee representatives where the employees are not represented by an authorized collective bargaining agent.

Regulatory
Citation
CCR
2762.11

Hot Work Permit:

- ❑ The owner or operator must issue a hot work permit for hot work operations conducted on or near a covered process.
- ❑ The permit must document that the fire prevention and protection requirements in Section 5189 of Title 8 of CCR have been implemented prior to beginning the hot work operations; it must indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit must be kept on file until completion of the hot work operations

CCR
2762.12

Contractors:

- ❑ This section applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. *It does not apply to contractors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery, or other supply services.*

Owner/operator responsibilities:

- ❑ The owner or operator, when selecting a contractor must obtain and evaluate information regarding the contract owner or operator's safety performance and programs.
- ❑ The owner/ operator must inform the contract owner or operator of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the process.
- ❑ The owner/ operator must explain to the contract owner or operator the applicable provisions of Article 7.
- ❑ The owner/ operator must develop and implement safe work practices consistent with Section 2760.3(d), to control the entrance, presence, and exit of the contract owner or operator and contract employees in any covered process areas.
- ❑ The owner/ operator must periodically evaluate the performance of the contract owner or operator in fulfilling the following obligations:

Contract owner/operator responsibilities

- ❑ The contract owner or operator must assure that each contract employee is trained in the work practices necessary to safely perform his or her job.
- ❑ The contract owner or operator must assure that each contract employee is instructed in the known potential fire, explosion, or

toxic release hazards related to his or her job and the process, and the applicable provisions of the emergency action plan.

- ❑ The contract owner/ operator must document that each contract employee has successfully completed the required by this section.
- ❑ The contract owner/operator must ensure that each contract employees follows the safety and health procedures of the stationary source
- ❑ The contract owner/operator must advise the stationary source owner/operator of any specific hazards presented by the contract owner/operator work or any hazards found while performing work for the stationary source.

Regulatory
Citation
CCR
2762.13

Hierarchy of Hazard Control Analysis (HCA)

- ❑ The owner/operator must conduct an HCA for all existing process according to the following schedule:
 - ❑ At least 50% by **September 29, 2020**,
 - ❑ Remaining processes by **September 30, 2022**
- ❑ The owner/operator must perform HCA for each PHA that IDs the potential for a major incident
- ❑ The owner/operator must perform HCA when a major change is proposed at the facility
- ❑ When a major incident occurs, the owner/operator must complete an HCA on the recommendations of the incident investigation
- ❑ Owner/operator must perform HCA during design and review of new processes, new process units, new facilities, and their related process equipment.
- ❑ Owner/operator must update each HCA every five years in conjunction with PHA schedule
- ❑ The owner/operator must establish a team to perform HCA that includes expertise in engineering, process operations, at least one employee that currently works on the process and at least one member who is knowledgeable in the HCA method being used.
- ❑ The team must consult with individuals with expertise in damage mechanisms, process chemistry, and control systems;
- ❑ The owner/operator must provide for employee participation in this process pursuant to section 2762.10
- ❑ The HCA team must review all risk-relevant data for each process or recommendation including the following
 - ❑ Incident investigation reports
 - ❑ ID, characterize, and prioritize each process safety hazard
 - ❑ ID, analyze, and document all inherent safety measures in an iterative manner to reduce each hazard to the greatest extent feasible;
 - ❑ ID, analyze, and document relevant publicly available information on inherent safety measures and safe guards that includes safety measures and safeguards that have been achieved in practice by petroleum refining or related sectors, or required or recommended for the petroleum refining industry and related sectors by a federal agency, state agency, or a Local California agency in a regulation or report
- ❑ For each process safety hazard, the team must develop written recommendations to eliminate hazardous to the greatest extent feasible using first order inherent safety measures, develop written

recommendations to reduce any remaining hazards using second order inherent safety measures and if necessary, develop written recommendations to address remaining risks using the following priority and sequencing:

- ❑ Using passive safeguards
- ❑ Using active safeguards
- ❑ Using procedural safeguards
- ❑ The HCA Team must complete a HCA report within 90 days following the recommendations that include, a description and composition of the members of the team, methodology used, description of each process safety hazard analyzed, description of the inherent safety measures and safeguards, rationale for the interest safety measures and safeguards
- ❑ The owner/operator must follow the corrective action work process in subsections 2762.16(d)& (e) when resolving the findings, recommendations, corrective action implementation, and documenting and tracking completion and closeout.
- ❑ The owner/operator must retain HCA reports for the life of each process.

Regulatory
Citation
CCR
2762.14

Process Safety Culture Assessment (PSCA)

- ❑ The owner/operator must develop, implement, and maintain an effective PSCA program.
- ❑ The owner/operator must conduct an effective PSCA and produce a written report and action plan by March 31, 2019
- ❑ The PSCA must include an evaluation of the effectiveness of the following elements
 - ❑ Owner/operator's hazard reporting program
 - ❑ Owner/operator's response to reports of hazards
 - ❑ Owner/operator's procedures to ensure that incentive programs do not discourage reporting of hazards
 - ❑ Owner/operator's procedures to ensure process safety is prioritized during upset or emergency conditions
 - ❑ Management commitment and leadership
- ❑ The owner/operator must establish a team to perform PSCA that includes expertise in process operations and at least one employee that currently works on the process and must consult with one employee knowledgeable in process safety culture assessment in petroleum refining industry.
- ❑ The team must develop written report within 90 days of completion of the assessment that includes.
 - ❑ Methods used to assess the process safety culture
 - ❑ Conclusions of the process safety culture assessment
 - ❑ Rationale for conclusions
 - ❑ Recommendations
- ❑ The owner/operator must in consultation with the PSCA team develop corrective action within 24 months of the completion of the report
- ❑ The PSCA team will perform an interim assessment of the implementation of the corrective actions within 3 years following the report
- ❑ The owner/operator will address ineffective corrective actions in a timely manner but not to **exceed six months**

- ❑ Owner/operator must sign the PSCA report
- ❑ The PSCA report including the action plan and the 3-year interim assessment report must be available to employees and representatives, and contractors, contractor employees, and contractor representatives within 60 days following the completion of the report.

Regulatory
Citation
CCR
2762.15

Human Factors Program

- ❑ The owner/operator must develop, implement, and maintain an effective Human Factor Program by **March 31, 2019**
- ❑ The owner/operator must include a written analysis of human factors in the design phase of a major change, incident investigations, PHA, MOOCS, HCAs, and include description of selected methodologies
- ❑ The human factor analysis must use an effective method to evaluate the following:
 - ❑ Staffing levels
 - ❑ Complexity of tasks
 - ❑ Length of time to complete tasks
 - ❑ Level of training
 - ❑ Employee experience and competency
 - ❑ Human-machine and human-system interface
 - ❑ Physical challenges of work environment
 - ❑ Employee fatigue
 - ❑ Shiftwork and overtime
 - ❑ Evaluate contractor's employees' workload
 - ❑ Communication systems
 - ❑ Clarity of operating and maintenance procedures
 - ❑ Error proof mechanisms
 - ❑ Automatic alerts
 - ❑ Automatic System Shutdowns
- ❑ The owner/operator must include the analysis of human factors in new and revised operating and maintenance procedures
- ❑ The owner/operator must develop a schedule for revising existing operating and maintenance procedures passed on human factor analysis and must complete 50 % by **September 29, 2020** and 100 % by **September 30, 2022**.
- ❑ The owner must provide for employee participation pursuant to section 2762.10
- ❑ The owner/operator must make available and provide a copy of the written human factor's program to employees and representatives, contractors, contractor employees, and contractor representatives

CCR
2762.16

Accidental Release Prevention (ARP) Program Management System:

- ❑ The owner/operator must develop, implement, and maintain an effective ARP Program Management System that must be reviewed and updated every 3 years.
- ❑ The owner/operator must designate the stationary source manager as the person with authority and responsibility for compliance with

this section and maintain process safety goals and support continuous improvement

- ❑ The owner/operator must develop and maintain ARP Management Systems policies that include:
- ❑ Job descriptions of roles and responsibilities under each section of this Article
- ❑ Organization chart of the management positions with responsibilities for each Section of this Article
- ❑ Written procedures for ensuring the effective communication of safety, operations, and maintenance information among/across process and maintenance personnel, contractors, support personnel, supervisors and managers
- ❑ The owner/operator must track and document all changes to program elements of this Article
- ❑ The owner/operator must develop and document a corrective action work processes recommendations and findings from the program elements in this Article
- ❑ The owner/operator must implement the PSCA corrective actions pursuant to the process in 2762.14
- ❑ The owner/operator must comply with the following standards:
- ❑ All findings and recommendations for the PHA, DMR, HCA, Incident Investigation, compliance audit and SPA must be provided by the team at least 14 calendar days after they are complete
- ❑ Owner/operator may reject a team recommendation if demonstrates that the analysis for a recommendation is based on a material factual error, recommendation is not relevant to process safety, the recommendation is infeasible, not based solely on cost,
- ❑ Owner/operator may change team recommendation if an alternative inherent safety measure would provide equivalent or higher order of inherent safety
- ❑ The owner/operator must document the purpose for changing or rejecting a team's recommendation and communicate to the onsite and offsite team members for their comments
- ❑ The owner/operator must document any written comments for all team members for any rejected or changed findings and recommendations
- ❑ The owner/operator must document a final decision for each recommendation and communicate it to onsite team members and be available for offsite members
- ❑ The owner/operator must develop and document all accepted recommendations including correction dates, assignments
- ❑ If corrective actions require the revalidation or update of any PHA, HCA, DMR, or SPA, the owner/operator must promptly append any PHA, DMR, HCA, or SPA to the applicable report
- ❑ The owner must promptly complete all corrective actions required and MOC for any proposed change to a completion date.
- ❑ The owner/operator must provide all completion dates to affected operation and maintenance employees and employee representatives
- ❑ Each corrective action that does not require a process shutdown must be completed within 2.5 years after the completion of the analysis or review

- ❑ The owner/operator must complete corrective actions from a compliance audit in 1.5 years after completion of analysis and review
- ❑ The owner/operator must complete corrective actions from an incident investigation within 1.5 years after completions of analysis and review
- ❑ Each corrective action requiring a process shutdown must be completed during the first regularly scheduled turnaround of the applicable process, subsequent to completion of the PHA, SPA, DMR, HCA, MOC, compliance audit, or incident investigation
- ❑ Where a corrective action cannot be implemented within times described above, the owner/operator must document all delayed corrective actions that include:
 - ❑ Rationale for deferring corrective actions
 - ❑ Documentation under the MOC process
 - ❑ Timeline describing when corrective actions will be implemented
 - ❑ Effective plan to make available the rationale and revised timeline to employees
- ❑ Owner/operator must track each corrective action and must document completion to the applicable report
- ❑ The owner/operator in consultation with employees and employee representatives must develop the following:
 - ❑ Effective Stop Work procedures that ensure the authority of employees including employees of contractors to refuse to perform a task where doing so could reasonable result in death or physical harm, authority of all employees including employees of contractors to recommend to the operator in change of a unknit that an operation or process be partially or completely shut-down based on process safety hazards, and the authority of the qualified operator in charge of a unit to partially or completely shut-down an operation or process, based on process safety hazards by **December 29, 2017**
 - ❑ Effective procedures to ensure the right of employees including employees of contractors to anonymously report hazards and respond within 30 days to written hazard reports and must prioritize and promptly respond to and correct hazards that present the potential for death and serious physical harm.
- ❑ The owner/operator must develop a system to document and enable employees to report hazards by **December 29, 2017.**
- ❑ As of **September 30, 2018,** the owner/operator must begin preparing an calendar year report (January 1st through December 31st) that identifies past due inspections for piping and pressure vessels, past due PHA corrective actions and seismic corrective actions, past due incident investigations, the number of temporary piping and equipment repairs that are past their date of replacement and the total number of temporary piping and equipment repairs by **June 30, 2019** and **June 30th** of each subsequent year; that is signed and certified by the stationary source manager or designee and submitted to Cal OES as a public document.
- ❑ The owner/operator must develop a list of site-specific indicators to measure to evaluate the performance of its process safety system by **March 31, 2018.**

Regulatory
Citation
CCR
2762.17

Access to Information

- The owner/operator must provide documents or information developed or collected pursuant to this Article upon request to Solano County CUPA

Regulatory
Citation
CCR
2765.2

Emergency Response Program

- The owner/operator must develop and implement an emergency response program for the purpose to protect public health and the environment that includes employee training, procedures for informing emergency responders, procedures for the use of emergency equipment, procedures for proper first-aid, and review of emergency response procedures, and coordinated with community emergency response plan including Solano County Hazmat Area Plan.

REFERENCES

<https://www.aiche.org/ccps>

<https://www.safeopedia.com/2/1120/prevention-and-control-of-hazards/hazards/the-hierarchy-of-hazard-control>

<http://www.dir.ca.gov/dosh/interagency-refinery-task-force.html>

<http://www.solanocounty.com>