Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

California Accidental Release Prevention (CalARP) Program Guidance

Revised May 2020

Preface

This document provides general guidance to help Unified Program Agencies (UPAs) to implement and enforce the California Accidental Release Prevention (CalARP) Program. The intent is to identify the elements of the Program applicable to each regulated business and assist UPAs with oversight of the CalARP Program statutes and regulations. This document is not a substitute for the CalARP Program regulations; it does not impose legally binding requirements.

About This Document

This document follows the format of the California Code of Regulations (CCR) Title 19, Division 2, Chapter 4.5 California Accidental Release Prevention (CalARP) Program. The regulatory sections are presented in bold font for ease of reference. Internal references are also in bold font. In the Frequently Asked Questions sections, the question (Q) and answer (A) are in italic font.

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About the 2020 Revision

The current version of this document intends to reflect the October 1, 2017, revision to the CalARP regulations, California Code of Regulations, Title 19, Division 2, Chapter 4.5. The following list outlines the coming updates and the changes made to the 2020, CalARP Program Guidance.

Introduction

The California Accidental Release Prevention (CalARP) Program

The CalARP Program was established in California to prevent accidental releases of those substances determined to potentially pose the greatest risk of immediate harm to the public

and the environment. The planning activities required by the Program are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. The Program is further intended to mitigate the effects of an accidental release, should one occur, by requiring an emergency response program. The CalARP Program is the federal "Risk Management Program" or "Federal Accidental Release Prevention Program" (Federal RMP), established in regulation by the United States Environmental Protection Agency (USEPA), but has additional requirements specific to the State of California in accordance with the California Health and Safety Code (HSC). The California Governor's Office of Emergency Services (Cal OES) adopted the regulations that outline the CalARP Program requirements for all regulated businesses and the agencies that implement the Program in California (CalARP Program regulations). The CalARP Program incorporates federal requirements, including newly developed federal requirements. It is the intent of the California Legislature that compliance with the provisions of the CalARP Program satisfies the requirements of the Federal RMP Program.

The CalARP Program applies to a wide variety of facilities (stationary sources), including petroleum refineries, chemical processing, water treatment, and ammonia refrigeration. A facility that handles, manufactures, uses, or stores any of the listed chemicals (regulated substances) in a process that are above the threshold quantities in **Appendix A CalARP Program Combined List of Chemical and Threshold Quantities (TQ)** of this guidance may be subject to the CalARP Program requirements.

Unified Program Agencies (UPAs)

Unified Program Agencies (UPAs) are the local government agencies authorized to implement and enforce the CalARP Program in California. UPAs were formerly referred to as Administrating Agencies (AAs) and are also known as Certified Unified Program Agencies (CUPA) or Participating Agencies (PA), and are collectively called Unified Program Agencies (UPAs).

UPAs ensure that regulated facilities meet the requirements of the CalARP Program and determine the appropriate level of detail for the Risk Management Plan (RMP). Facilities are required to work closely with the UPA for guidance to implement the CalARP Program and create the RMP.

Intent of Guidance Document

This document is a working draft and intends to provide UPAs and stationary sources with a guidance "tool" to assist in the implementation of the CalARP Program. UPAs should:

- Determine if facilities must comply with the CalARP Program,
- Determine the specific CalARP Program requirements that are applicable to covered processes at facilities within their jurisdiction,
- Coordinate with owners/operators of stationary sources for Program implementation, and
- Ensure that facilities maintain compliance with the Program.

There are other guidance materials, such as those developed by UPAs and USEPA. These references may be used in combination with this document.

Examples may include, but are not limited to:

- UPA inspection and audit checklists,
- UPA program guidance/fact sheets,
- 2019 CalARP Seismic Guidance,
- US EPA RMPP guidance/fact sheets, and
- Cal OSHA PSM letters of interpretation.

The Federal RMP Program has undergone several revisions since the adoption of the original CalARP Program regulations. As of January 1, 2018, all of these federal changes were incorporated into the CalARP Program regulations. Other Federal RMP Program revisions will be made to the CalARP Program as they occur in the future.

"Frequently Asked Questions" (FAQ) have been placed throughout this document and may provide:

- information on what Cal OES evaluators require during the triennial Unified Program evaluation,
- further clarification,
- examples or definitions, or
- UPA perspective.

In many cases, the regulations are clear and do not need additional interpretation. In these cases, the guidance simply directs the reader to the regulation.

The following conventions will be used throughout this guidance.

- Facility: a "stationary source" with more than the threshold quantity of a regulated substance (or chemical) in a process, as found on Table 1, Table 2, or Table 3 of **Section 2770.5 List of Substances**.
- Table 1 or Table 2 facility: a facility with more than a threshold quantity of a Table 1 or Table 2 chemical in a process. (Table 1 and Table 2 in the CalARP Program regulations are identical to Table 1 and Table 2 in the Federal RMP Program regulations.) Exceeding a threshold on Table 1 or Table 2 requires compliance with the Federal RMP Program elements. See **Appendix A CalARP Program Combined List of Chemical and Threshold Quantities (TQ)** for a summary of regulated chemicals and thresholds.
- Table 3 facility: a facility with more than the threshold quantity of a Table 3 chemical in a process but less than the Table 1 threshold, if applicable. (Some toxic chemicals appear on both Table 1 and Table 3, but with different threshold quantities.) See **Appendix A CalARP Program Combined List of Chemical and Threshold Quantities (TQ)** for a summary of regulated chemicals and thresholds. Since Table 3 is unique to the CalARP Program, facilities in this category are not required to comply with the Federal RMP Program; only the state program elements. But recognize that all of the federal requirements are incorporated into the state program.

- Tables and exhibits: tables and exhibits contained herein and referenced to USEPA's "General Guidance for Risk Management Programs" are closely based on the referenced USEPA material but may be modified to better reflect the CalARP Program and its emphasis on UPAs. These modifications are not in any way intended to change the intent or use of the federal guidance.

General Duty Clause

The General Duty Clause, pursuant to Section 112(r)(1) of the Federal Clean Air Act, requires a facility that handles hazardous materials to operate safely. Neither the Federal RMP Program nor the CalARP Program limits the provisions of the General Duty Clause in any way. Violations of the General Duty Clause can lead to substantial federal and state penalties.

The State adopted the Federal General Duty Clause, pursuant to California Health and Safety Code 25531.2(b). "The Legislature further finds and declares that the owners and operators of stationary sources producing, processing, handling, or storing hazardous materials have a general duty, in the same manner and to the same extent as is required by Section 654 of Title 29 of the United States Code, to identify hazards that may result from releases using appropriate hazard assessment techniques, to design and maintain a safe facility, taking those steps as are necessary to prevent releases, and to minimize the consequences of accidental releases that do occur."

Frequently Asked Questions

Q: Does my RMP have to address listed chemicals if the chemical is below the threshold quantity (TQ)?

A: No, however the owner/operator should maintain Safety Data Sheets (SDS) for these materials and should have procedures and policies to handle materials in a safe manner. If an owner/operator maintains a listed chemical in any amount, Federal EPA may still inspect facilities that store or use chemicals under the General Duty Clause.

Recommended Initial Actions for UPAs to Establish a CalARP Program

These recommendations provide a discussion of UPA activities addressed in detail in the remainder of this document. UPAs should:

- **Review appropriate state and federal accidental release prevention program laws, the CalARP Program regulations, this guidance, and other appropriate guidance to develop a strategy for implementing a quality program.**

The UPAs should develop procedures to implement the CalARP Program, pursuant to established laws and regulations.

- **Identify facilities that may be subject to the CalARP Program.**

Are there facilities with more than a threshold quantity of a regulated substance in a process in my jurisdiction?"

California Environmental Reporting System (CERS) Hazardous Materials Business Plan Program inventory information may be a helpful resource. Local fire departments, environmental health departments, air districts, planning departments, or other permit issuing agencies may provide valuable information. Types of facilities typically subject to the CalARP Program include, but are not limited to:

  - chemical manufacturers and wholesalers;
  - ammonia refrigeration facilities;
  - food processors;
  - water and wastewater treatment facilities;
  - petroleum production and refining facilities;
  - primary and secondary metal manufacturers, including plating facilities;
  - pulp and paper mills;
  - agricultural wholesalers and retailers;
  - fuel storage and distribution facilities;
  - electric generating utilities, such as power plants;
  - community swimming pools; and
  - federal installations, such as Department of Defense or Department of Energy facilities.

- **Evaluate identified facilities to determine if there are process(es) covered by the CalARP Program.**

Each facility with a regulated substance in excess of the threshold quantity in a process may be mandated to implement the CalARP Program. There are some exceptions to this general rule, as described in **Section 2735.4** Applicability. The definition of "process" is a key element to the Program. It is possible for a facility to have more than a threshold quantity of a regulated substance onsite and not be in the Program. Exemptions and exclusions are referenced in **Sections 2770.4 and 2770.4.1**. The facility needs to have more than a threshold quantity of a regulated substance in a process to be covered by the rule. The definition of "process" is covered in **Article 1 General** and presented graphically in **Exhibit 1-2 Process Representation**.

Frequently Asked Questions

Q: Can you clarify the definition of a "process"?

A: **"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. This definition shall not apply to **Article 6.5 Program 4 Prevention Program.**

- If a regulated substance is stored in a single vessel in quantities above the threshold quantity, the process is covered.

- If interconnected vessels hold more than a threshold quantity of a regulated substance, the process is covered. The connections need not be permanent. If two or more vessels are connected occasionally, they are considered a single process for the purposes of determining whether a threshold quantity is present.
- If a facility has multiple unconnected vessels containing the same substance, "co-location" must be determined.

USEPA's General Guidance Document contains a discussion of single vessels, interconnected vessels, co-location, processes with multiple chemicals, and differences from OSHA requirements. **Exhibit 1-2 Process Representation** is a schematic representation of these concepts.

"Process" for purposes of **Article 6.5 Program 4 Prevention Program**, 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.

"Retail facility" means a stationary source at which more than one-half of the income is obtained from direct sales to end users or at which more than one-half (by volume) of the fuel sold is sold through a cylinder exchange program.

Q: Are utility facilities that contract flammable gas usage (i.e., propane, methane, etc.) to other facilities excluded from the requirements under the flammable fuels exclusion?

A: Yes. According to **Section 2770.4.1** Exclusions, facilities that use flammable substances as fuel or sell as fuel at retail facilities are excluded from all provisions of the CalARP program.

These facilities may or may not be excluded under Cal OSHA PSM.

Q: Are farm/agricultural ammonia facilities that re-distribute or retail ammonia exempt from the program?

A: No. The agricultural exemption applies only to farmers when ammonia is used as an agricultural nutrient. Ammonia sold at retail facilities is not exempted.

- **Coordinate with facilities to determine which program level is appropriate for each covered process**.

The CalARP Program has four program levels that relate to the accident potential at the facility. The UPA should directly communicate with the owner/operator who may be subject to the CalARP Program. The UPA should assess each facility and coordinate to correctly identify the appropriate program level for each process (see **Exhibit 1-5 Program Level Assignment**).

A "covered process" has requirements that vary in complexity depending upon the program level to which they are subject. The following chapters discuss the requirements for covered

processes, program levels, and provide an overview of the CalARP Program regulatory requirements.

The CalARP Program defines four program levels with increasing requirements depending upon the complexity, accident history, and potential offsite impact of a release.

  - **Program Level 1** covers processes that pose comparatively low risks to the public.
  - **Program Level 2** covers processes that do not meet the Program Level 1 requirements and typically have less complex processes than Program Level 3 requirements. Retail facilities, small to medium manufacturing facilities, and some publicly owned drinking water or wastewater treatment plants may be examples of Program Level 2 processes.
  - **Program Level 3** typically covers the most complex chemical processes. These processes are in industrial sectors with substantial accident histories, have significant potential offsite consequences, or are subject to the OSHA Process Safety Management (PSM) standard. Program Level 3 processes are mainly at medium to large manufacturing facilities; facilities with large refrigeration storage systems; utilities; and high volume, publicly-owned drinking water or wastewater treatment plants.
  - **Program Level 4** covers all processes within petroleum refineries, except for 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.

- **UPAs should ensure that other existing "risk management" type activities are integrated with the implementation of the CalARP Program.**

The CalARP Program addresses chemical safety for chemical facilities with covered processes. UPAs need to consider how the implementation of the CalARP Program should be integrated with existing city, county, operational areas, State emergency response management systems, and their respective plan components. Examples include State and Federal Process Safety Management (PSM) programs, the State of California Emergency Plan, the Standardized Emergency Management System (SEMS), duly-approved local emergency plans (Area Plans), the emergency response element of the Business Plan Program, and the Local Emergency Planning Committee's (LEPC) Regional Plan.

Chapter 1. General (Article 1)

Definitions (Section 2735.3)

CalARP definitions:

- **"Accidental release"** means an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.
- **"Article"** means a manufactured item as defined under Section 5189 of Title 8 of the California Code of Regulations (CCR), that is formed to a specific shape or design during manufacture, that has end use functions dependent in whole or in part upon the shape or design during end use, and that does not release or otherwise result in exposure to a regulated substance under normal conditions of processing and use.
- **"Cal OES"** means the California Governor's Office of Emergency Services.
- **"CAS"** means the Chemical Abstracts Service.
- **"CFR"** means the Code of Federal Regulations.
- **"Catastrophic release"** means a major uncontrolled emission, fire, or explosion, involving one or more regulated substances that presents an imminent and substantial endangerment to public health and the environment.
- **"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.
- **"Covered process"** means a process that has a regulated substance present in more than a threshold quantity as determined under **Section 2770.2 Threshold Determination**.
- **"Environmental receptor"** means natural areas, such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and federal wilderness areas that could be exposed at any time to toxic concentrations, radiant heat, or overpressure greater than or equal to the endpoints provided in **Section 2750.2(a) Offsite Consequence Analysis Parameters**, as a result of an accidental release and that can be identified on local United States Geological Survey maps.
- **"Hot work"** means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.
- **"Interested parties"** means those residents, workers, students, and others who would be potentially affected by an accidental or catastrophic release.
- **"Major change"** means: (1) introduction of a new process, (2) new process equipment or new regulated substance that results in any operational change outside of established 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.
- **"Mechanical integrity"** means the process of ensuring that process equipment is fabricated from the proper materials of construction and is properly installed, maintained, and replaced to prevent failures and accidental releases.

- **"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 the public or the environment. Passive mitigation means equipment, devices, or technologies that function without human, mechanical, or other energy input. Active mitigation means equipment, devices, or technologies that need human, mechanical, or other energy input to function.
- **"Modified stationary source"** means a stationary source that has undergone an addition or change that qualifies as a "major change" as defined in **Section 2735.3 (hh) Definitions**.
- **"NAICS"** means the North American Industry Classification System.
- **"New stationary source"** means a stationary source that now has a covered process that is not currently in the CalARP program.
- **"Offsite"** means areas beyond the property boundary of the stationary source, and areas within the property boundary to which the public has routine and unrestricted access during or outside business hours.
- **"Owner or operator"** means any person who owns, leases, operates, controls, or supervises a stationary source.
- **"Part 68"** means Part 68 of Subpart A of Subchapter C of Chapter I of Title 40 of CFR.
- **"Petroleum refinery"** means a stationary source engaged in activities set forth in North American Industry Classification System (NAICS) code 324110.
- **"Population"** means the public.
- **"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.
- **"Public"** means any person except employees or contractors at the stationary source.
- **"Public receptor"** means offsite residences, institutions (e.g., schools, hospitals), industrial, commercial, and office buildings, parks, or recreational areas inhabited or occupied by the public at any time without restriction by the stationary source where members of the public could be exposed to toxic concentrations, radiant heat, or overpressure, as a result of an accidental release.
- **"Regulated substance"** means any substance, unless otherwise indicated, listed in **Section 2770.5 List of Substances**.
- **"Replacement in kind"** means a replacement that satisfies the design specifications.
- **"Retail facility"** means a stationary source at which more than one-half of the income is obtained from direct sales to end users or at which more than one-half of the fuel sold by volume is sold through a cylinder exchange program.
- **"Risk Management Plan (RMP)"** is a document that must be a true and accurate reflection of a facility's compliance with the elements of the CalARP Program. It summarizes the facility's accidental release prevention program implementation activities. Each facility with one or more covered processes must prepare and submit a

single RMP that includes all covered processes. (Note: If an RMP is required by the Federal RMP Program, the "single" RMP may need to be crafted to meet UPA documentation requirements.)

- **"Stationary source"** means any building, structure, equipment, installation, or substance emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. The term stationary source does not apply to transportation, including storage incident to transportation, of any regulated substance or any other extremely hazardous substance under the provisions of this chapter. A stationary source includes transportation containers used for storage not incident to transportation and transportation containers connected to equipment at a stationary source for loading or unloading. Transportation includes, but is not limited to, transportation subject to oversight or regulations under Part 192, 193, or 195 of Title 49 of CFR, or a state natural gas or hazardous liquid program for which the state has in effect a certification to DOT under Section 60105 of Title 49 of USC. A stationary source does not include naturally occurring hydrocarbon reservoirs. Properties shall not be considered contiguous solely because of a railroad or pipeline right-of-way.
- **"Threshold quantity"** (TQ) means the quantity specified for a regulated substance pursuant to **Section 2770.5 List of Substances** and determined to be present at a stationary source as specified in **Section 2770.2 Threshold Determination**.
- **"Typical meteorological conditions"** means the temperature, wind speed, cloud cover, and atmospheric stability class prevailing at the site based on data gathered at or near the site or from a local meteorological station.
- **"Unified Program Agency (UPA)"** means the local agency responsible to implement the CalARP Program, pursuant to HSC Section 25501.
- **"Vessel"** means any reactor, tank, drum, barrel, cylinder, vat, kettle, boiler, pipe, hose, or other container.
- **"Worst-case release"** means the release of the largest quantity of a regulated substance from a vessel or process line failure that results in the greatest distance to an endpoint defined in **Section 2750.2(a) Offsite Consequence Analysis Parameters**.

Applicability (Section 2735.4)

The requirements of the CalARP Program apply to a facility with more than or equal to a threshold quantity of a regulated substance in a process. The CalARP Program does not cover a facility with less than a threshold quantity of a listed chemical in a process. A stationary source is subject to Program 4 if it is engaged in activities set forth in North American Industry Classification System (NAICS) code 324110. See **Exhibit 1-3 Program Applicability** for a schematic representation.

- 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 List of Substances**. An owner or operator of a stationary source shall comply with one of the following:

- 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) Submission**;
- 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 UPA 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) Submission**; or
- If a stationary source has a process with more than a threshold quantity of a regulated substance as listed in Tables 1 or 2 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) Submission**.

- 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.
- **Program 1 eligibility requirements**: a covered process is eligible for Program 1 requirements as provided in **Section 2735.5 (d) General Requirements** if it meets all of the following requirements:
  - for the five years prior to the submission of an RMP, the process has not had an accidental release of a regulated substance where exposure to the substance, its reaction products, overpressure generated by an explosion involving the substance, or radiant heat generated by a fire involving the substance has led to any of the following offsite consequences:
    - death,
    - injury, or
    - response or restoration activities for an exposure of an environmental receptor or a public receptor;
  - the distance to a toxic or flammable endpoint for a worst-case release assessment conducted under **Article 4 of Section 2750.3 Worst-Case Release Scenario Analysis** is less than the distance to any public receptor as defined in **(fff) Section 2735.3 Definitions** and **Section 2750.5 Defining Off Site Impacts to the Population**; and
  - emergency response procedures have been coordinated between the stationary source and local emergency planning and response organizations.
- **Program 2 eligibility requirements**: a covered process is subject to Program 2 requirements if it does not meet the eligibility requirements of **Section 2735.4(c), (e) or (f) Applicability**.
- **Program 3 eligibility requirements**: a covered process is subject to Program 3 if the process does not meet the requirements of **Section 2735.4(c) Applicability**, and if any of the following conditions apply:

- The process is in NAICS code 322110, 325110, 325180, 325194, 325199, 325211, 325311, or 325320.
- The process is subject to the Cal OSHA Process Safety Management (PSM) standards of Section 5189 of Title 8 of CCR.
- 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 List of Substances** 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.

- **Program 4 eligibility requirements**: a stationary source is subject to Program 4 if it is engaged in activities set forth in NAICS code 324110.
  - If at any time a covered process no longer meets the eligibility criteria of its program level, the owner or operator shall comply with the requirements of the new program level that applies to the process and update the RMP as provided in **Section 2745.10 RMP Updates**.
  - The provisions of this chapter shall not apply to an Outer Continental Shelf (OCS) source as defined in Section 55.2 of Title 40 of CFR.
- **Program 1, 2, 3, and 4 Eligibility Requirements**
  See **Exhibit 1-3 Program Applicability** for a schematic representation of how to assign Program Level 1-4.
- **UPA Assigning Program Levels**
  HSC Sections 25534(b) and (c) discuss the ability of an UPA to assign or reassign the program level for a Table 3 facility based on a significant likelihood of accident risk. The UPA can make the following program level assignments based on accident risk:
  - Program Level 2 to Program Level 3,
  - Program Level 3 to Program Level 2,
  - Program Level 2 to Program Level 1.

If a facility meets the Program Level 1 requirements, the UPA cannot reassign the facility to a more stringent Program Level. If at any time a covered process no longer meets the eligibility criteria of its program level, the facility shall comply with the requirements of the new program level and update the RMP (see RMP Components and Submission Requirements). **Section 2745.2 RMP Review Process** discusses the ability of an UPA to request additional detail for the program level elements already required, pursuant to HSC 25534.05(d).

See **Appendix F Preliminary Risk Determinations** for additional information on making risk determinations for Table 3 facilities.

Frequently Asked Questions

Q: Can an UPA reassign a program level?

A: For Table 3 regulated substances (not exceeding Table 1 thresholds), the UPA can reassign the program level based on the nature, quantity, and use of the chemical involved,

pursuant to Section 25534 of the HSC, unless the facility meets Program Level 1 eligibility requirements.

For Table 1 and Table 2 (federal) facilities, the UPA may not change the program level; USEPA must be consulted to correct federal program levels. If the facility chooses an incorrect Program Level, there may be a need for a change to a different Program Level. The Federal RMP*eSubmit may reject an owner/operator submittal in entirety if the wrong program level is chosen. The owner/operator must log back onto RMP*eSubmit to review the status of their submittals.

If at any time a covered process no longer meets the eligibility criteria of its program level (e.g., a change in the process or potential off-site impact), the owner/operator may comply with the requirements of the new program level that applies to the process and may update the RMP.

The following Tables are modified from the USEPA's General Guidance for Risk Management Programs.

Exhibit 1-1 Stationary Sources

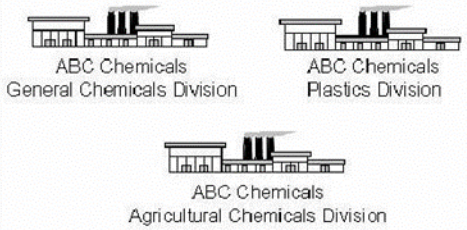
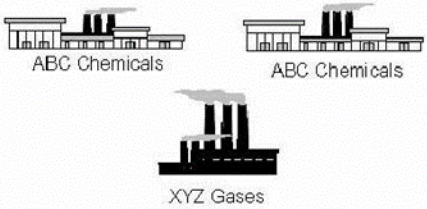
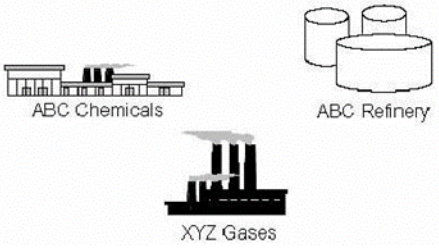
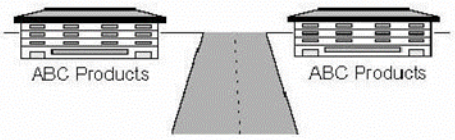
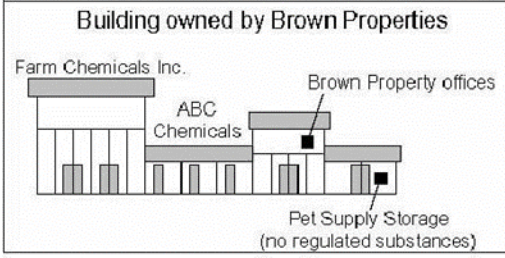
Schematic Representation	Description	Interpretation
	*same* owner *same* industrial group	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC 1 XYZ
	two owners three industrial groups	3 Stationary sources 3 RMPs 1 ABC Chemicals 1 ABC Refinery 1 XYZ Gases
	two owners	2 stationary sources 2 RMPs
	*same* owner *same* industrial group contiguous property	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC Chemicals 1 Farm Chemicals

Exhibit 1-2 Process Representation

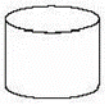
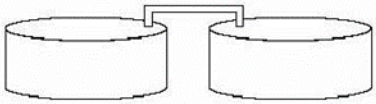
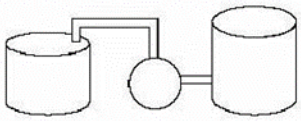
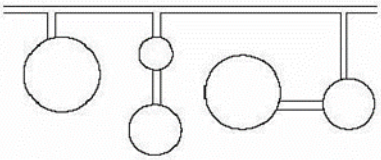
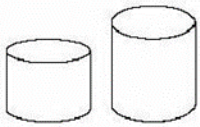
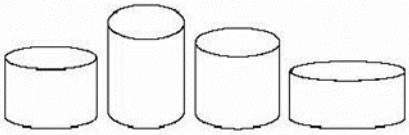
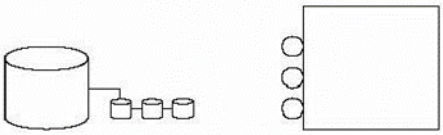
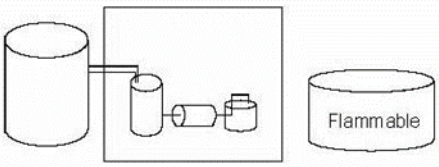
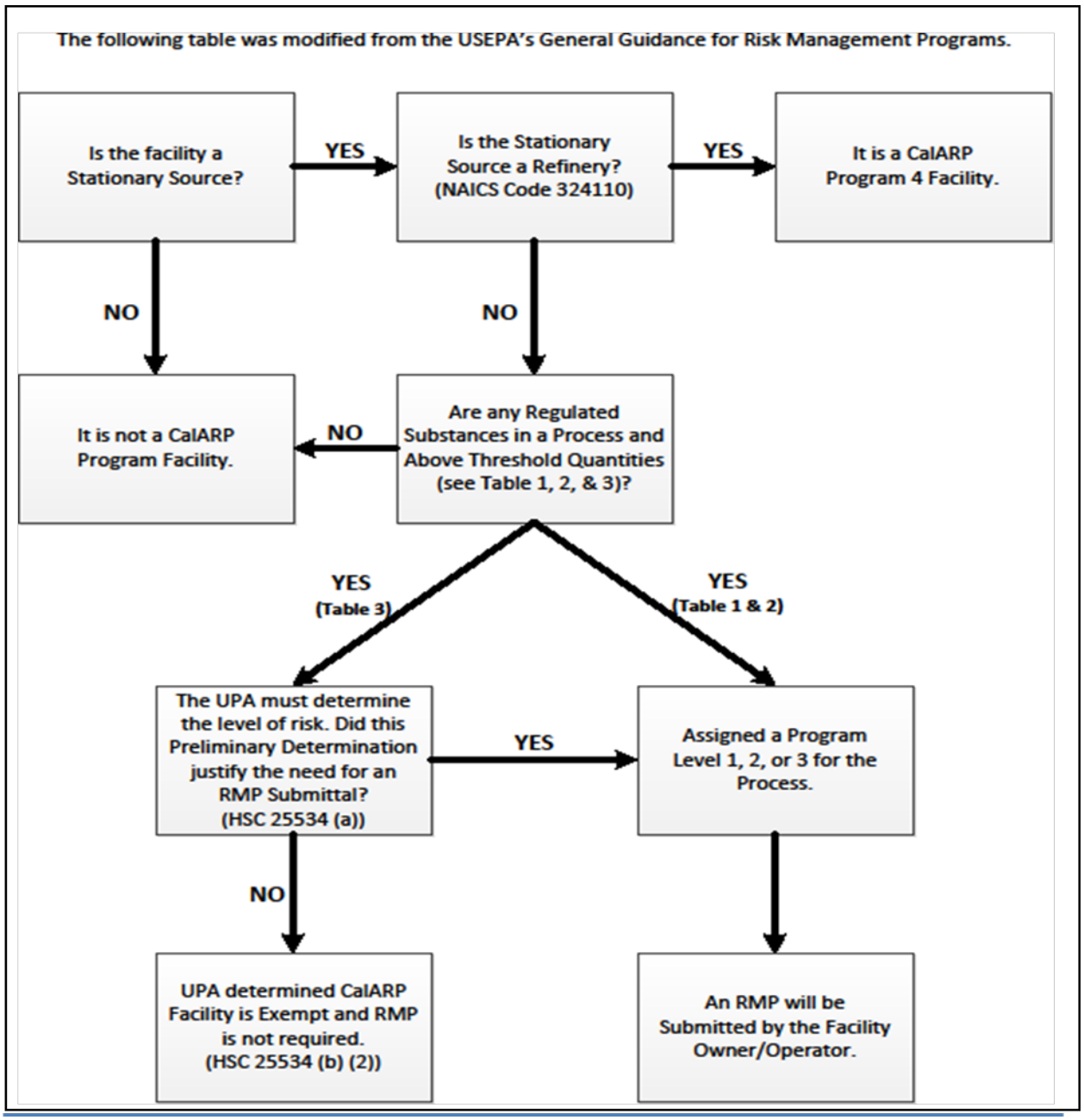
Schematic Representation	Description	Interpretation
	1 vessel 1 regulated substance above TQ	1 process
	2 or more connected vessels ***same*** regulated substance above TQ	1 process
	2 or more connected vessels ***different*** regulated substances each above TQ	1 process
	pipeline feeding multiple vessels total above TQ	1 process
	2 or more vessels co-located ***same*** substance total above TQ	1 process
	2 or more vessels co-located ***different*** substances each above TQ	1 process
	2 vessels, located so they won't be involved in a single release ***same*** or ***different*** substances each above TQ	2 processes
	2 locations with regulated substances each above TQ	1 or 2 processes depending on distance
	1 series of interconnected vessels ***same*** or ***different*** substances above TQs ***plus*** a co-located storage vessel containing flammables	1 process

Exhibit 1-3 Program Applicability



General Requirements (Section 2735.5)

The facility shall closely coordinate with the UPA to implement the requirements of the CalARP Program. The UPA shall determine the appropriate level of documentation required for an RMP.

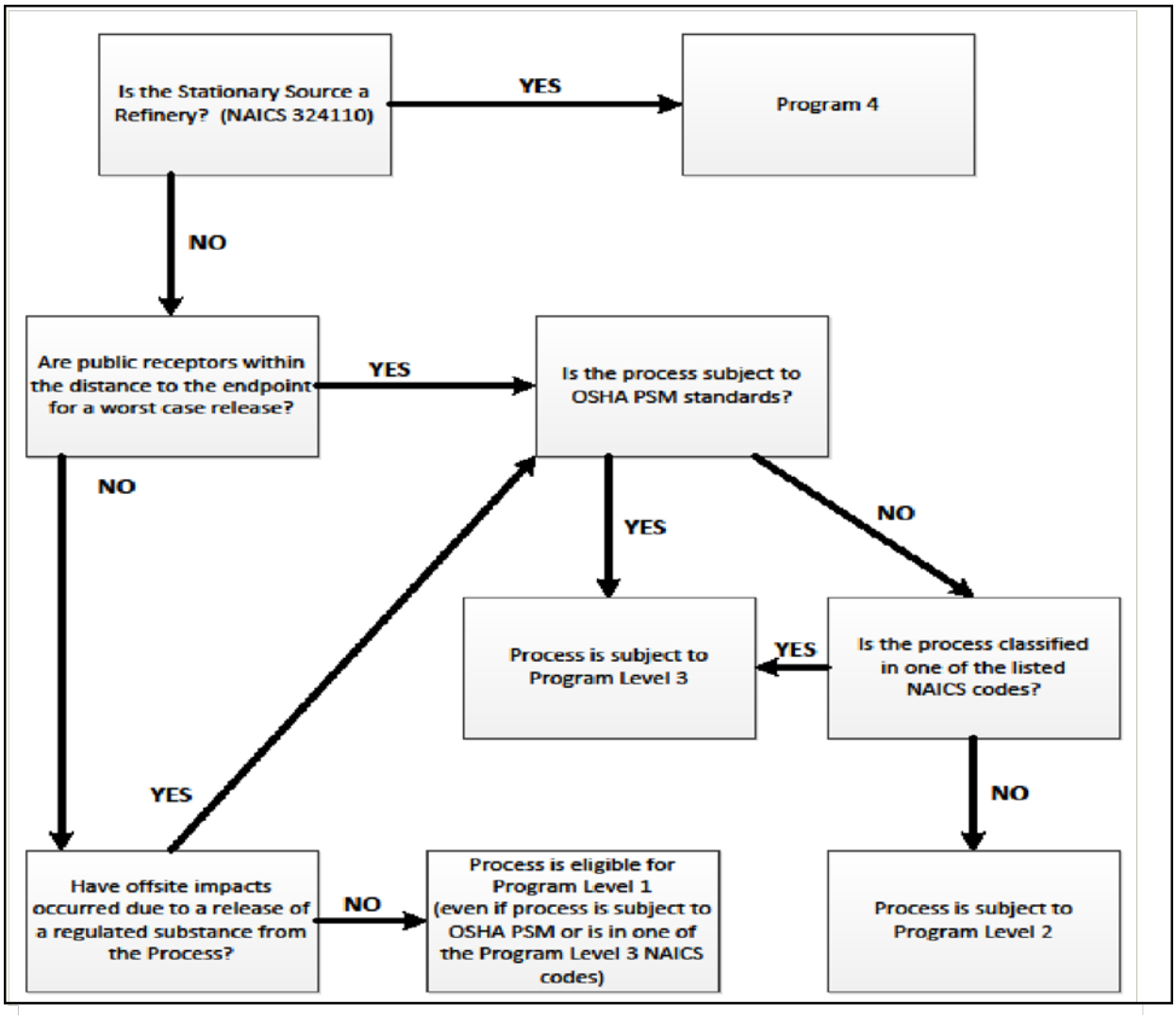
The RMP shall include all requirements described in **Section 2740.1 Registration**, **Section 2765.1 Emergency Response Applicability** through **Section 2765.2 Emergency Response Program**, or **Section 2765.3 Emergency Response Program 4**. Also, see **Chapter 3 RMP Components and Submission Requirements** of this document. The RMP shall include a registration that reflects all covered processes. An Executive Summary is required for all RMPs, per **Section 2745.3 RMP Executive Summary Component**.

Model RMPs may be used by the facility if accepted for use by UPAs in consultation with Cal OES. Model RMPs for a process in excess of a threshold quantity of a regulated substance listed in Table 1 or 2 of **Section 2770.5 List of Substances** must also be acceptable to USEPA. Cal OES may limit the use, application, or scope of these models.

Exhibit 1-4 Comparison of Program Requirements

Program 1	Program 2	Program 3	Program 4
Executive summary	Executive summary	Executive summary	Executive summary
Worst-case release analysis	Worst-case release analysis	Worst-case release analysis	Worst-case release analysis
	Alternative release analysis	Alternative release analysis	Alternative release analysis
5-year accident history	5-year accident history	5-year accident history	5-year accident history
	Program management system	Program management system	
Prevention Program	**Prevention Program**	**Prevention Program**	**Prevention Program**
Certify no additional prevention steps needed	Safety information	Process safety information	Process safety information
	Hazard review	Process Hazard Analysis	Process Hazard Analysis
	Operating procedures	Operating procedures	Operating procedures
	Training	Training	Training
	Maintenance	Mechanical integrity	Mechanical integrity
	Incident Investigation	Incident investigation	Incident investigation
	Compliance audit	Compliance audit	Compliance audit
		Management of Change	Management of Change
		Pre-Startup Review	Pre-Startup Review
		Contractors	Contractors
		Employee participation	Employee participation
		Hot work permits	Hot work permits
			Safeguard protection analysis
			Process Safety Culture Assessment
			Hierarchy of Hazard Control Analysis
			Human factors program
			Accidental Release Prevention Program management system
			Access documents and information
Emergency Response Program	**Emergency Response Program**	**Emergency Response Program**	**Emergency Response Program**
Coordinate with local emergency responders	Develop a plan and program (if applicable) and coordinate with local emergency responders	Develop a plan and program (if applicable) and coordinate with local emergency responders	Develop a plan and program (if applicable) and coordinate with local emergency responders
Submit one RMP for all covered processes	**Submit one RMP for all covered processes**	**Submit one RMP for all covered processes**	**Submit one RMP for all covered processes**

Exhibit 1-5 Program Level Assignment



CalARP Program Management System (Section 2735.6)

A management system to oversee the implementation of the RMP is required for Program 2 or Program 3 processes only. This element does not apply to Program 4 stationary sources.

Program 4 has its own unique requirement for a management system under **Section 2762.16 Accidental Release Prevention Program Management System**. The facility assigns a qualified person or position with the overall responsibility for the development, implementation, and integration of the RMP. If responsibilities are shared among individuals, the names or positions of these people shall be documented and the lines of authority defined by an organization chart or similar document.

A small facility may just have one person, and a large facility may have many people or positions involved with CalARP Program responsibilities. The qualified person assigned overall

responsibility may delegate responsibility for the CalARP Program to another individual, but make sure that the qualified person is involved at least in the more critical aspects of the prevention program (e.g., Employee Participation Plan and Management of Change approvals, annually certifying Standard Operating Procedures, reviewing Compliance Audits, etc.). The purpose of the CalARP Program Management System requirement is to:

- ensure effective communication about process changes between divisions within the regulated facility;
- ensure that process changes are efficient, effective, and correctly implemented;
- clarify the roles and responsibilities related to process safety issues at the facility;
- avoid problems or conflicts among the various people responsible for implementing elements of the CalARP Program;
- avoid confusion and allow those responsible for implementation to work together as a team; and
- ensure that the program elements are integrated into an ongoing approach to identifying hazards and managing risks such as the employer's written Injury and Illness Prevention Program.

Frequently Asked Questions

Q: What should be observed in a complete CalARP management system?

A: Look for how the CalARP Program elements are implemented and enforced, the personnel who have been designated as responsible for implementation of the elements, and a description of any records that can be used to verify compliance with this section. Is it clear from company documents who is responsible for which portions of the program? Is there a conflict of interest in the management program (e.g., is the person responsible for the program also responsible for minimizing costs)?

Emergency Information Access (Section 2735.7)

Upon request of a state or local emergency response agency, the UPAs must provide immediate access to all components of the CalARP Program information to any state or local emergency response agency upon request. If any of the components are designated as "trade secret" as defined in Section 6254.7(d) of the Government Code and Section 1060 of the Evidence Code, the requestor shall be notified that the information released shall be used only in connection with the official duties of the agency or agencies and may not otherwise be released.

Chapter 2. Registration (Article 2)

Registration (Section 2740.1)

UPAs have the option of requesting a registration from owner/operators prior to the RMP submission. "Pre-registration" must include a certification of accuracy.

Frequently Asked Questions

Q: What is a registration?

A: Each UPA may provide an independent registration form to be filled out by the owner/operator and submitted in conjunction with the written RMP. The registration form contains the data requested pursuant to **Section 2740.1(d) Registration.** Registration form submittal may be required prior to submittal of an RMP.

Table 1 or Table 2 facilities must submit the completed registration with the RMP to USEPA and provide a copy to the UPA.

Table 3 facilities must submit the completed registration with the RMP to the UPA. Even if a "pre- registration" was requested, the facility must submit the registration again with the RMP.

Q: Did all RMPs that were submitted to the UPA include a completed registration form?

A: The registration must include all elements as listed in **Section 2740.1(d) Registration** items 1 through 20. In addition, the USEPA may require additional information. Consult USEPA's website for specific RMP*eSubmit registration information. Registration forms are independent documents from the final RMP document. It may be required to submit a complete registration prior to development and submittal of a final written RMP document or it may be requested to submit in conjunction with the final RMP document.

Q: If the registration was submitted prior to an RMP submittal, did the registration include a certification of accuracy?

A: The owner/operator must include a certification of accuracy, pursuant to **Section 2745.9 RMP Certification**. If the registration is submitted prior to the submittal of the written RMP, the certification of accuracy must accompany the registration form.

Chapter 3. RMP Components and Submission Requirements (Article 3)

Submission (Section 2745.1)

Each owner/operator must submit a single RMP covering all applicable process(es) to the UPA. Table 1 or Table 2 facilities are subject to Federal RMP program requirements and must also submit a copy of the RMP to USEPA, using RMP*eSubmit. RMP*esubmit may be accepted by an UPA as the CalARP registration only. Owner/operators must consult with their UPA to determine submittal requirements. **Owner/operators should not submit state required information to USEPA, such as external events analysis.**

For Table 3 facilities, the UPA must first make a preliminary determination whether the facility must comply with the CalARP Program and submit an RMP. Once the UPA has made this determination, the UPA shall, in consultation with the facility owner or operator, establish an RMP submittal date. The UPA does not have the same preliminary determination option with facilities with more than a threshold quantity of a Table 1 or Table 2 chemical. See **Appendix F Preliminary Risk Determinations** for a discussion of UPA risk determination. If a new chemical is listed in the CalARP Program regulations, the facility will have 3 years to submit their RMP. **See Exhibit 3-1 RMP Initial Submission Requirements Table** below.

Exhibit 3-1 RMP Initial Submission Requirements Table

Over Table 1 or 2 TQ	Over Table 3 TQ	Type of Facility	Submission to	Submission Timeframe
Yes	Yes	New or Modified	USEPA and UPA	Submit before the threshold quantity of the chemical is in the process
No	Yes	Existing	UPA only	UPA and facility determine submittal schedule and interim safety measures
No	Yes	New or Modified	UPA only	Submit before the threshold quantity of the chemical is in the process
Yes	Yes	Existing	USEPA and UPA	Submit within three years of the newly listed regulated substance

Agriculture Commissioner Consultation (Section 2745.1[f])

For Table 3 chemicals that are pesticides (as determined in the Food and Agricultural Code Section 12753), the UPA needs to determine if an RMP is required. If there is an existing risk management plan, the UPA must first consult with the county Agricultural Commissioner or

the Department of Food and Agriculture to determine whether the existing plan is adequate. This activity is not intended to limit the UPA's authority in any way. If the Table 1 TQ has been exceeded, there is no option for the UPA to make a risk determination because the facility is under the Federal RMP requirement.

Classified Information and Submittals (Section 2745.1[h])

The RMP shall not include classified information as defined in the CalARP Program regulations; such information is protected from public disclosure. However, classified data or information that is excluded from the main body of the RMP may be made available in a classified annex to the RMP for review by federal and state representatives who have received the appropriate security clearances required for the classified data or information being reviewed.

Submission Request (Section 2745.1[i])

Cal OES may ask the UPA for copies of the RMP and the federal registration.

Frequently Asked Questions

Q: What exactly is a threshold quantity?

A: **Threshold Quantity (TQ)** is the quantity specified for a regulated substance pursuant to **Section 2770.5 List of Substances** and determined to be present at a stationary source as specified in **Section 2770.2 Threshold Determination**. If a stationary source meets or exceeds the threshold quantity of a regulated substance in a process, then the CalARP Program requirements apply.

Q: What should be done with an existing facility that has been in operation for years without an RMP?

A: Each UPA must work with the covered facility and determine appropriate timeframe for submittal of a complete RMP, not to exceed durations as noted in **Appendix D Table of CalARP Program Time Frames**. Some UPAs may require shorter timeframes. Any interim safety measures must also be determined and completed, such as completion of a PHA, development of an EAP or ERP, pre-registration, and development of training materials. In most cases, an existing facility may be cited for not submitting an RMP and be subject to "Class 1" violation type with a 6 month compliance time frame for RMP submittal.

Q: Is a CERS submittal an appropriate tool for the UPA to utilize when searching for potential CalARP facilities?

A: Yes. Check the facility's chemical inventory submittal for regulated substances stored over the CalARP threshold quantities.

Q: What should an UPA look for in a Risk Management Plan?

A: The California Risk Management Plan is a written document or compilation of documents that provides a narrative description, policy, or procedure on how the facility is complying

with each program element. The RMP contains a detailed description of the component elements identified in **Article 3 RMP Components and Submission Requirements**. If an owner/operator is subject to the Federal RMP, the California RMP must contain a copy of the Federal Registration Form. A simple list of data elements should not be accepted as a complete RMP document by the UPA.

Q: Why isn't sole submittal of the Federal RMP Registration a sufficient CalARP RMP submission?

A: The Federal RMP*esubmit does not address all the required elements of the CalARP RMP. It doesn't contain enough information to sufficiently demonstrate a stationary source's compliance with the CalARP program elements. There is no detailed information provided regarding the owner/operator's policies, procedures, or detailed description of compliance effort made for each program element. A written RMP must be submitted to the UPA describing each element of the program and how the owner/operator is complying with the program requirements.

RMP Review Process (Section 2745.2)

The RMP review process must include the following elements, pursuant to the HSC Section 25535:

- Consultation and review
    - The orientation meeting initiates a partnership between the UPA and staff from the stationary source. The aim of this partnership is to ensure that the stationary source can meet the requirements of CalARP. The orientation meeting need not be a technical discussion; rather, it should be kept to simple terms and ideas.

      Note: An orientation meeting is not required by a federal or state regulation; however, it opens a dialogue between the stationary source and the UPA and is the first step toward satisfying the requirements of Section 2735.5 General Requirements and Section 2785.1 Technical Assistance, which require such communication.

    - What UPAs should discuss during the orientation meeting:
        - owner/operator organizational roles and responsibilities,
        - discussion of the RMP program based on the CalARP statute and regulations,
        - general description of each covered process at the facility,
        - review of RMP fees and charges,
        - discussion of RMP program level applicable to the stationary sources,
        - discussion of timeline for the RMP Process submittal,
        - request that the stationary source inform the UPA of the HA/PHA meeting schedule,
        - discuss seismic analysis applicability,

        - Inform stationary source the requirements of the OSCA release scenarios.
- Informal review/completeness review
  Informal Review occurs prior to stationary source certification of completeness. During the informal Review, the stationary source may submit a draft of the RMP to the UPA. The UPA may informally review the draft section(s) and communicate comments back to the stationary source. This informal review allows the stationary source to receive feedback from the UPA prior to completeness review. The completeness review begins after the stationary source has certified that the RMP is complete and continues until the UPA determines that the RMP is complete.
    - The informal review occurs at all points along the RMP process.
    - At the end of any informal review, the UPA will provide verbal or written notice to the stationary source of any necessary corrections found in any part(s) of the RMP submitted.
    - During the completeness review, strongly emphasize detection of omissions, which are failures to address a requirement of local, state, or federal requirements.
    - The endpoint of the completeness review is the acceptance of the RMP by the UPA as complete.
    - The RMP will be accepted as complete when it contains no omissions or blatant errors.
    - At the end of the completeness review, provide written notice to the stationary source of any potential deficiencies.
- Deficiency Notice:
    - If no deficiencies are identified, the UPA should:
        - accept the RMP as complete,
        - notify the stationary source of acceptance,
        - start the RMP Formal Public Review.
    - If deficiencies are identified, the UPA should:
        - notify the stationary sources of the deficiencies and assign a due date to correct the deficiencies;
        - typically, the stationary source is given 60 calendar days to correct deficiencies; however, they may request in writing a one-time 30-calendar day extension.
        - Once all deficiencies are corrected, the completeness review is considered finished and the RMP is accepted as complete.
    - If the stationary source fails to correct the deficiencies and submit the revised RMP by the due date, the UPA may initiate an enforcement action and set penalties specified in Sections 25540 and 25541 of HSC.
- Formal Public Review
    - Within 15 calendar days after the RMP is accepted as complete, the UPA shall make the RMP available to the public for review and comment for a period of 45 days by publishing a "Completeness Notice" in a local newspaper of general circulation or on the UPA website.

- The notice must:
    - describe the RMP and state the location where it may be viewed,
    - notify anyone that has specifically requested to be notified via U.S. mail,
    - the UPA shall review all public comments.

- Evaluation Review:
  The evaluation review is conducted at the end of the formal Public Review and Participation period. During the evaluation review:
    - UPA shall consider and evaluate any public comments via application of standard engineering and scientific principles, site-specific characteristics, technical accuracy, severity of off-site consequences, and other information in the possession of or reviewed by the Department.
    - UPA may provide written response to each comment.
      Note: The evaluation review may include inspections and on-site document review of records and data that may not be in the possession of the UPA.

Exhibit 3-2 RMP Review Process Table

Type of Review	Responsibility	Timeframe (Calendar Days)	Accomplishments
Consultation and orientation	Facility for RMP general description of each covered process, RMP preparation process and submittal date. UPA for determin-ation and assistance.	Δ_{None}	The stationary source shall work closely with the UPA to determine that the RMP contains an appropriate level of detail. The UPA can request additional detail for the program level elementsrequired. The UPA may hold an orientation meeting to inform facility representatives of the RMP/CalARP requirements. It is the first step toward satisfying the requirements of **Section 2785.1 Technical Assistance**, which requires such communication. At the meeting, the UPA may discuss the program level, timeline for the RMP Process, and any applicable fees. UPA may also provide the stationary source with its guidance document, if available, or the Cal OES CalARP Guidance.
RMP Informal/ completeness review	UPA	Δ_{None}	The UPA reviews the submitted RMP to determine if all required elements are contained in the RMP. The UPA informally reviews the draft section(s) and communicates those comments back to the stationary source. This informal review allows the stationary source to receive feedback from the UPA prior to the completeness review. The completeness review begins after the stationary source has certified that the RMP is complete and continues until the UPA determines that the RMP contains all the elements according to **Section 2745.3 RMP Executive Summary Component** through **Section 2745.9 RMP Certification**. At the end of the informal review, the UPA will provide a verbal notice to the stationary source of any of any deficiencies. The RMP will be accepted as complete when it contains no deficiencies. At the end of the completeness review, the UPA may provide written acceptance notice to the stationary source and may authorize the Air Pollution Control District or Air Quality Management District to conduct a technical review of the RMP.
Deficiency Notice	UPA	Δ_{None}	The UPA provides a written notice to the stationary source of any deficiencies discovered in the RMP during the review process.

Type of Review	Responsibility	Timeframe (Calendar Days)	Accomplishments
Deficiency Correction	Facility	60 (or 90) from notification	If deficiencies are identified, the UPA will notify the stationary source and assign a due date to correct the deficiencies. The stationary source shall resubmit the corrected RMP to UPA. Typically, the stationary source is given 60 calendar days to correct deficiencies; however, the stationary source may request in writing a one-time, 30-day extension to correct deficiencies. Once all deficiencies are corrected, the completeness review is considered finished and the RMP is accepted as complete. 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.
Notification of Formal Public Review	UPA	15 days after RMP is complete	The UPA accepts the RMP as complete, UPA shall make the RMP available to the public for review and comment for a period of 45 days by publishing a "Completeness Notice" in a local newspaper or the UPA's website. UPA shall directly notify those who have specifically requested notification.
Formal Public Review	Public	45 days	The UPA shall review all public comments and provide written response to each comment.
Evaluation review	UPA	36 months for Program 1 & 2. 24 months for Program 3.	The UPA shall strongly emphasize the detection of errors of fact and consider and evaluate any public comments via application of standard engineering and scientific principles, site specific characteristics, technical accuracy, severity of off-site consequences, and other information in the possession of or reviewed by the UPA. The evaluation review may include inspections and on-site document review of records and data that might not be in the possession of the UPA. The evaluation review does not include time for corrections of deficiencies pursuant to **Section 2745.2(b)(1) RMP Review Process**.

Key:

Δ None specifically for this type of review; however it must be completed within the RMP submittal time-frame.

* The level of detail for the newspaper notice is not specified in the regulations. Classified information need not be included. Trade secrets are protected pursuant to Section 25538 of the HSC. For further clarification on public access issues, see **Chapter 9 Other Requirements**.

These time-frames start after the DN time-frames.

Q: Has the UPA worked closely with the owner or operator to determine whether the RMP contains an appropriate level of detail? **(19 CCR § 2745.2[a])**

A: This may be verified through review of telephone logs, copies of letters, e-mails or other correspondence.

Q: What verification is there to demonstrate Completeness Check/Review are completed in a timely manner by the UPA? **(19 CCR § 2745.2[a][b])**

A: UPAs must finish the Completeness Check/Review in a timely manner to enable facilities to comply and operate a robust, safe program. Completeness Check/Reviews must not exceed 180 days in duration.

Q: Did the UPA review each RMP to determine whether all the elements pursuant to **Sections 2745.3 through 2745.9** are contained in the document? **(19 CCR § 2745.2[a][b])**

A: Include a verified copy of the checklist in the facility file.

Q: What method does the UPA use to notify the owner or operator of noted deficiencies? **(19 CCR § 2745.2[b])**

Note: has the UPA involved the local air quality management district (APCD) or air pollution control district (AQMD) in the technical review of an RMP? The UPA may authorize the APCD or AQMD to conduct a technical review of the RMP.

A: Include copies of any notices of violation, letters, or e-mails in the facility file.

Q: Does the UPA allow 60 calendar days to correct deficiencies? **(19 CCR § 2745.2[b][1])**

A: Yes, and in addition, an owner or operator may request in writing a one-time 30-calendar day extension.

Q: What does the UPA do if a corrected RMP is not submitted within the allowed time period?

A: Penalties are specified in HSC 25540 and 25541. Keep copies of telephone logs, letters, and e-mails in the facility file.

Q: If no deficiencies were identified, did the UPA make a public notice for formal public review and comment within 15 days of a "complete" RMP determination?

Did the UPA allow 45 days for public review and comment of the RMP? [19 CCR § 2745.2(c)]

A: Include a copy of the public notice or screen print of UPA webpage indicating date of publishing in the facility file.

Q: Did the UPA complete the evaluation review within 36 months for RMPs that included only Program Level 1, Program Level 2, or Program Level 4 processes?

For any RMPs that included Program Level 3 processes, did the UPA complete the evaluation review within 24 months? (19 CCR § 2745.2[e][1-3])

A: Dates can be documented with copies of relevant notices in the facility file.

Q: What process does the UPA use to process requests for public information?

A: Review written procedures for public request for information.

RMP Executive Summary Component (Section 2745.3)

See the CalARP Program regulations **Section 2745.3 RMP Executive Summary Component** for a list of the six required elements that must be addressed in the executive summary. The summary is a brief summary of the elements. It is imperative that the executive summary not contain information protected by the federal Patriot Acts or other federal or state laws that protect information that may be important to terrorists. As of June 28, 2004, release scenarios are no longer included in the Executive Summary.

Frequently Asked Questions

Q: Do all RMPs contain an Executive Summary?

A: All CalARP RMPs must contain an Executive Summary in order to sufficiently demonstrate a stationary source's compliance with the CalARP program elements. The ES must contain a brief description of the six elements required by this section.

Q: What information comprises the RMP Executive Summary?

A: The executive summary is a brief narrative description of the elements as specified in **Section 2745.3 - RMP Executive Summary Component**. It may be more detailed than the registration form and provides a brief overview of the required sections. It is not necessary to be as detailed as the body of the RMP. It should provide a brief holistic snapshot of the elements listed, such as operations of the stationary source, policies and procedures, and changes planned to improve safety.

Q: What does the UPA look for in the summary section of planned changes to improve safety? **(19 CCR § 2745.3[f])**

A: This section of the executive summary should list or review the findings of the hazard review or process hazard analysis, including those that need correction. This part of the RMP is best used to satisfy the requirements of either **Section 2755.2(e) Hazard Review for Program 2** or **Section 2760.2(e) Process Hazard Analysis for Program 3** regarding what was identified as needing improvement and setting a schedule for getting it done. Do not accept an RMP as being complete unless this section accurately documents the results of the hazard review or process hazard analysis and ensures that problems identified are going to be resolved in a timely manner.

RMP Offsite Consequence Analysis and Five-Year History Components (Section 2745.4 and Section 2745.5)

The owner or operator shall submit the following information in the RMP:

- one worst-case release scenario for each Program 1 process; and
- the following will apply to Program 2 and Program 3 processes, and also Program 4 stationary sources:
    - one worst-case release scenario to represent all regulated toxic substances held above the threshold quantity (note: this must be for the worst of the worst cases if there is more than one regulated chemical evaluated.);
    - one worst-case release scenario to represent all regulated flammable substances held above the threshold quantity;
    - if the owner/operator has additional processes that could affect different public receptors than in (a) and (b) above, additional worst-case scenarios are required:
        - one alternative release scenario for each regulated toxic substance held above the threshold quantity, and
        - one alternative release scenario to represent all regulated flammable substances held above the threshold quantity.
- The 14 elements identified in **Section 2745.4(b) RMP Offsite Consequence Analysis Component** for each scenario. USEPA's RMP*eSubmit requires additional elements; see USEPA's RMP*eSubmit website for information.
- Five-year accident history, including the 11 items of information required by **Section 2750.9(b) Five-Year Accident History**, on each accident.

RMP Program 2 Prevention Program Component (Section 2745.6)

For each Program 2 process, the owner/operator shall include the information in **Section 2745.6(b) through (l) RMP Program 2 Prevention Program Component**. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies. **Section 2745.6(l) External Events Analysis** was added to the CalARP Program, pursuant to HSC Chapter 6.95, Article 2, and is a state-specific requirement.

RMP Program 3 Prevention Program Component (Section 2745.7)

For each Program 3 process, the owner/operator shall include the information indicated in **Section 2745.7(b) through (q) Program 3 Prevention Program Component**. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies. **Section 2745.7(q) External Events Analysis** was added to the CalARP Program pursuant to HSC Chapter 6.95, Article 2, and is a state-specific requirement.

Frequently Asked Questions

Q: Has the UPA ensured that all Program Level 2 or 3 RMPs contain an external event analysis in the Process Hazard Analysis or Hazard Review sections?

If the magnitude or scope of the external events were unknown, did the owner or operator work closely with the UPA to determine what information was required?

A: If this information is not summarized in the ES, review the PHA or Hazard Review to ensure these aspects were covered.

RMP Program 4 Prevention Program Component (Section 2745.7.5)

Consult **Section 2745.7.5(b) through (t) Program 4 Prevention Program Component** for requirements. Also, see **Appendix G Program 4 Sample Guidance** for further information. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies. This section was added to the CalARP Program pursuant to HSC Chapter 6.95, Article 2, and is a state-specific requirement.

RMP Emergency Response Program Component (Section 2745.8)

Program Levels 1, 2, 3, and 4 all require an emergency response program component. See Section 2745.8 RMP Emergency Response Program Component for the required elements.

Frequently Asked Questions

Q: Has the UPA verified that all RMPs contain an appropriate emergency response section and determined that it is clear the owner/operator understands the difference between EAPs and ERPs?

A: Facilities that are under CalARP need to decide whether to respond or not to respond to accidental releases of their regulated substances. It is prudent to understand the difference between an Emergency Response Plan (ERP) and an Emergency Action Plan (EAP). To identify the difference between an ERP and EAP, one has to know the definition of accidental release, and how it differs from the definition of an incidental release. According to **Section 2735.3(a) Definitions**, an "accidental release" is an "unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source." On the other hand, an "incidental release" is defined in Title 8 Section 5192(a) as a release "that does not cause a health or safety hazard to employees and does not need to be cleaned up immediately to prevent death or serious injury to employees."

Title 19 CCR Section 2658 requires stationary sources (non-responding and responding) that handle hazardous substances to develop emergency response plans and procedures and submit a Business Plan to the UPA.

Pursuant to Title 8, Section 5192(a)(3), OSHA defines emergency response as a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results in, or is likely to result in, an uncontrolled release that may cause high levels of exposure to toxic substances, which poses a danger to employees and requires immediate attention.

Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel are not considered to be emergency responses within the scope of this standard. In addition, responses to releases of hazardous substances where there is no immediate safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

Thus, if a facility is mitigating small leaks (e.g., shutting a valve) or cleaning up a spill that does not pose an immediate safety or health hazard, the action could be considered an incidental response and they might be under the EAP, as long as employees performing these activities are provided with the training, procedures, equipment, and personal protective equipment to safely perform these tasks as required by Cal OSHA.

Minor incidents are considered incidental releases. But if, for example, an ammonia leak occurred during routine maintenance and an employee tried to stop the leak but the situation escalated to cause a release of ammonia above the IDLH level (300 ppm), this is no longer considered an incidental release but an emergency response and should be held to the requirements of the ERP.

If a facility chooses not to respond or mitigate any release, the stationary source must ensure that it is included in the community emergency response plan developed under Section 11003 of Title 42 of the United State Code (USC), UPA Hazardous Materials Area Plan and is included in the business plan program, according to Section 25507 of the HSC. Further, the owner/operator must document that response actions have been coordinated with the local fire department and hazardous materials response agencies, **Section 2765.1(b)**.

If a facility chooses to respond to all its releases, then an emergency response plan should be written according to **Section 2765.2**.

Q: Can you clarify the definition of the following terms?

<u>Incident: Release Response/Mitigation</u>

A: This is an emergency response which is defined in 8 CCR 5192(a)(3) as a response effort by employees from outside the immediate release area or by other designated responders to an occurrence which results or is likely to result in an uncontrolled release. These activities are conducted by qualified persons who respond for the purpose of stopping the release.

Spill Clean Up/Remediation

A: This activity begins once the response portion is complete. After a release mitigation is completed, a spill cleanup or remediation will be conducted to make the affected area is safe and to remove any remaining released quantity of the regulated substance. Title 8 CCR 5192(a)(3) defines spill cleanup as an operation where the hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

Response or Remediation Training

A: This training is required by Title 8 CCR 5192 Hazardous Waste Operations and Emergency Response. Training requirements are dependent on level of response, clean up responsibilities, and expected duties.

PPE Level A

A: As defined by the USEPA, Level A PPE is required when the greatest potential for exposure to hazards exists and when the greatest level of skin, respiratory, and eye protection is required. Examples of Level A clothing and equipment include:

- positive pressure, full face-piece self-contained breathing apparatus (SCBA) or positive- pressure-supplied air respirator with escape SCBA,
- totally encapsulated chemical- and vapor-protective suit,
- inner and outer chemical-resistant gloves, and
- disposable protective suit, gloves, and boots.

PPE Level B

A: As defined by the USEPA, Level B PPE is required under circumstances requiring the highest level of respiratory protection or a lesser level of skin protection. At most abandoned outdoor hazardous waste sites, ambient atmospheric vapors or gas levels have not approached sufficiently high concentrations to warrant Level A protection. Examples of Level B protection include:

- positive-pressure, full face-piece self-contained breathing apparatus (SCBA) or positive- pressure-supplied air respirator with escape SCBA;
- inner and outer chemical-resistant gloves;
- face shield;
- hooded, chemical-resistant clothing;
- coveralls; and
- outer chemical-resistant boots.

PPE Level C

A: As defined by the USEPA, Level C PPE is required when the concentration and type of airborne substances is known and the criteria for using air-purifying respirators is met. Typical Level C equipment includes:

- full-face air purifying respirators,
- inner and outer chemical-resistant gloves,
- hard hat,
- escape mask, and
- disposable chemical-resistant outer boots.

PPE Level D

A: As defined by the USEPA, Level D PPE is the minimum protection required. Level D protection may be sufficient when no contaminants are present or work operations preclude splashes, immersion, or the potential for unexpected inhalation or contact with hazardous levels of chemicals. Appropriate Level D protective equipment may include:

- gloves,
- coveralls or turnouts,
- safety glasses,
- face shield, and
- chemical-resistant, steel-toe boots or shoes.

RMP Certification (Section 2745.9)

RMP certification is required for all programs. For Program Levels 2 and 3, certification is the responsibility of the owner/operator or facility designee; not the contractor, in accordance with **Section 2745.9 RMP Certification**.

For Program 1, the owner/operator shall submit the certification statement provided in **Section 2735.5(d)(4) General Requirements**.

For all other processes, a single certification that, to the best of the signer's knowledge, information, and belief, formed after reasonable inquiry, and that the information submitted is true, accurate, and complete.

RMP Updates (Section 2745.10)

The owner/operator shall revise and update the RMP submitted under **Section 2745.10 RMP Updates** according to the following table.

Exhibit 3-3 RMP Updates Table

Time-Frame	Update Trigger
Within 5 years	after initial submission
Within 5 years	of the most recent update (i.e., every 5 years)
Within 3 years	after a substance is first listed in a regulation
Same day	when a new chemical above the TQ is added to an existing process
Same day	when a chemical above the TQ is present in a new process
Within 6 months	of a modification that requires a PHA or hazard review
Within 6 months	of a modification that requires a revised OCA
Within 6 months	of a modification that alters the Program Level

Key:
PHA = Process Hazard Analysis
OCA = Offsite Consequence Analysis

The owner/operator shall revise and update the RMP registration under **Section 2745.10 RMP Updates** according to the following table.

Exhibit 3-4 Registration Updates Table

Time-Frame	Update Trigger	Update Submitted to:
Within 6 months	of determining that a facility is no longer subject to the CalARP Program	UPA receives all updates. Table 1 or Table 2 facilities also submit to USEPA.
Within 30 days	of a change in owner/operator	UPA

Stationary sources no longer subject to the CalARP Program subsections (c) and (d) of **Section 2745.10 RMP Updates** shall submit a "de-registration" within six months to the USEPA, pursuant to **Section 2740.1(a) Registration**, with a copy to the UPA.

Revised RMPs are subject to the same public review process as a "new" RMP, as defined in **Section 2745.2 RMP Review Process**.

Frequently Asked Questions

Q: What constitutes a closure report (and deregistration)?

A: According to **Section 2745.10(c) or (d) RMP Updates**, the regulations require a formal deregistration letter. Decommissioning of systems requires a hazardous waste closure for tanks, a verification inspection, and a file letter with calculations pursuant to fire code requirements. UPAs should require a follow-up closure inspection following the receipt of a closure letter, which must also include a de-registration form. If railcars are involved,

paperwork for the last cars removed from the railroad site must also be provided. If anhydrous ammonia facilities are involved, the inspector must document that the system is empty by reviewing a manifest verifying that the system is completely void of product. CERS reporting should also reflect removal of threshold quantities of the regulated substance in a time-frame aligning with the submittal of the de-registration letter and form. Some UPAs may require a de-commission or closure plan.

Required RMP Corrections (Section 2745.10.5)

If the owner/operator experiences an accidental release that meets the criteria outlined in **Section 2750.9 Five-Year Accident History**, the owner/operator has 6 months (or sooner, if **Section 2745.10 RMP Updates** applies) to update the five-year accident history information in their RMP. The required information is summarized in **Section 2750.9(b) Five-Year Accident History**, and in **Section 2745.6(j) RMP Program 2 Prevention Program Component, Section 2745.7(l) Program 3 Prevention Program Component, and Section 2745.7.5(i) Program 4 Component**.

If there is a change in the emergency contact information, which was submitted with the registration under **Section 2740.1(d)(6) Registration**, a correction must be submitted within 30 days.

Covered Process Modification (Section 2745.11)

In accordance with HSC Chapter 6.95, Article 2, Section 25543.2, if a facility intends to modify a process and this modification results in a significant increase (compared to the original RMP) in either

- the amount of chemical handled in the process or
- the risk of handling a chemical,

then the owner/operator shall:

- notify the UPA in writing of the owner/operator's intent to modify the stationary source at least five calendar days before implementing any modifications, when possible. Where pre-notification is not reasonably possible, the owner or operator shall provide written notice to the UPA no later than 48 hours following the modification;
- consult with the UPA to determine whether the RMP should be reviewed and revised;
- establish procedures to manage the proposed modification, which shall be substantially similar to the procedures specified in **Section 2760.6 Management of Change** and **Section 2760.7 Pre-Startup Safety Review**;
- notify the UPA that the procedures above have been established;
- revise all appropriate documents expeditiously, but no later than 60 days from the date of the owner/operator facility modification.

Certificate of Occupancy (Section 2745.12)

New or modified stationary sources shall comply with Section 65850.2(b) of the Government Code prior to the issuance of a certificate of occupancy by a city or county.

This Government Code section must be reviewed by the UPA to ensure adequate coordination at the local agency level.

Chapter 4. Hazard Assessment (Article 4)

Hazard Assessment Applicability (Section 2750.1)

A Program 1 facility shall prepare a worst-case release scenario analysis and complete the five- year accident history.

Program 2, 3, and 4 facilities shall comply with all sections in this chapter for these processes.

According to **Section 2750.3 Worst-Case Release Scenario Analysis** and **Section 2750.4 Alternative Release Scenario Analysis**, the owner/operator may use either the methodology provided in USEPA's RMP Offsite Consequence Analysis Guidance document, "RMP*Comp," or any commercially- or publicly-available air-dispersion modeling techniques. The techniques must account for the specified modeling conditions and must be recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used, provided that the facility allows the UPA access to the model upon request and describes to local emergency planners the model's features and its differences from publicly-available models. Parameters referenced in each section must apply to any model.

Frequently Asked Questions

Q: How are other models compared to recognized guidance or programs (RMP*Comp)?

A: Any chosen model must be comparable to RMP*Comp results with little variable in results and reference to all parameters specified.

Off-Site Consequence Analysis Parameters (Section 2750.2)

Worst-case release scenario parameters are defined in **Section 2750.3(g) Worst-Case Release Scenario Analysis** and alternative release parameters are defined in **Section 2750.4(c) Alternative Release Scenario Analysis**. See **Exhibit 4-1 Quick Reference for OCA Parameters.**

Exhibit 4-1 Quick Reference for OCA Parameters

Parameter	Worst-Case Scenario	Alternative Release[1] Scenario
Endpoints for toxics	Use the endpoints in Appendix B of this document.	Use the endpoints in Appendix B of this document.
Endpoint for flammables	Use the following endpoints, depending on the scenario: Explosion: **Overpressure** of 1 psi for vapor cloud explosions. For the explosion, use a yield factor of 10% of the available energy released (if based upon TNT-equivalent methods). **Radiant heat/exposure time**: 5 kw/m^2 for 40 seconds **Lower flammability limit (LFL).**	Use the following endpoints, depending on the scenario: Explosion: **Overpressure** of 1 psi for vapor cloud explosions. For the explosion, use a yield factor of 10% of the available energy released (if based upon TNT-equivalent methods). **Radiant heat/exposure time**: 5 kw/m^2 for 40 seconds **Lower flammability limit (LFL).**
Wind speed/atmospheric stability class	1.5 m/s and F stability[2]	Typical meteorological conditions
Ambient temperature (for toxic substances)	Highest daily max. in the last 3 years based on temp. data gathered in site. 25□C if using USEPA's RMP OCA Guidance	Typical meteorological conditions
Humidity (for toxic substances)	Average site humidity or 50% if using USEPA's RMP OCA Guidance	Typical meteorological conditions
Height of release (for toxic substance)	Ground level (0 feet)	Determined by release scenario
Surface roughness	Urban or rural (3)	Urban or rural (3)
Dense or neutrally-buoyant gases	As appropriate for gas density (4)	As appropriate for gas density (4)
Temperature of released substance (for liquids other than gases liquefied by refrigeration)	Highest daily max. temp. in the last 3 years or process temperature, whichever is higher	Process or ambient temperature, as appropriate
Mitigation [5]	Passive [6] only	Active [7] or passive, as appropriate

Notes:

1. The five-year accident history and any identified failure scenarios should be considered in selecting alternative release scenarios
2. If it can be demonstrated that the local meteorological data shows a higher minimum wind speed or less stable atmosphere at all times during the previous three years, those minimums may be used.
3. "Urban" equates to many obstacles in immediate area, including trees or buildings. "Rural" equates to flat and unobstructed terrain.
4. Be cautious of gases that may be dense and act as a neutrally buoyant, and also releases of aerosols that may act dense at first but later act buoyant.
5. Mitigation: specific activities, technologies, or equipment designed to capture or control substances upon loss of containment.
6. Passive Mitigation: equipment, devices, or technology that function without human, mechanical, or other energy input.
7. Active Mitigation: equipment, devices, or technology that need human, mechanical, or other energy input to function.

Frequently Asked Questions

Q: Can you clarify the following terms?

A: Mitigation systems are defined in 40 CFR 68.3 as specific activities, technologies, or equipment designed or deployed to capture or control substances upon loss of containment to minimize exposure of the public or the environment.

Passive mitigation systems refer to equipment, devices, or technologies that function without human, mechanical, or other energy input.

Passive mitigation may be considered for the analysis of worst-case and alternative-case scenarios, provided that the mitigation system is capable of:

- withstanding the release event identified that may trigger the scenario, and
- continuing to function as intended during the release.

Active mitigation systems refer to equipment, devices, or technologies that need human, mechanical, or other energy input to function.

Active mitigation may be considered for the analysis for alternative release scenarios, provided that the mitigation system is capable of:

- withstanding the release event identified that may trigger the scenario, and
- continuing to function as intended during the release.

Q: How can an owner/operator validate continuous function of mitigation systems?

A: Mitigation systems should have regularly-scheduled operational evaluations and reliability analyses. Routine inspection and testing must be used to ensure that they will remain operational as required by Section 2755.5 Maintenance (Program 2) or Section 2760.5 Mechanical Integrity (Program 3) and Section 2762.5 Mechanical Integrity (Program 4).

Worst-Case Release Scenario Analysis (Section 2750.3)

The owner/operator shall analyze and report in the RMP the worst-case release scenarios demonstrated in **Exhibit 4-2 Quick Reference for Worst-Case Release Scenarios**. Scenarios used must give the greatest distance in any direction to an endpoint as defined in **Exhibit 4-1 Quick Reference for OCA Parameters**.

Exhibit 4-2 Quick Reference for Worst-Case Release Scenarios

Process Program Level	Number of WCRS	Type of Chemical	Details
1	1 per process	Toxic or flammable	Use the parameters in **Article 4 Hazard Assessment**
2,3 & 4	1 per process	Toxic	Use the parameters in **Article 4 Hazard Assessment**
2,3 & 4	1 per process	Flammable	Use the parameters in **Article 4 Hazard Assessment**
2,3 & 4	1 per additional process	Toxic or flammable	Additional scenarios are necessary if modeling indicates that other covered processes may affect different public receptors than those used in the initial scenarios (i.e., this usually comes into play when there are multiple processes and potential receptors located at different locations around the facility).

The worst-case release quantity, taking into account administrative controls, shall be the greater of the following:

- for vessels, the greatest amount held in a single vessel;
- for pipes, the greatest amount in a pipe;
- for flammables, assume that the quantity of the substance as determined above vaporizes, resulting in a vapor cloud explosion.

However, regardless of the worst-case release quantity, when selecting a worse-case release scenario for either toxic or flammable chemicals, the owner/operator must consider the following factors if these conditions would result in a greater distance to an endpoint than a scenario based only on release quantity:

- smaller quantities handled at higher process temperature or pressure, and
- proximity to the boundary of the stationary source.

See the following **Exhibit 4-3 Quick Reference Worst-Case Release Scenario Requirements**.

Exhibit 4-3 Quick Reference Worst-Case Release Scenario Requirements

Type of Chemical	Assume Time for Total Release	Release Rate (pounds/minute)
Toxic gases at ambient temperature (handled as a gas or as a liquid under pressure)	Quantity in the vessel or pipe is released as a gas over 10 minutes	If no passive mitigation systems are in place, total quantity released divided by 10
		If passive mitigation systems are in place, total quantity released divided by 10, then multiplied by 0.55 (mitigation factor - USEPA's RMP OCA Guidance)
Toxic gases at ambient pressure (handled as refrigerated liquids)	If no passive mitigation or if the contained pool would have a depth of 1 cm or less, released as a gas in 10 minutes	Total quantity released divided by 10
	If contained by passive mitigation in a pool with a depth greater than 1 cm, assume the quantity in the vessel or pipe is spilled instantaneously to form a liquid pool.	The volatilization rate (release rate) shall be calculated at the boiling point of the substance and at the conditions specified in "toxic liquids" below.
Toxic liquids at ambient temperature	Assume that the quantity is spilled instantaneously to form a liquid pool. • undiked: pool will spread until it is 1 cm deep, • diked (passive) mitigation: pool will have surface area defined by the area within the dike.	Calculated via a model that includes volatilization rate, surface area, maximum temperature and concentration of the chemical in the pool, and the surface characteristics of the substrate underneath the spill
Flammable gases at ambient temperature (handled as a gas or as a liquid under pressure)	Quantity in the vessel or pipe is released as a gas over 10 minutes.	Total quantity released divided by 10;total quantity shall be assumed to be involved in the vapor cloud explosion
Flammable gases at ambient pressure (handled as refrigerated liquids)	If no passive mitigation or if the contained pool would have a depth of 1 cm or less, released as a gas in 10 minutes. If contained by passive	Total quantity released divided by 10; total quantity shall be assumed to be involved in the vapor cloud explosion. The volatilization rate (release)

Type of Chemical	Assume Time for Total Release	Release Rate (pounds/minute)
	mitigation in a pool with a depth greater than 1 cm, assume the quantity in the vessel or pipe is spilled instantaneously to form a liquid pool.	rate) shall be calculated at the boiling point of the substance and at the conditions specified in "toxic liquids." Total quantity that becomes vapor in the first 10 minutes shall be assumed to be involved in the vapor cloud explosion.
Flammable liquids at ambient temperature	Assume that the quantity is spilled instantaneously to form a liquid pool. • undiked: pool will spread until it is 1 cm deep, • diked (passive mitigation): pool will have surface area defined by the area within the dike.	Calculated via a model that includes volatilization rate, surface area, maximum temperature and concentration of the chemical in the pool, and the surface characteristics of the substrate underneath the spill. Total quantity that becomes vapor in the first 10 minutes shall be assumed to be involved in the vapor cloud explosion.
Solids	Assume one hour release.	In performing an offsite consequence analysis for solids that are listed in Section 2770.5 List of Substances Table 3, an owner or operator may use a model approved by the USEPA, California Air Resource Board, or Cal OES which appropriately considers the dispersion and settling of particles.

Alternative Release Scenario Analysis (Section 2750.4)

The facility must identify at least one alternative release scenario for each toxic chemical and one alternative release scenario for all flammable chemicals.

Each selected alternative release scenario must:

- be more likely to occur than the worst-case release scenario above,
- potentially reach an endpoint offsite, unless no such scenario exist,
- potentially reach a public receptor, unless no such scenario exists.

Potential alternative release scenarios are typically representative of incidents that have already occurred at like facilities and may include:

- Transfer hose releases;
- Process piping releases;
- Process vessel or pump releases;
- Vessel overfilling and spill, or over-pressurization and venting through relief valves or rupture disks; and
- Shipping container mishandling and breakage or puncturing leading to a spill.

Active and passive mitigation systems may be considered, provided they are capable of withstanding the event that triggered the release and would still be functional. The owner/operator must consider the following in selecting alternative release scenarios:

- accidents, incidents, or events in related industries that are available, **per Section 2750.9 Five-Year Accident History**; and
- failure scenarios identified under **Section 2755.2 Hazard Review (Program 2)** or **Section 2760.2 PHA (Program 3)** and **Section 2762.2 PHA (Program 4)**.

Defining Offsite Impacts to the Population (Section 2750.5)

The owner/operator shall estimate in the RMP the population within a circle with its center at the point of the release and a radius determined by the distance to the endpoint.

The population shall include residential populations, as well as schools, hospitals, long-term health care facilities, child day-care facilities, prisons, recreational areas, commercial, office, industrial buildings, etc. The owner/operator may use the most recent census data or other more accurate information if it is available to estimate the population potentially affected to two significant digits. The USEPA has already determined that right–of-way railroad crossings or utility access roads are not considered population impacts.

Defining Offsite Impacts to the Environment (Section 2750.6)

The owner/operator shall list in the RMP the environmental receptors within a circle with its center at the point of the release and a radius determined by the distance to the toxic endpoint.

Environmental receptors are defined as natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and federal wilderness areas. Only environmental receptors that can be identified on local United States Geological Survey maps need to be considered.

Offsite Consequence Analysis Review and Update (Section 2750.7)

The owner or operator shall document the review and update of the OCA analysis at least once every five years. The owner or operator must complete a revised analysis within six months of changes that might reasonably increase or decrease the distance to the endpoint by a factor or two or more. Revision to the RMP must also be submitted, as provided in **Section 2745.10 RMP Updates**.

Frequently Asked Questions

Q: What documentation can be utilized to verify the owner or operator reviewed and updated the OCA information at least once every five years or within six months of a significant change?

A: A copy of the most recent OCA, could be verified by checking its date, and the reason for the update.

Q: What defines a significant change that requires review of an OCA (Programs 1-4)?

A: Major change in processes or inventory which would result in a major distance change to toxic endpoints by a factor of two (increase or decrease), which may include changes in sensitive receptors.

Offsite Consequence Analysis Documentation (Section 2750.8)

The facility shall maintain records on the offsite consequence analyses. For details of this requirement, see **Section 2750.8 OCA Documentation**.

Five-year Accident History (Section 2750.9)

The five-year accident history is a record of all accidental releases from covered processes that resulted in deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

Each accidental release record must include the information detailed in **Section 2750.9(b)** Five-Year Accident History, with numerical estimates provided to two significant digits.

Chapter 5. Program 2 Prevention Program (Article 5)

Process Safety Information (Section 2755.1)

The owner/operator must compile and maintain safety information as referenced in **Exhibit 5-1 Safety Information**.

Exhibit 5-1 Safety Information

The owner/operator must compile and maintain this safety information:	The owner operator must ensure:	The owner/operator must update the safety information if:
• Safety Data Sheets • Maximum intended inventory • Safe upper and lower parameters • Equipment Specifications • codes and standards to design, build, and operate the process	that the process is designed in compliance with recognized codes, standards, and generally accepted good engineering practices	there is a major change at the facility that makes the safety information inaccurate

Frequently Asked Questions

Q: How does an UPA verify or confirm safety information during an inspection?

A: Safety information must be complete for all required information related to the regulated substance, processes, and equipment. The inspector should make a random selection of process functions and equipment through the covered process to review documented safety information. This would include the documented maximum intended inventory of regulated substances and equipment, current SDS, design or contract documents, RAGAGEP or manufacturer information, copies of or documentation of codes and standards applied to the design and construction of the process and safe limits for processes and equipment within the processes. This information must be readily accessible to all affected staff.

Inspectors may further verify safety information by field verifying that the documented safety information matches the equipment and processes in operation.

Hazard Review (Section 2755.2)

The owner or operator must consult with the UPA to decide which hazard review methodology is best suited to evaluate the hazards of the process being utilized. This should be done well in advance of hazard review sessions. A summary of requirements are provided in the following table below.

Exhibit 5-2 Hazard Review Requirements

Conduct a review and identify	Use a guide for conducting the review	Document results and resolve problems	Updating hazard review
Hazards associated with the Program 2 process regulated substances and procedures: • opportunities for equipment malfunction or human error that could cause a release, • safeguards that will control the hazards or prevent malfunction or error, • steps used or needed to detect or monitor releases, • consideration of external events including seismic events and human factors.	The owner/operator may use a checklist developed by persons or organizations knowledgeable about the process and equipment as a guide to conducting the review, if it is acceptable to the UPA. • For a process designed to industry, federal, or state standards, check the equipment to make sure that it's fabricated, installed, and operated properly. • Equipment reliability standards should be used to identify potential problems.	The hazard review must be documented and must show that problems have been addressed. • Resolution of issues must be completed within 2.5 years or during the next planned turnaround. • Resolution timelines do not apply for hazard reviews completed before Jan. 1, 2015.	The owner/operator must update its review at least once every five years or whenever there is a major change in the process. • The owner/ operator must resolve significant problems identified in the new review *before* the changed process is started. • A hazard review may be revalidated only once between full hazard reviews, unless the UPA agrees in writing that a full size hazard review is unwarranted **(Section 2755.2[g]) Hazard Review**. • Owner/operators should have maintained and be able to present all hazard reviews conducted for the life of the process **(Section 2755.2[h]) Hazard Review**.

Frequently Asked Questions

Q: Has the owner and operator documented that the results of the hazard review is updated in the RMP after five years or when a major change occurs? How are issues documented through resolution?

A: UPAs should review dates of hazard reviews per covered process. Ensure dates match actual study reports. Safety information must predate the study. The owner/operator should have a methodology to document and track to completion all action items originating from each review. The UPA should review each action item from generation to completion. The

UPA should verify that issues are not repeated over multiple hazard review studies without adequate justification.

Q: How does the inspector verify coordination with the UPA; appropriateness of the team; and appropriateness of the determination of design, fabrication, and operation in accordance with applicable standards or rules?

A: There should be documentation demonstrating communication and coordination with the UPA regarding the hazard review studies. Many UPAs will opt to attend some or all of a covered process hazard analysis. Determining the appropriateness of the team requires a review of the hazard analysis participants, what session topics were attended by which positions/crafts, and employee interviews. Appropriateness of determination for design, fabrication, and operation will be based on owner/operator documented standards, rules, and codes. Brief review of nodes or safety information will provide enough information for an inspector to determine whether documented standards, rules, and codes were applied.

Operating Procedures (Section 2755.3)

The operating procedures must be appropriate for the equipment and operations, complete, and written in language easily understood by the operators. Procedures for the covered process must also be updated when found to be inadequate or inaccurate. See the operating procedures below:

- Initial startup
- Normal operations
- Temporary operations
- Emergency shutdown
- Normal shutdown
- Startup following a normal or emergency shutdown or a major change that requires a hazard review
- Consequences of deviations
- Steps required to correct or avoid deviation
- Equipment inspections

Frequently Asked Questions

Q: What method does the UPA use to verify the operating procedures are updated in the RMP prior to start up after a major change occurs? **(19 CCR § 2755.3[c])**

A: Check files for standard operating procedures (SOPs), look through these SOPs, notifications, training records, and inspections. UPAs may also verify with the owner/operator how SOPs are audited or enforced.

Training (Section 2755.4)

All workers at a facility, including new or established workers, must be trained in the facility's operating procedures. If the operating procedures are revised, then affected staff must be

trained on using the new procedures. Refresher training on the operating procedures must be provided at least every three years, regardless of whether they have been revised or not. It is also the owner/operator's responsibility to ensure that each worker understands the training, is competent to safely operate the process, and document the training.

The owner/operator may use training conducted under federal or state regulations or under industry-specific standards or codes or training conducted by covered process equipment vendors that demonstrate the training meets the requirements of the CalARP Program.

Frequently Asked Questions

Q: How does the UPA verify that the owner or operator has provided the proper initial training? **(19 CCR § 2755.4[a])**

A: Reviews of initial training records, employee interview, review of training program policies and tracking documentation. It is a recommended practice for an inspector to randomly select a small group of both new hires and established employees (typically a representative sample from all levels of staffing or craft) and request initial training records for various topics including procedural, programmatic, craft (operational/mechanical), or safety topics. Initial training documentation should comply at a minimum with OSHA mandated 6-month from hire or new assignment completion dates.

Q: How does the UPA verify whether employees receive refresher training at least every three years? **(19 CCR § 2755.4[b])**

A: Reviews of refresher training records, employee interviews, reviews of training program policies, and tracking documentation. It is a recommended practice for an inspector to randomly select a group of employees (typically a representative sample from all levels of staffing or craft) and request training records for various topics including procedural, programmatic, craft (operational/mechanical), or safety topics. There should be corresponding training documentation for training frequency set by owner/operator policies.

Q: How does the UPA verify that operators are trained in any updated or new procedures prior to a startup of a process after a major change? **(19 CCR § 2755.4[d])**

A: Reviews of training records for any procedure, employee interviews, reviews of training program policies, and tracking documentation. Procedural training records may directly accompany MOC files or be associated to independent tracking programs for major changes to procedures, such as SOP certification or corrective actions. The UPA should be clear on owner/operator policies for tracking training, as well as procedural change notifications, before requesting documents to demonstrate compliance.

If the UPA has already discovered deficiencies in an owner/operator's safety information or SOP programs, it is expected those deficiencies will affect training compliance. For example, if there are deficient mechanical/equipment maintenance procedures, then the UPA should review how mechanical maintenance staff are trained.

Maintenance (Section 2755.5)

The owner or operator shall prepare and implement written procedures to maintain the ongoing mechanical integrity of the process. See the following table below for maintenance guidelines.

Exhibit 5-4 Maintenance Guidelines

Written Procedures	Training	Inspection & Testing
The owner or operator may use procedures or instructions provided by covered process equipment vendors, procedures in federal or state regulations, or industry codes as the basis for written maintenance procedures.	• Process maintenance employees must be trained in process hazards and how to avoid or correct unsafe conditions. • Training must cover the procedures applicable to safe job performance. • Training must be documented. • Contractors must document their employees are trained to perform specific maintenance activities	• Inspect and test all covered process equipment. • Inspection and testing procedures will follow RAGAGEP. • The frequency of inspection and tests of process equipment will be consistent with applicable manufacturer's recommendations, industry standards or codes, good engineering practices, and prior operating experience.

Frequently Asked Questions

Q: Does the owner or operator prepare and implement procedures to maintain an on- going mechanical integrity program for the process equipment? **(19 CCR § 2755.5[a], [b], [c], and [d])**

A: The UPA should be clear on owner/operator policies for written procedures for maintaining ongoing mechanical integrity of process equipment. This means the UPA must have a list of all covered processes' equipment/assets to ensure that the owner/operator has provided a written procedure to address each type of equipment. UPAs should verify via reviews of randomly selected equipment groups that a current certified procedure exists. Does the owner/operator manage mechanical integrity procedures in a manner consistent with SOPs?

If the UPA has already discovered deficiencies in an owner/operator's safety information program, it is expected those deficiencies will affect maintenance SOP compliance. For example, if there is deficient safety information for a critical equipment piece, then the UPA should review how mechanical/equipment maintenance procedures were developed and how mechanical maintenance staff are trained.

Q: Has the owner or operator trained or caused to be trained each employee involved in maintaining the on-going mechanical integrity of the process? **(19 CCR § 2755.5)**

A: The UPA should be clear on owner/operator policies for written procedures for maintaining ongoing mechanical integrity of process equipment. Training can be verified

via review of any procedure training records, employee interview, MOC training documentation, review of training program policies and tracking documentation.

Q: How does the owner or operator ensure that each contract maintenance employee is trained to perform the maintenance procedures developed under **(19 CCR § 2755.5[a])**

A: The UPA should be clear on owner/operator policies for written procedures for maintaining ongoing mechanical integrity of process equipment, including contractor training requirements. Training can be verified via reviews of any procedure training records, contractor or employee interviews, reviews of training program policies, and tracking documentation, including contractor policies. UPAs should look for documentation of communication between the owner/operator and contractors to ensure training requirements have been satisfied.

Q: How does the UPA verify the owner or operator performs inspections and required tests on process equipment? **(19 CCR § 2755.5)**

A: The owner/operator is required to document inspections and tests performed on process equipment, pursuant to **Section 2760.5(d) Mechanical Integrity Inspection and Testing**. UPAs should utilize equipment lists or piping and instrumentation diagrams (P&IDs) to select a random representative sample of equipment and review the inspection and testing records documented by the owner/operator. The documentation should be consistent with the safety information for the equipment, including frequency and methodology.

Compliance Audits (Section 2755.6)

The owner/operator must evaluate its compliance with the requirements of the Program 2 Prevention Program at least every 3 years. The evaluation must be conducted by at least one person knowledgeable in the process and must result in a report of findings. The owner/ operator shall respond to each of the findings and document that deficiencies have been corrected. The owner/operator shall retain the two most recent reports, and corrections must be completed within 1.5 years or the next planned turnaround.

These audits are a self-audit and are not the same thing as the UPA's periodic audit of the RMP as required by **Section 2775.2 Audits**. For more information, see **Chapter 9 Audits**.

Frequently Asked Questions

Q: How does the UPA verify the owner operator has conducted a compliance audit at least every three years? **(19 CCR § 2755.6[a], [b], [c], and [d])**

A: Request and review the two most recent audits, which must be provided by the owner/operator. The UPA shall verify that audit dates are within three years of completion and cover all applicable program elements for each covered process. This can be a tedious review if an owner/operator has multiple covered processes on different audit schedules.

Q: What type of certification does the UPA require from the owner operator? **(19 CCR § 2755.6[a], [b], [c], and [d])**

A: Each UPA may have a specific certification that is requested for a compliance audit. At a minimum, an owner/operator must certify in writing they have evaluated compliance with the program at least every three years, pursuant to **Section 2760.8 Compliance Audits**. UPAs may request to review certification statements, complete audit reports, and documentation of corrected deficiencies.

Incident Investigation (Section 2755.7)

The owner/operator is required to provide an immediate verbal report of any release or threatened release of a hazardous material per Section 2631 Immediate Reporting of a Release or Threatened Release, and HSC Section 25510.

The owner/operator must:

Initiate an investigation promptly	Investigation must begin no later than 48 hours, per **Section 2755.7 (b)**, following the incident (when the owner/operator became aware of the incident). The date the investigation begins must be documented.
Summarize the investigation in a report	The report must identify factors contributing to the incident. Identifying a root cause may end up being more important than identifying an initiating factor. The report must also include recommendations for corrective actions, a description of the incident, and data required by **Section 2750.9(b) Five Year Accident History** data.
Address the report findings and recommendations	Establish a system to promptly address and resolve the incident, report findings and recommendations, and document resolutions and corrective actions.
Review the report with staff and contractors	The owner/operator must share the report, its findings, and recommendations with affected workers and contractors whose job tasks are relevant to the incident.
Retain the report	Incident investigation reports must be kept for five years.

Chapter 6. Program 3 Prevention Program (Article 6)

Process Safety Information (Section 2760.1)

The owner/operator must compile written process safety information before conducting any Process Hazard Analysis (PHA). This process safety information must include information about the hazards of:

- the chemicals used or produced by the process,
- the technology of the process, and
- the equipment used in the process.

Owner/operators must have a complete and current collection of piping and instrumentation diagrams (P&IDs) for covered processes as part of their process safety information (PSI) collection. Other diagrams may be utilized by the owner/operator, however, P&IDs are the only recognized PSI drawing to be utilized for covered process applications. Other diagrams or drawings utilized by the owner/operator must be properly maintained and changed managed to ensure they accurately reflect PSI for covered processes. P&IDs that are not accurate or current must not be used when conducting the hazard analysis.

Frequently Asked Questions

Q: How does an UPA verify or confirm PSI during an inspection?

A: PSI content must be complete for all required information related to the regulated substance, processes, and equipment. This includes electrical, controls and utilities that support the covered process and whose failure may contribute to a release or impede the mitigation of a prior release from the covered process. The inspector should review documented PSI of randomly selected process functions and equipment that are related to the covered process.

This would include design or contract documents, RAGAGEP or manufacturer information, copies of or documentation of codes and standards applied to the design and construction of the process, safe limits for the process and equipment within the process. This information must be readily accessible to all affected staff.

Inspectors may further evaluate PSI by field verifying that documented PSI matches the equipment and processes in operation and that the owner/operator has a mechanism in place to update PSI accordingly.

The owner/operator must compile information as required by Section 2760.1 PSI. Exhibit 6-1 Process Safety Information details PSI requirements related to the chemicals, process technology, and process equipment.

Exhibit 6-1 Process Safety Information

Chemicals	Process Technology	Process Equipment
• Toxicity • Permissible exposure limits • Physical data • Reactivity • Corrosivity • Thermal and chemical stability data • Hazardous effects of inadvertent mixing of different materials that could foreseeably occur	• 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 composition • An evaluation of the consequences of deviations	• Materials of construction • Piping and instrument diagrams (P&IDs) • Electrical classification • Relief system design and design basis • Ventilation system design • Design codes and standards employed • Safety systems • Material and energy balances for processes built after June 21, 1999

Frequently Asked Questions

Q: How does an UPA verify or confirm PSI related to regulated substances? **(19 CCR § 2760.1[b])**

A: Inspectors may base information on reviews of Safety Data Sheets (SDSs) or by interviews with a representative number of operators who can verify that SDS information is readily available to the operators who work with regulated substances.

Safety Data Sheets (SDSs) meeting the requirements of Section 5194 of Title 8 of CCR (Cal OSHA) may be used to comply with this requirement if they contain the information summarized in the table above.

Q: How does an inspector verify or confirm PSI related to technology of the process? **(19 CCR § 2760.1[c])**

A: Inspectors may base information on review of block flow diagrams, upper and lower limit information, and consequence of deviation analysis. Upper and lower limit information must be documented for each piece of critical equipment within the covered process and limits must lie within the process design intent. Inspectors may choose a random sampling of assets from a P&ID, a critical equipment list, or from a field walk (or any combination) to verify this information.

Q: How does an inspector verify or confirm PSI related to equipment in the process? **(19 CCR § 2760.1[d])**

A: Inspectors may base information on review of design documents which should include:

- basis of design,
- calculations and sizing standards,

- documents demonstrating consideration for upper and lower limit, and
- verification of correct design materials and installation.

Inspectors should review documents for verification by owner/operator that the covered process and equipment conform to identified design codes and standards employed and for evidence that the appropriate consensus standards have been researched. Inspectors may interview an engineer or other qualified persons who are capable of providing the information requested.

Q: What should be investigated if outdated codes and standards are suspected or discovered? **(19 CCR § 2760.1[d])**

A: Each covered process asset should have inspection (Inspection and Testing documents) and operation protocols or procedures that can be reviewed in relation to the PSI that the owner/operator supplied for design. Documentation should be consistent with appropriate editions of codes and standards or a RAGAGEP. If there were changes, an MOC with documentation of hazard analysis regarding a change to codes and standards should be available along with copies of applicable codes/standards. Inspectors should verify that updated codes and standards align to the equipment in the field by a visual inspection, review of inspection and testing records, and by employee interviews.

Q: How does an inspector verify or confirm PSI related to process equipment and P&IDs? **(19 CCR § 2760.1[d])**

A: Each covered process must have a comprehensive set of P&IDs. This information must clearly illustrate to employees who perform work in the covered process area(s) what equipment/assets are included in the covered process, including component parts.

Inspectors should select a representative sample of P&IDs to ensure revision updates pre-date the most recent PHA or are associated to a more recent MOC. Inspectors should also validate whether there is a standard symbol key that is utilized or an industry standard that is followed by the owner/operator in developing the P&IDs. Further field validation should be completed to verify that equipment tags match P&IDs.

For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator shall determine and document that the equipment is designed, maintained, inspected, tested, and is operating in a safe manner.

All equipment must be validated by the owner/operator as compliant with recognized and generally accepted good engineering practices (RAGAGEP).

Process Hazard Analysis (PHA) (Section 2760.2)

The owner/operator shall perform an initial PHA, or hazard evaluation, on covered processes. The PHA shall be conducted as soon as possible during the development of the program, but not later than the date of submittal of the RMP. These PHAs shall be updated and revalidated, every five years. Revalidation dates shall be based on the original PHA

completion date. **Exhibit 6-2 Process Hazard Analysis Requirements** are summarized in the following table.

Exhibit 6-2 Process Hazard Review Requirements

Conduct a review and identify	Use a guide for conducting the review	Document results and resolve problems	Updating hazard review
Hazards associated with the Program 3 process and regulated substances: • opportunities for equipment malfunction or human error that could cause a release, • safeguards that will control the hazards or prevent malfunction or error, • steps used or needed to detect or monitor releases, • consideration of external events including seismic events and human factors.	The owner/operator may use a checklist, if acceptable to the UPA, developed by persons or organizations knowledgeable about the process and equipment as a guide to conducting the review. • For a process designed to industry, federal, or state standards, check the equipment to make sure that it's fabricated, installed, and operated properly. • Equipment reliability data should be used to identify potential problems.	The owner/operator's PHA must be documented and must show that problems have been addressed. • resolution of issues must be completed within 2.5 years or during the next planned turnaround. • resolution timelines do not apply for PHAs completed before Jan. 1, 2015.	The owner/operator must update the review at least once every 5 years or whenever there is a major change in the process. • the owner/ operator must resolve significant problems identified in the new review *before* the changed process is started up.

Frequently Asked Questions

Q: How does an inspector verify or confirm PHA completion dates? **(19 CCR § 2760.2)**

A: These PHAs shall be updated and revalidated based on their completion date at least every five years. Inspectors shall review the last two copies of the PHA to determine that the revalidations are dated within five years of each other. Inspectors should randomly select and review PHA validation or revalidations for change modifications that occurred in the interim.

Action items should also be reviewed to ensure completion within a two and half year timeline or not repeating in subsequent PHA studies.

Operating Procedures (Section 2760.3)

Owner/operators must have procedures providing clear instructions for safely conducting activities in the covered processes. These procedures must cover operations, maintenance, safety systems and functions, electrical systems, and control systems. Utilities that support or impact covered process activities may also require procedures. Procedures must be developed and based on current PSI, industry standards, or RAGAGEP. See the following table below for what must be addressed in operating procedures.

Exhibit 6-3 Operating Procedures Requirements

Steps for each operating phase	Operating limits	Safety and health considerations including safety systems and function
• Initial startup • Normal operations • Temporary operations • Emergency shutdown • Emergency operations • Normal shutdown • Startup following a turnaround or emergency shutdown	• Consequence of deviations • Steps to avoid, correct deviations	• Chemical properties & hazards • Precautions for preventing chemical exposure • Control measures for exposure • QC for raw materials and chemical inventory • Special or unique hazards

Procedures must be readily accessible to employees who work in or maintain a covered process. Review and revalidation of procedures/content must be conducted as often as necessary to ensure they are current and reflect any changes made (including changes to chemicals, technology, equipment, or changes to the stationary sources). All procedures must be certified annually to validate that the content is current and accurately reflect current PSI. Any updates made should be conducted via a change management process with affected personnel informed of or trained in changes.

Safe work practices must also be developed and maintained to control hazards associated with the processes. Safe work practices must be integrated into procedures where appropriate and must also be independently addressed in accordance with Title 8, General Industry Safety Standards (GISO). These safe work practices apply to both employees and contractors.

Frequently Asked Questions

Q: How does an inspector verify the operating procedures are:

- readily accessible to employees?
- annually certified as current and accurate by owner or operator? **(19 CCR § 2760.3)**

A: Verify the existence and location of operating procedures during inspections. Interview employees to see if they are aware of operating procedures, their contents, how to access them, and what they are used for. Observe employees to see if actual procedures performed on site match the written operating procedures. Verify the operating procedures also reflect maintenance procedures since turnarounds (a maintenance activity) are involved (see **Section 2760.5 Mechanical Integrity**). Inspectors can verify annual certification by noting the most recent review and revision dates on procedures, reviewing MOC documents associated with procedure changes (see **Section 2760.6 Management of Change Guidance**), and choosing a random sample of procedures to compare content against current field data and PSI.

Q: What does an inspector look for in safe work practices? **(19 CCR § 2760.3)**

A: Verify the existence and location of current safe work practices. Program 3 facilities are also subject to Title 8 5189(f)(4) OSHA PSM requirements for safe work practices. Further considerations for safe work practices is accomplished through review of external events under the process hazard analysis (see **Section 2760.2 Process Hazard Analysis**). Auditors may validate current safe work practices via employee interviews and training records, since most of the safe work practices require annual refresher training frequency. This review should cover records for all affected staff including contractors.

Training (Section 2760.4)

The owner/operator shall ascertain that each employee involved in operating a process has received and understood the training required below. The owner/operator shall prepare a record that contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training. Refer the following table below for training requirements.

Exhibit 6-4 Training Requirements

Type	Who is Trained	What
Initial	Employees presently involved in operating a process and each employee **before** being involved in operating a newly assigned process	An overview of the process and the procedures specified in **Section 2760.3 Operating Procedures**. Emphasize the specific safety and health hazards, emergency operations, including shutdown, and safe work practices applicable to the job tasks.
Refresher Training	Each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process	Provided at least every 3 years, and more often, if necessary. The owner/operator in consultation with the employees involved in operating the process shall determine the appropriate frequency of refresher training

The owner/operator is responsible for identifying the training required for each employee. The UPA may provide guidance or additional requirements. The owner/operator must prepare a written record to demonstrate the employee received and understood the training required by this section. Records must contain the identity of the employee, date of training, type and content of training, and means used to verify employee understood the training. Training records must be retained at a minimum for the employment duration of the employee at the facility.

Frequently Asked Questions

Q: What does an inspector look for in training documentation? **(19 CCR § 2760.4)**

A: Inspectors should review company policy and required training for staff. Specific job classifications or duties may require industry certification, emergency response certification, or other training documentation. For ammonia refrigeration operators in particular, there is an industry standard certification for training provided by the Refrigerating Engineers and Technicians Association (www.RETA.com) which can be used to demonstrate proficiency in all of the initial training requirements. CalARP Program regulatory agency personnel are encouraged to seek this RETA certification, themselves, if there are ammonia refrigeration facilities in the jurisdiction. HAZWOPER certifications are typically required by Title 8 Section 5192 when emergency response or spill clean-up duties are specified for staff. Many job specifications require other certification training which should also be considered, such as:

- procedures and hazards of the process,
- position specific certification (i.e., wastewater or water treatment or pesticide/ag certification),
- safe work practices training,
- incident Command System certifications.

Mechanical Integrity (Section 2760.5)

Application of the mechanical integrity requirements must be considered for all equipment identified within the boundaries of the covered process or elements supporting the continuous safe operation of the covered process. Equipment subject to the Mechanical Integrity Program (MIP) include (from covered process and utilities supporting the covered process):

- pressure vessels and storage tanks;
- piping systems (including ancillary components such as valves);
- relief and vent systems and devices;
- emergency shutdown systems;
- controls (including monitoring devices and sensors, alarms, and interlocks);
- pumps, compressors, and their drivers.

The owner/operator must establish written procedures on how to maintain the ongoing integrity of process equipment (see **Section 2760.3 Operating Procedures**).

Owner/operators must provide training to employees involved in maintaining the ongoing integrity of the process equipment. Training must include overview of that process and its hazards and in the procedures applicable to the employee's job tasks to be performed in a safe manner (see **Section 2760.4 Training**).

The owner/operator must also comply with quality assurance, inspection, and testing requirements. A summary of these requirements are provided in the table below.

Exhibit 6-5 Mechanical Integrity Requirements

Inspection & testing	Quality assurance
• Inspect and test process equipment • Use recognized and generally accepted good engineering practices. • Follow a schedule that matches the manufacturers' recommendations or more frequently if prior operating experience indicates is necessary • Document each inspection & test with: date, inspector name, equipment identifier, test or inspection performed, results	• Establish a QA program for new construction & equipment, newly installed equipment, maintenance materials, and spare parts and equipment • Installation and spare parts or equipment must be changed managed (see **Section 2760.6 Management of Change**)

The Mechanical Integrity (MI) regulations also require owner/operators have a policy and process in place to readily address and correct equipment deficiencies (equipment outside operating limits, as defined by **Section 2760.1 Process Safety Information**) before staff may continue to use them.

The owner/operator is responsible for ensuring that new construction, new equipment, maintenance materials, and spare parts are installed, consistent with design specifications and manufacturer's instructions. This also requires the owner/operator to be involved in the review, inspection, certification, and quality assurance of any work performed by outside contractors.

Frequently Asked Questions

Q: What does an inspector look for to confirm an MI program? **(19 CCR § 2760.5)**

A: A "breakdown" maintenance program (i.e., where action is taken only when something breaks down or in a "run to fail" culture) does not meet the requirements of this section. Preventative maintenance alone does not constitute a MI program. The inspector must ask about, review documentation, and field validate with examples, where possible.

- Verify an on-going mechanical integrity program, including policies, procedures, auditing and enforcement.

- Determine whether the owner/operator is using a computerized scheduling system that automatically determines when maintenance is due or has procedures to schedule maintenance. Verify how that information validated against current PSI.
- Determine how the owner/operator identifies and corrects equipment deficiencies, including breakdown, corrective maintenance conditions or missed preventative maintenance work, and ensures that corrections are clearly documented.
- Verify a process for quality assurance is based on owner/operator documented policies and procedures exists and is followed.

Q: What does an inspector look for in training for process maintenance activities? **(19 CCR § 2760.5)**

A: New maintenance employees must be trained before beginning work at the site, and all maintenance employees receive additional training appropriate to their constantly changing job tasks. Although maintenance employees don't need to be trained to the same extent as operators, they must be trained to perform their job in a safe manner. Therefore, a maintenance worker fixing a process breakdown must be trained in both the operating procedures relevant to the repair and the facility's emergency response plan.

Q: What does an inspector look for in a quality assurance program and what documents how the program is implemented? **(19 CCR § 2760.5)**

A: Owner/operators should have a clear policy and forms to assure materials, spare parts, and equipment are suitable for service and application and have been validated as such. An inspector may review invoices, completed forms (hazard assessment, purchasing, change management, and pre-startup safety review forms) for these considerations. Inspectors should check for the use of incompatible materials in various systems (i.e., brass, copper, or galvanized piping in ammonia systems; stainless steel in chlorine systems; etc.). Facilities that employ use of HDPE or PVC type materials should have RAGAGEPs in place to address inspection, testing, or replacement cycles.

Q: What does an inspector look for in MI procedures and inspection records? **(19 CCR § 2760.5)**

A: An inspector should:

- check with maintenance personnel to determine how they follow the written maintenance procedures;
- spot check records to verify that maintenance is being performed in accordance with manufacturers' recommendations (i.e., ask about the manufacturers recommended intervals of maintenance such as alignment, oil, and filter changes and spot check references and records);
- verify service schedules align with PSI requirements or occur more frequently based on operator knowledge;
- review certification documents (sometimes referred to as "birth certificates") for employees doing non-destructive tests, welding on pressure vessels, etc., where these certifications are required;

- review random samples of inspection and testing references such as IIAR Bulletin 109 Safety Inspection forms, equipment make/model/serial-type information, or API or ASME reports (ANSI/ASME B31.5-1987).

Identical or similar vessels and equipment in similar service do not need to have individualized maintenance procedures. Each procedure must clearly identify the equipment to which it applies. However, there should be an inspection and/or service record on each vessel and piece of equipment in the covered process. Include any contractor-supplied equipment, as well.

Management to Change (Section 2760.6)

The owner/operator must establish and implement written procedures to manage changes to process chemicals, technology, equipment, and procedures, and changes to the facility that affect a covered process (except for "replacements in kind," which are replacements that still satisfy design specifications). A summary of requirements is provided in the table below.

Exhibit 6-6 Requirements for MOC

MOC procedures must address:	Employees and contractors affected by the change must:	Update process safety information if:	Update operating procedures if:
• Technical basis for the change • Impact on safety and health • Modifications to operating procedures • Necessary time period for the change • Authorization requirements for the proposed change	• Be informed of the change before startup • Be trained in the change before startup	A change covered by MOC results in a change in the process safety information required by **Section 2760.1 Process Safety Information**	A change covered by MOC results in a change in any operating procedures required by **Section 2760.3 Operating Procedures** or any maintenance procedures required by **Section 2760.5 Mechanical Integrity**

Frequently Asked Questions

Q: What does an inspector look for to confirm an implemented and maintained change management program? **(19 CCR § 2760.6)**

A: Inspectors may request a list of MOC's completed or in progress, then choose a random sampling of documents to review from the list. Documents should be consistent with facility procedures for hazard evaluation documentation, updating of affected documents, notification, and training documents and approvals. Inspectors may request documents for changes noted in PSI, leak investigation reports, field walk through, or employee interview,

and request to review those MOC documents. Obvious omissions or changes between P&IDs and field verification (walk through) should have MOC documentation readily available for review. Inspectors should also review PHA content to ensure MOCs from the previous five years have been considered in the updated PSI and PHA discussions. See **Section 2760.2 Process Hazard Analysis**.

Pre-Startup Review (Section 2760.7)

The owner/operator shall perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.

The Pre-Startup Safety Review program (PSSR) is a verification check independent of the MOC process that must be completed prior to startup of the new or changed process. A PSSR summary is depicted in the table below.

Exhibit 6-7 Requirements for Pre-Startup Safety Review

Design Specifications	Adequate Procedures	PHA/MOC	Training
Confirm that new or modified construction and equipment was designed and installed in accordance with approved design specifications.	Confirm all affected procedures (safety, operating, maintenance, and emergency) are adequate and in place.	• New stationary sources: confirm the PHA is complete with recommendations resolved • Modified stationary sources: confirm MOC requirements have been addressed and closed	Confirm each employee affected by the new or changed process has been trained.

Frequently Asked Questions

Q: What does an inspector look for to confirm an implemented and maintained pre-startup safety review program? **(19 CCR § 2760.7)**

A: Inspectors may request a list of PSSRs completed or in progress then choose a random sampling of documents to review from the list. Documents should be independent of the MOC documents and consistent with facility procedures for validating completion of the PSSR elements. Inspectors should verify that approval and close of PSSR checks precede startup of changes. Inspectors may also review documents for PSSR noted in changed PSI, leak investigation reports, MOC documents, field walk through, training logs, or employee interviews.

Compliance Audits (Section 2760.8)

The owner/operator must certify he or she has evaluated compliance with the requirements of the Program 3 Prevention Program at least every three years. The evaluation must be conducted by at least one person knowledgeable in the process and must result in a report of findings. The report must also detail the scope and methodology chosen for the audit. The owner/operator shall respond to each of the findings and document that deficiencies have been corrected within 1.5 years or the next planned turnaround for items requiring turnaround. If a longer correction time-frame is needed, the owner/operator must enter into an agreement with the UPA on an appropriate timeline for completing corrective actions. The owner/operator will retain the two most recent reports.

Frequently Asked Questions

Q: Can a facility cite a UPA or other regulatory agency inspection as the audit intended to satisfy the requirements of this section? **(19 CCR § 2760.8)**

A: This is a self-audit and is not the same thing as the UPA's periodic audit of the RMP, as required by **Section 2775.2 Audits**. The owner/operator must conduct this self-audit and may not cite an audit conducted by the UPA, USEPA, or OSHA.

Incident Investigation (Section 2760.9)

The owner/operator must investigate each incident that resulted in, or could reasonably have resulted in, a catastrophic release.

The owner/operator must meet the following requirements for investigations.

Initiate an investigation promptly	Begin investigating no later than 48 hours following the incident.
Establish a knowledgeable investigation team	This team will gather the facts, analyze the event, and develop the how and why of what went wrong. At least one team member must have knowledge of the process involved. Contractors and other workers in the process area where the incident occurred must also be considered.

The owner/operator must meet the following requirements for investigation reports.

Summarize the investigation in a report	Among other things, the report must identify the factors contributing to the incident. Remember that identifying the root cause may be more important than identifying the initiating event. The report must also include the date the investigation began, a description of the incident, including all the data required under **Section 2750.9(b)**

	Five-Year Accident History, and any recommendations for corrective actions.
Address the team's findings and recommendations	Establish a system to address and resolve the incident report findings and recommendations no later than 1.5 years after the completion of the incident investigation or 2 years after the date of incident, whichever is earlier of the two dates, or the next planned turnaround for those items requiring a turnaround. If more time is needed to complete action items, the owner/operator must enter into agreement with the UPA on an appropriate completion timeline. Document resolutions and corrective actions.
Review the report with staff and contractors	The report, with its findings and recommendations, must be shared with affected workers whose job tasks are relevant to the incident
Retain the report	Keep incident investigation reports for five years

Frequently Asked Questions

Q: What should an inspector look for when reviewing the incident investigation element? **(19 CCR § 2760.9)**

A: Inspectors should review files to determine whether certain root causes are repeated despite recommendations being addressed. Incidents that may have resulted from a failure of another program element such as MOC (see **Section 2760.6 Management of Change**), mechanical integrity (see **Section 2760.5 Mechanical Integrity**) or failure to use procedures or utilizing incorrect procedures (see **Section 2760.3 Operating Procedures**). Inspectors should also verify that recommendations are completed in a timely manner and the owner/operator has a mechanism to track them.

Q: What should an inspector look for when reviewing incidents that could reasonably have resulted in a catastrophic release? **(19 CCR § 2760.9[a])**

A: Inspectors should review the owner/operator policy to determine how "near miss" is defined, then ask to review near miss files. It is unlikely that a facility will not have experienced a near miss that should have been investigated in accordance with this section. The inspector should review documents that address near miss situations, and what the owner/operator has committed to in order to correct or improve conditions.

Employee Participation (Section 2760.10)

The owner/operator must comply with the following employee participation requirements.

Write a plan	Develop a written plan of action regarding how the owner/operator will implement employee participation.

Consult with employees	Consult with the facility employees and their representatives regarding conducting and developing PHAs and other elements of process safety management.
Provide access to information	Ensure that the facility employees and their representatives have access to PHAs and all other required information

Frequently Asked Questions

Q: What should an inspector look for in an owner/operator employee participation program? **(19 CCR § 2760.9)**

A: Inspectors should review policies and conduct employee interviews (all levels of authority and front line staff) to determine if the intent of employee participation is actively sought after and engaged for program elements such as PHA, SOP, Training, and safe working procedures. Verify that affected employees have access to content related to the Program 3 elements.

Hot Work Permit (Section 2760.11)

Hot work permits are also a requirement of 8 CCR Section 6777. The owner/operator must comply with the following hot work permit requirements.

Issue a hot work permit	The owner/operator must issue this permit for hot work conducted on or near a covered process.
Implement fire prevention and protection	The owner/operator must ensure that the fire prevention and protection requirements pursuant to Title 8 of CCR are implemented before the hot work begins. The permit must document this.
Indicate the appropriate dates	The permit should indicate the dates authorized for hot work.
Identify the work	The permit must identify the object on which hot work is to be performed
Maintain the permit on file	The owner/operator must keep the permit on file until workers have completed the hot work operations.

Contractors (Section 2760.12)

The following table summarizes the responsibilities of the owner/operator and of any contractors that perform maintenance or repair, turnaround, major renovation, or specialty

work on or adjacent to a covered process. This does not apply to contractors providing incidental services that do not influence process safety (i.e., janitorial, food and drink services, laundry, delivery, or other supply services).

Exhibit 6-8 Contractors

The owner/operator must…	The contractor must…
Check safety performance: when selecting a contractor, the owner/operator must obtain and evaluate information regarding the safety performance of the contractor.	**Ensure training for its employees:** the contractor must train its employees to ensure that they perform their jobs safely and in accordance with the owner/operator's safety policies and procedures.
Provide safety and hazards information: the owner/operator must inform the contractor of potential fire, explosion, or toxic release hazards and of your emergency response activities as they relate to the contractor's work and the process.	**Ensure its employees know process hazards and applicable emergency actions:** the contractor must assure that contract employees are aware of hazards and emergency procedures relating to the employees' work.
Ensure safe practices: the owner/operator must ensure safe work practices to control the entrance, presence, and exit of contract employees in covered process areas.	**Document training:** the contractor must prepare a record documenting and verifying adequate employee training.
Verify that the contractor acts responsibly: the owner/operator must verify that the contractor is fulfilling its responsibilities via periodic evaluation and documentation of the performance of the contract owner or operator.	**Ensure its employees are following the owner/operator safety procedures:** the contractor must have a process in place to ensure employees follow the safety practices of the stationary source including safe work practices (see **Section 2760.3[d] Operating Procedures**).
Explain applicable provisions of Article 7, Emergency Response Program: the owner/operator must clearly communicate if the facility is operating under an emergency action plan or emergency response plan. Procedures regarding actions to be taken by the contractor during emergency situations must be reviewed including emergency identification, notification, response, and relocation/evacuation roles.	**Inform the owner/operator of hazards:** the contractor must tell the owner/operator of any unique hazards presented by its work or of any hazards it finds during performance.

Frequently Asked Questions

Q: What should an inspector look for in an owner/operator contractor program?
(19 CCR § 2760.12[b])

A: Inspectors should review policies and documents that reflect the owner/operator program to evaluate, inform/train, and communicate with contractors. A list of current contractors may be reviewed and specific documents reviewed to ensure compliance with the standard. Inspectors should also review a sampling of contractor evaluations/audits conducted by the owner/operator.

Q: What should an inspector look for in an owner/operator contractor program and verification contractors are providing appropriate documents to the owner/operator? **(19 CCR § 2760.12[c])**

A: OSHA also has the authority to conduct inspections on contractors performing work in or adjacent to the covered process. The UPA may choose to review submitted contractor documents as part of the inspection of the owner/operator contractor program. Inspectors should verify that training documents/certifications provided for each contract employee are current and appropriate to the work and that the contractor supplied an enforceable safety policy that addresses contractor performance in accordance with owner/operator safe work practices and emergency response programs.

Chapter 6.5 Program 4 Prevention Program (Article 6.5)

See the CUPA Forum Board Program 4 Guidance and/or Solano County Program 4 Guidance.

Chapter 7. Emergency Response Program (Article 7)

Emergency Response Applicability (Section 2765.1)

The owner/operator of a facility with a Program Level 1 process shall ensure that response actions have been coordinated with local emergency planning and response agencies Section 2735.5(d)(3) General Requirements. For Program Level 2 or Program Level 3 processes, consult the sections on "Non-Responding Facilities" and "Responding Facilities," below.

Non-Responding Facilities

Facility personnel are not required to respond to accidental releases of chemicals or to comply with Section 2765.2 Emergency Response Program if the facility meets the following criteria:

- the facility has toxic chemicals and the owner/operator has ensured that it is included in the community emergency response plan developed under Section 11003 of Title 42 of the United States Code (USC) (note: this is the Local Emergency Planning Committee [LEPC] requirement regarding regional plans. In California, this requirement is met through the UPA's area plan);
- the facility has only flammable chemicals and the owner/operator has coordinated response actions with the local fire department; and
- appropriate mechanisms are in place to notify emergency responders when there is a need for a response.

For more information regarding emergency response, see Section 2745.8 RMP Emergency Response Program Component.

Frequently Asked Questions

Q: Do I have to report all ammonia releases to the CUPA?

A: If the release meets the definition of a "contained release" as defined in Title 19 Section 2620(b) (proposed) or an "incidental release" as defined in Title 19 Section 2620(e) (proposed), then the release does not have to be reported to the CUPA or the Warning Center. Until Title 19 Section 2620 is amended, all ammonia releases must be reported.

Emergency Response Program (Section 2765.2)

Responding Facilities

If the employees of a facility are going to respond to an accidental chemical release at the facility, the owner/operator must develop and implement an emergency response program for the purpose of protecting health and the environment. The emergency response program must include the elements below:

- an emergency response plan maintained at the facility and containing at least the following elements:
    - procedures for informing and interfacing with the public and local emergency response agencies about accidental releases, emergency planning, and emergency response;
    - documentation of proper first-aid and emergency response after an accidental release of a regulated substance;
    - procedures and measures for emergency response after an accidental release of regulated substance;
- procedures for the use of emergency response equipment and for its inspection, testing, and maintenance;
- training for all employees who are expected to respond to a release in relevant procedures and relevant aspects of the Incident Command System (ICS). Note: ICS training is important for employees who are required by their job description and positional responsibility to appropriately respond and interact with local emergency response agencies during a release; and
- procedures to review and update, as appropriate, the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes.

The emergency response plan shall be coordinated with the community emergency response plan developed under Section 11003 of Title 42 of USC (LEPC requirement for a community emergency response plan). Upon request of the LEPC or emergency response officials, the owner/operator shall promptly provide to the local emergency response officials information necessary for developing and implementing the community emergency response plan

The owner/operator is not required to meet the business plan requirements, if the RMP emergency response plan is consistent with the business plan requirements, pursuant to Title 19 Section 2658 Emergency Response Plans and Procedures and Section 2659 Training.

Frequently Asked Questions

Q: What should an inspector look for in emergency response program (detection and alarms)?

A: Look for the response to alarm systems, emergency shutdown and ventilation, and emergency relief treatment systems, in particular. Cal-OSHA regulations (CCR Title 8 Section 6184 Employee Alarm Systems) and alarm system operation and maintenance requirements. Alarms should be audible and visual and perceived above ambient noise and light levels.

Alarm systems should have a positive action integrated to their actuation, such as activating emergency exhaust or other treatment systems.

Q: How does the inspector verify the development and implementation of an emergency response plan and procedure for use of emergency response equipment (including inspection, testing, and maintenance)?

A: Review:

- the site-specific emergency response plan that should include policies and procedures on how to respond to releases;
- documentation relating to owner/operator evacuation routes, plans, and drills;
- training records for affected employees, which should include selection and use of response equipment;
- documentation of emergency equipment inspection and testing. This would include medical surveillance and fit testing records.

Q: How does an inspector verify training for all employees expected to respond to a release in the Incident Command System (ICS)?

A: Review training records for affected employees to ensure ICS training is included in emergency response training records. Verify responders have current training regarding the safe handling of the regulated substance and certifications pursuant to CCR Title 8 CCR 5192 Hazardous Waste Operations and Emergency Response.

Q: How does an inspector verify that the emergency response plan has been coordinated with the fire department(s)?

A: Review documentation that demonstrates the owner/operator has initiated communication with the local fire department(s). This written documentation should include who was contacted, date, time, and response (if any).

Emergency Response Program-Program 4 (Section 2765.3)

Regulation under development.

Chapter 8. Regulated Substances for Accidental Release Prevention (Article 8)

Threshold Determination (Section 2770.2)

A threshold quantity of a chemical is present at a stationary source, if the total quantity of that chemical, contained in a process, exceeds the threshold listed in **Section 2770.5 List of Substances**. This list is also summarized in **Appendix A** of this document – **CalARP Program Combined List of Chemical and Threshold Quantities (TQ)**.

The following apply in this threshold determination:

Toxic Chemicals

- A mixture containing less than 1 percent by weight of a **toxic** chemical does not count toward a threshold quantity of the chemical at that facility. A mixture containing a toxic chemical is regulated only if the concentration of the chemical in the mixture is 1 percent or greater by weight. The owner/operator need only consider the weight of the chemical in the mixture, not the entire weight of the mixture. This is true even for those chemicals, such as ammonia or nitric acid that have a listed concentration. For example, a solution of 19% ammonia (listed as "ammonia, 1% or greater") has a Table 3 threshold of 500 pounds. The facility must have approximately 2,632 pounds of the 19% solution to reach this threshold.
- If the partial pressure of a toxic chemical in a mixture (solution) is less than 10 millimeters of mercury (mm Hg) under handling or storage conditions, that portion of the chemical in the relevant process does not count toward a threshold quantity of the chemical at that facility. The owner/operator must document any exempted portions of processes where the partial pressure measurements or estimates are less than 10 mm Hg. This exemption does not apply to:
    - chemicals from Table 3, **Section 2770.5 List of Substances** that are solids;
    - footnote 2 chemicals from Table 3, **Section 2770.5 List of Substances**; and
    - oleum, toluene 2, 4-diisocyanate, toluene 2,6-diisocyanate and toluene diisocyanate (unspecified isomer).

Flammable Chemicals

- A mixture containing less than 1 percent by weight of a **flammable** chemical does not count toward a threshold quantity of the chemical at that facility. After noting the exceptions listed below, if the concentration of the chemical is 1 percent or greater by weight of the mixture and the NFPA flammability hazard rating is 4, then the entire weight of the mixture shall be treated as the regulated chemical. The exceptions are:
    - flammable fuels (see "Exemptions and Exclusions," below);

- chemicals in gasoline, when in distributions or related storage for use as fuel for internal combustion engines, do not count toward a threshold quantity of the chemicals at the facility;
- chemicals in naturally occurring hydrocarbon mixtures prior to entry into a natural gas processing plant or petroleum refining process unit do not count toward a threshold quantity of the chemicals at the facility. Naturally occurring hydrocarbon mixtures include any combination of condensate, crude oil, field gas, and produced water, each as defined in **Section 2735.3 Definitions**.

Exemptions and Exclusions

- Ammonia, when held by farmers and used as an agricultural nutrient, is exempt from all provisions of the CalARP Program. However, ammonia held for distribution at a farm would not be exempt.
- Table 2 flammable chemicals, when used as a fuel by an end user or held for sale as a fuel at a retail facility (as defined in Chapter 1), are excluded from all provisions of the CalARP Program.

Miscellaneous

- Chemicals contained in manufactured articles do not count toward a threshold quantity of those chemicals at the facility, providing that:
  - the article is formed to a specific shape or design during manufacture,
  - the article has end use functions that are dependent upon the shape or design during end use, and
  - the article does not normally release the chemical during manufacture or end use.
- Chemicals used for the following purposes do not count toward a threshold quantity of those chemicals at the facility:
  - structural components of the facility;
  - routine janitorial maintenance;
  - employee use of foods, drugs, cosmetics, or other personal items containing the chemical; and
  - chemicals present in process water or non-contact cooling water as drawn from the environment or municipals sources or use of chemicals present in air used either as compressed air or as part of combustion.
- Chemicals being manufactured, processed, or used in a laboratory under the supervision of a technically-qualified individual as defined in Section 720.3(ee) of Chapter 1 of Title 40 of CFR. These chemicals do not count toward a threshold quantity. 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.

Q: When considering threshold quantity, if an owner/operator has two or more processes that contain the same regulated substance (RS) are all the processes together added to estimate total RS or can each process be considered independent of each other? **(19 CCR § 2770.2)**

A: A process is subject to CalARP if a TQ of RS is present at any point in time. If two or more processes with subthreshold quantities of the same RS are not interconnected or located close enough (siting) that a single event could cause release of RS from both or all processes (co- location), then these processes are not subject to CalARP. If you have two or more processes that are interconnected or located close enough that a single event could cause release of RS from both or all process, then each of the processes' sub- threshold quantities must be considered together as a single process and subject to CalARP if the TQ is met or exceeded.

Q: When considering threshold quantity, do only the contents of tanks/vessels need consideration? **(19 CCR § 2770.2)**

A: No, the total quantity of the system must be considered in the calculations. This includes interconnections, vessels/tanks, piping, sumps, etc.

Q: When considering threshold quantity, would an owner/operator be correct if they state they do not meet TQ when content of RS is administratively or operationally controlled below TQ, even if total size/volume of the system could exceed TQ or the system has exceeded TQ at any given time? **(19 CCR § 2770.2)**

A: No. If at any time the TQ can be exceeded (i.e., a tank of solution is drained to half the capacity of the tank and the flammable gas space increases, this increases volume and adds to the total quantity of the RS. The same is true in CalARP of a liquid or a solid. Even if a container is administratively controlled at 75% capacity, an owner/operator must still consider the TOTAL capacity of the container when calculating TQ). If at any point, the calculated amount/capacity of the RS meets or exceeds TQ, it is subject to CalARP regulation, regardless of fluctuating operational or maintenance quantities.

Q: What should be considered when determining if a stationary source is a retail facility?

A: Verify that the sales to other retailers for the purpose of resale does not exceed 50% of total gross sales for the flammable fuels. This can be verified by examining a sufficient number of "Board of Equalization (BOE) State, Local and District Sales and Use Tax Return - Schedule T" (Form BOE-531-T) forms. This form will specify the dollar amounts of Gross Sales on line 1 and Sales to Other Retailers on line 4 for the reporting period. If line 4 exceeds 50% of the Gross Sales in line 1, the facility is probably NOT exempt. If the owner/operator sells other petroleum products in addition to flammable gas fuels, you may have to look at the flammable gas sales separately if you think there's any question. This may involve reviewing the owner/operator internal sales accounting documentation as well.

List of Substances (Section 2770.5)

See **Appendix A CalARP Program Combined List of Chemical and Threshold Quantities (TQ)** of this document for a combined list of CalARP Program chemicals.

- Table 1 contains 77 toxic chemicals and respective threshold quantities, which were copied directly from the Federal RMP Program.
- Table 2 contains 63 flammable chemicals and respective threshold quantities, which were copied directly from Federal RMP Program.
- Table 3 contains 273 toxic chemicals and respective threshold quantities. Many Table 3 chemicals also appear on Table 1 (i.e., they are "overlapping chemicals") with different threshold quantities.

Frequently Asked Questions

Q: What TQ does an owner/operator use to determine applicability if an RS appears on both Table 1 and Table 3 but the TQs are different?

A: The owner/operator must use the most conservative TQ when determining program applicability. For example, the Table 1 TQ for anhydrous ammonia is 10,000 pounds but the Table 3 TQ is 500 pounds. The owner/operator would consider 500 pounds as the TQ for CalARP applicability. Note: owner/operators that have RS in excess of Table 1 TQ are also subject to Federal RMP requirements.

Chapter 9. Other Requirements (Article 9)

Recordkeeping (Section 2775.1)

The owner/operator shall maintain records supporting the implementation of this program for five years, unless otherwise provided in **Chapter 6 - Program 3 Prevention Program.**

Audits (Section 2775.2)

To the extent possible, audits shall be fully coordinated with the Unified Program. There are differences between audits and inspections.

CalARP follows the federal definition of "audit." Audits are periodically performed on the RMP to review its adequacy. (Note: "periodically" is not defined.) Revisions to the RMP may be required, when necessary, to ensure compliance with the CalARP Program. An "audit" is not intended to imply an enforcement track as described in Section 2775.4 Enforcement. An audit report is issued, rather than a Notice of Violation. Audits are conducted on the entire RMP or selected elements, as deemed necessary. UPA review of a submitted RMP is an audit. Audits may be combined with an inspection.

RMP audits can be based on any of the following criteria related to the facility:

- accident history,
- accident history of other stationary sources in the same industry,*
- quantity of chemicals present,
- location of the facility with respect to public and environmental receptors,
- presence of specific chemicals,
- hazards identified in the RMP, and
- random selection[1].

Inspections are performed every three years and are for the purpose of ensuring stationary source compliance with the CalARP Program, as delineated in the RMP. An "inspection" implies enforcement track, described in Section 2775.4 Enforcement, and can lead to penalties or other enforcement action if violations are documented.

Compliance audits are self-audits performed by the owner/operator, not by the UPA. For information on Program 2 compliance audits, see Chapter 5 Program 2 Prevention Program. For information on Program 3 compliance audits, see Chapter 6 Program 3 Prevention Program.

A summary of audit determination is provided in the following table below:

Exhibit 9-1 Quick Reference for Audit Determination

Steps	Time-Frame	What
Preliminary determination	After receiving the preliminary determination of RMP revisions and associated time-frame from the UPA, the written response from the owner/operator is due within 60 days, with a one time extension of 30 days. (HSC Section 25535)	Owner/operator will respond in writing to UPA's preliminary determination. The response shall state that the owner/operator will implement the revisions in accordance with the included time- frame or shall state that the owner/operator rejects the revisions in whole or in part. The owner/operator must justify each rejection and may include substitute revisions.
Final determination	After providing the owner/operator a chance to respond, the UPA may issue the owner/operator a final written notice of revisions for the RMP. The UPA shall develop an implementation schedule for these revisions, in consultation with the owner/operator. Revisions must be completed as soon as practicable but no later than one year after the final determination was issued unless the UPA agrees in writing before the resolution becomes overdue.	The final determination may adopt or modify the revisions contained in the preliminary determination or may adopt or modify the owner/operator substitute revisions. A final determination that adopts a revision rejected by the owner operator shall include an explanation of the basis for the revision. A final determination that does not adopt a substitute revision shall include an explanation of the basis for finding such substitute revision unreasonable.
RMP Revision	RMP revisions must be made within 30 days of completion of the actions noted in the implementation schedule.	

[1] Exemption from audits: a stationary source with an OSHA star or merit ranking shall be exempt from audits as noted ("*") above.

The public shall have access to the preliminary determinations, responses, and final determinations in a manner consistent with the CalARP Program regulations.

Independent Assessments of Program 4 Facilities (Section 2775.2.5)

The UPA may perform an independent Process Safety Culture Assessment (PSCA), incident investigation, evaluation of the ARP management system **(Section 2762.16)**, or human factors analysis following a major incident at a Program 4 stationary source.

Inspections (Section 2775.3)

Inspections are site visits to check on the accuracy of the RMP data and on the implementation of all CalARP program elements. During inspections, the UPA will review the documentation for program elements, such as the PHA reports, operating procedures, maintenance schedules, process safety information, and training.

UPAs determine how many inspections they need to conduct; however, each facility needs to be inspected at least once every 3 years. Audits may lead to inspections or inspections may be done separately. Depending on the focus of the inspection (all covered processes, a single process, or particular part of the risk management program) and the size of the facility, an inspection may take several hours to several weeks.

Audits may be conducted in conjunction with the facility inspection.

Enforcement (Section 2775.4)

The owner or operator of a facility who violates the statutes or regulations established for the CalARP Program may be liable for penalties or enforcement, pursuant to the provisions in Article 2 of Chapter 6.95 of the HSC beginning with Section 25540.

Availability of Information to the Public (Section 2775.5)

Section 25531.1 of the HSC states that the public has "full and timely access to the hazard assessment information, including offsite consequence analysis…" and 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 material accidents." Section 25534.05(a)(4) of the HSC states that the RMP required by the CalARP Program shall be available to the public. There are, however, some restrictions on public access to offsite consequence analysis (OCA). The requestor must make an appointment with the UPA, and may be required to provide photo identification, and sign a log-in sheet prior to viewing the OCA documents. The requestor may read, but not remove, reproduce, print, scan, or image documents. The UPA has the option of limiting any one person's access to ten sets of OCA data per month.

For additional guidance, consult the procedures USEPA and Department of Justice addressed in 40 CFR 1400 and the RMP public review process discussed in **Chapter 3 Risk Management Plan Components and Submission Requirements**.

The disclosure of classified information by the Department of Defense or other federal agencies or contractors of such agencies shall be controlled by applicable laws, regulations, or executive orders concerning the release of classified information.

Permit Content and Air Permitting Authority or Cal OES

Requirements (Section 2775.6)

As a reminder, the CalARP Program is the Federal RMP Program with additional state-specific requirements. This section applies to Table 1 and Table 2 facilities; it does not apply to Table 3 facilities. This requirement does not directly concern UPAs; however, the UPA should ensure any relevant information is shared with the local ACPD or AQMD.

Chapter 10. Local Program Evaluation (Article 10)

Dispute Resolution (Section 2780.1)

Disputes arising between the owner/operator and an UPA shall first be decided by the UPA using dispute resolution procedures established by the UPA pursuant to a dispute resolution process. Each UPA shall establish procedures necessary to implement this dispute resolution process.

Frequently Asked Questions

Q: What elements should an UPA have established in a procedure necessary to implement a dispute resolution process?

A: The UPA should have procedures that:

- provide that the owner or operator may initiate the dispute resolution process by serving the UPA with prompt, written notice of a dispute;
- identify the officials(s) or other employee(s) of the UPA who will resolve disputes arising under this Section;
- set procedures and timetables for providing argument and supporting materials to the UPA;
- require that the UPA render a written decision within 120 days after the owner or operator initiates the dispute resolution process; and
- use the CUPA dispute resolution process if the UPA is also CUPA, providing that such process is consistent with the criteria listed above.

The owner/operator may appeal the decision of the UPA by providing a written notice of appeal to the Director of Cal OES. See Section 2780.1 Dispute Resolution for details.

Enforcement action may proceed while the dispute resolution process is taking place.

Unified Program Agency Compliance (Section 2780.2)

UPAs shall comply with the CalARP Program regulations.

Maintenance of Unified Program Agency Authorization and Reporting (Section 2780.3) and Coordination with the Unified Program (Section 2780.4)

This section contains the criteria considered by Cal OES when evaluating UPA performance related to CalARP:

- effectiveness of the UPA program to ensure stationary source participation,
- effectiveness of the procedures for records management,
- type and amount of technical assistance provided to stationary sources,

- stationary source inspections which are conducted to ensure compliance with this program,
- the UPA process for public participation,
- other required program elements necessary to implement and manage this program,
- comments from interested parties regarding the effectiveness of the local program that raise public safety issues, and
- the effectiveness of the CalARP Program in reducing or eliminating significant releases.

These standards will support Cal OES recommendations to the Secretary of CalEPA during the periodic UPA evaluation.

Performance Audit Submission (Section 2780.5)

Every fiscal year (July1 – June 30), the UPA shall conduct a performance self-audit of its CalARP Program. The annual audit report shall be based upon the previous fiscal year's activities. This audit is subject to the periodic review carried out pursuant to HSC Section 25404.4(a)(1).

An audit report shall be compiled annually and shall contain an executive summary and a brief description of how the UPA is meeting the requirements of the program as listed in **Section 2780.3 Maintenance of Unified Program Agency Authorization and Reporting**. The audit shall include, but is not limited to, the following information:

- a listing of stationary sources which have been audited;
- a listing of stationary sources which have been requested to develop RMPs;
- a listing of stationary sources which have been inspected;
- a listing of stationary sources which have received public comments on RMPs;
- a list of new or modified stationary sources;
- a summary of enforcement actions initiated by the UPA identifying each stationary source;
- a summary of the personnel and personnel years necessary to directly implement, administer, and operate the CalARP Program. This summary is not a list of personnel names and qualifications, but rather a summary of how many personnel are required to administer the program and how much of their time is required. For example, 2 inspectors, each devoting 25% of their time to CalARP, would be "2 personnel, 0.5 PY." Include supervision and administrative support; and
- a list of those stationary sources determined by the UPA to be exempt from the chapter pursuant to HSC Section 25534(b)(2).

Unified Program Agency Performance Evaluations (Section 2780.6)

Cal OES will participate in the UPA evaluations every three years in conjunction with the Unified Program staff. Cal OES will evaluate the UPA's performance and ability to carry out the requirements of the CalARP Program. Unified Program Agencies shall be evaluated by using the standards referenced in **Section 2780.3 Maintenance of Unified Program Agency Authorization and Reporting** and **Section 2780.5 Performance Audit Submission.**

The remainder of this section outlines the process and procedures to be followed, as appropriate, by Cal OES if Cal OES determines the UPA has not met the performance requirements.

Cal OES Authority (Section 2780.7)

Nothing in the CalARP Program regulations will limit the authority of Cal OES pursuant to the HSC Section 25533(f).

Chapter 11. Technical Assistance (Article 11)

Technical Assistance (Section 2785.1)

The owner/operator shall closely coordinate with the UPA to ensure that appropriate technical standards are applied to the implementation of the CalARP Program.

The owner/operator can request assistance from the UPA to address compliance with the CalARP Program or safety issues regarding unfamiliar processes.

UPAs may want to consider contacting the applicable local APCD or AQMD as a technical resource, especially for air modeling issues.

Appendix A

CalARP Program Combined List of Chemical and Threshold Quantities (TQ)

CalARP Program Combined List of Chemical and Threshold Quantities (TQ)

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Acetaldehyde	75-07-0		10,000	
Acetone cyanohydrin [3]	75-86-5			1,000
Acetone thiosemicarbazide	1752-30-3			1,000/10,000 [4]
Acetylene [Ethyne]	74-86-2		10,000	
Acrolein [2-Propenal]	107-02-8	5,000		500
Acrylamide	79-06-1			1,000/10,000 [4]
Acrylonitrile [2-Propenenitrile]	107-13-1	20,000		10,000
Acrylyl chloride [2-Propenoyl chloride]	814-68-6	5,000		100
Aldicarb	116-06-3			100/10,000 [4]
Aldrin	309-00-2			500/10,000 [4]
Allyl alcohol [2-Propen-l-ol]	107-18-6	15,000		1,000
Allylamine [2-Propen-l-amine]	107-11-9	10,000		500
Aluminum phosphide [5]	20859-73-8			500
Aminopterin	54-62-6			500/10,000 [4]
Amiton oxalate	3734-97-2			100/10,000 [4]
Ammonia (conc 1% or greater) [6]	7664-41-7			500
Ammonia (anhydrous) [6]	7664-41-7	10,000		500
Ammonia (conc 20% or greater) [6]	7664-41-7	20,000		
Ammonium hydroxide (ammonia conc 1% or greater) [6]	1336-21-6			500
Ammonium hydroxide (ammonia conc 20% or greater)	1336-21-6	20,000		
Aniline [3]	62-53-3			1,000
Antimycin A	1397-94-0			1,000/10,000 [4]
ANTU	86-88-4			500/10,000 [4]
Arsenic pentoxide	1303-28-2			100/10,000 [4]
Arsenous oxide	1327-53-3			100/10,000 [4]
Arsenous trichloride	7784-34-1	15,000		500
Arsine	7784-42-1	1,000		100
Azinphos-ethyl	2642-71-9			100/10,000 [4]
Azinphos-methyl	86-50-0			10/10,000 [4]
Benzene, 1-(chloromethyl)-4-nitro-	100-14-1			500/10,000 [4]
Benzenearsonic acid	98-05-5			10/10,000 [4]
Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	3615-21-2			500/10,000 [4]
Benzotrichloride [3]	98-07-7			100
Bicyclo[2.2.1] heptane-2-carbonitrile, 5-chloro- 6-(((((methylamino) carbonyl)oxy)Imino)-, (1s-(1-alpha, 2- beta, 4-alpha, 5-alpha, 6E))-.	15271-41-7			500/10,000 [4]
Bis(Chloromethyl) ketone	534-07-6			10/10,000 [4]
Bitoscanate	4044-65-9			500/10,000 [4]
Boron trichloride [Borane, trichloro-]	10294-34-5	5,000		500
Boron trifluoride [Borane, trifluoro-]	7637-07-2	5,000		500
Boron trifluoride compound with methyl ether (1:1) [Boron,	353-42-4	15,000		1,000
Bromadiolone	28772-56-7			100/10,000 [4]
Bromine	7726-95-6	10,000		500
Bromotrifluorethylene [Ethene, bromotrifluoro-]	598-73-2		10,000	
1,3-Butadiene	106-99-0		10,000	
Butane	106-97-8		10,000	
1-Butene	106-98-9		10,000	
2-Butene	107-01-7		10,000	
Butene	25167-67-3		10,00 0	

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
2-Butene-cis	590-18-1		10,000	
2-Butene-trans [2-Butene, (E)]	624-64-6		10,000	
Cadmium oxide	1306-19-0			100/10,000 [4]
Cadmium stearate	2223-93-0			1,000/10,000 [4]
Calcium arsenate	7778-44-1			500/10,000 [4]
Camphechlor	8001-35-2			500/10,000 [4]
Cantharidin	56-25-7			100/10,000 [4]
Carbachol chloride	51-83-2			500/10,000 [4]
Carbamic acid, methyl-,o-(((2,4-dimethyl-1, 3-dithiolan-2-	26419-73-8			100/10,000 [4]
Carbofuran	1563-66-2			10/10,000 [4]
Carbon disulfide	75-15-0	20,000		10,000
Carbon oxysulfide [Carbon oxide sulfide (COS)]	463-58-1		10,000	
Chlorine	7782-50-5	2,500		100
Chlorine dioxide [Chlorine oxide (ClO2)]	10049-04-4	1,000		
Chlorine monoxide [Chlorine oxide]	7791-21-1		10,000	
Chlormequat chloride	999-81-5			100/10,000 [4]
Chloroacetic acid	79-11-8			100/10,000 [4]
Chloroform [Methane, trichloro-]	67-66-3	20,000		10,000
Chloromethyl ether [Methane, oxybis[chloro-]]	542-88-1	1,000		100
Chloromethyl methyl ether [Methane, chloromethoxy-]	107-30-2	5,000		100
Chlorophacinone	3691-35-8			100/10,000 [4]
1-Chloropropylene [1-Propene, 1-chloro-]	590-21-6		10,000	
2-Chloropropylene [1-Propene, 2-chloro-]	557-98-2		10,000	
Chloroxuron	1982-47-4			500/10,000 [4]
Chromic chloride	10025-73-7			1/10,000 [4]
Cobalt carbonyl	10210-68-1			10/10,000 [4]
Cobalt, ((2,2'-(1,2-ethanediylbis (nitrilomethylidyne)) bis(6-	62207-76-5			100/10,000 [4]
Colchicine	64-86-8			10/10,000 [4]
Coumaphos	56-72-4			100/10,000 [4]
Coumatetralyl	5836-29-3			500/10,000 [4]
Cresol, o-	95-48-7			1,000/10,000 [4]
Crimidine	535-89-7			100/10,000 [4]
Crotonaldehyde [2-Butenal]	4170-30-3	20,000		1,000
Crotonaldehyde, (E)- [2-Butenal, (E)-]	123-73-9	20,000		1,000
Cyanogen bromide	506-68-3			500/10,000 [4]
Cyanogen iodide	506-78-5			1,000/10,000 [4]
Cyanogen [Ethanedinitrile]	460-19-5		10,000	
Cyanogen chloride	506-77-4	10,000		
Cyanuric fluoride	675-14-9			100
Cycloheximide	66-81-9			100/10,000 [4]
Cyclohexylamine [Cyclohexanamine]	108-91-8	15,000		10,000
Cyclopropane	75-19-4		10,000	
Decaborane(14)	17702-41-9			500/10,000 [4]
Dialifor	10311-84-9			100/10,000 [4]
Diborane	19287-45-7	2,500		100
Dichlorosilane [Silane, dichloro-]	4109-96-0		10,000	
Diepoxybutane [3]	1464-53-5			500
Difluoroethane [Ethane, 1,1-difluoro-]	75-37-6		10,000	
Digitoxin	71-63-6			100/10,000 [4]
Digoxin	20830-75-5			10/10,000 [4]
Dimethoate	60-51-5			500/10,000 [4]
Dimethylamine [Methanamine, N-methyl-]	124-40-3		10,000	
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	5,000		500

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
1,1-Dimethylhydrazine [Hydrazine,1,1-dimethyl-]	57-14-7	15,000		1,000
Dimethyl-p-phenylenediamine	99-98-9			10/10,000 [4]
Dimethyl sulfate [3]	77-78-1			500
2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	463-82-1		10,000	
Dimetilan	644-64-4			500/10,000 [4]
Dinitrocresol	534-52-1			10/10,000 [4]
Dinoseb	88-85-7			100/10,000 [4]
Dinoterb	1420-07-1			500/10,000 [4]
Diphacinone	82-66-6			10/10,000 [4]
Disulfoton [3]	298-04-4			500
Dithiazanine iodide	514-73-8			500/10,000 [4]
Dithiobiuret	541-53-7			100/10,000 [4]
Emetine, dihydrochloride	316-42-7			1/10,000 [4]
Endosulfan	115-29-7			10/10,000 [4]
Endothion	2778-04-3			500/10,000 [4]
Endrin	72-20-8			500/10,000 [4]
Epichlorohydrin [Oxirane, (chloromethyl)-]	106-89-8	20,000		1,000
EPN	2104-64-5			100/10,000 [4]
Ergocalciferol	50-14-6			1,000/10,000 [4]
Ergotamine tartrate	379-79-3			500/10,000 [4]
Ethane	74-84-0		10,000	
Ethyl acetylene [1-Butyne]	107-00-6		10,000	
Ethylamine [Ethanamine]	75-04-7		10,000	
Ethyl chloride [Ethane, chloro-]	75-00-3		10,000	
Ethylene [Ethene]	74-85-1		10,000	
Ethylenediamine [1,2-Ethanediamine]	107-15-3	20,000		10,000
Ethylene fluorohydrin	371-62-0			10
Ethyleneimine [Aziridine]	151-56-4	10,000		500
Ethylene oxide [Oxirane]	75-21-8	10,000		1,000
Ethyl ether [Ethane, 1,1'-oxybis-]	60-29-7		10,000	
Ethyl mercaptan [Ethanethiol]	75-08-1		10,000	
Ethyl nitrite [Nitrous acid, ethyl ester]	109-95-5		10,000	
Fenamiphos	22224-92-6			10/10,000 [4]
Fluenetil	4301-50-2			100/10,000 [4]
Fluorine	7782-41-4	1,000		500
Fluoroacetamide	640-19-7			100/10,000 [4]
Fluoroacetic acid	144-49-0			10/10,000 [4]
Fluoroacetyl chloride	359-06-8			10
Fluorouracil	51-21-8			500/10,000 [4]
Formaldehyde (including solutions) [6]	50-00-0	15,000		500
Formetanate hydrochloride	23422-53-9			500/10,000 [4]
Formparanate	17702-57-7			100/10,000 [4]
Fuberidazole	3878-19-1			100/10,000 [4]
Furan	110-00-9	5,000		500
Gallium trichloride	13450-90-3			500/10,000 [4]
Hydrazine	302-01-2	15,000		1,000
Hydrochloric acid (conc 37% or greater)	7647-01-0	15,000		
Hydrocyanic acid	74-90-8	2,500		100
Hydrogen chloride (gas / anhydrous)	7647-01-0	5,000		500
Hydrogen fluoride	7664-39-3	1,000		100
Hydrofluoric acid (conc 1% or greater) [6]	7664-39-3			100
Hydrofluoric acid (conc 50% or greater)	7664-39-3	1,000		
Hydrogen selenide	7783-07-5	500		10
Hydrogen	1333-74-0		10,000	
Hydrogen sulfide	7783-06-4	10,000		500

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Hydroquinone [7]	123-31-9			500/10,000 [4]
Iron, pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-	13463-40-6	2,500		100
Isobenzan	297-78-9			100/10,000 [4]
Isobutane [Propane, 2-methyl]	75-28-5		10,000	
Isobutyronitrile [Propanenitrile, 2-methyl-]	78-82-0	20,000		1,000
Isocyanic acid, 3,4-dichlorophenyl ester	102-36-3			500/10,000 [4]
Isodrin	465-73-6			100/10,000 [4]
Isopentane [Butane, 2-methyl-]	78-78-4		10,000	
Isophorone diisocyanate	4098-71-9			100
Isoprene [1,3-Butadinene, 2-methyl-]	78-79-5		10,000	
Isopropylamine [2-Propanamine]	75-31-0		10,000	
Isopropyl chloride [Propane, 2-chloro-]	75-29-6		10,000	
Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester]	108-23-6	15,000		1,000
Leptophos	21609-90-5			500/10,000 [4]
Lewisite [3]	541-25-3			10
Lindane	58-89-9			1,000/10,000 [4]
Lithium hydride [5]	7580-67-8			100
Malononitrile	109-77-3			500/10,000 [4]
Manganese, tricarbonyl methylcyclopentadienyl [3]	12108-13-3			100
Mechlorethamine [3]	51-75-2			10
Mercuric acetate	1600-27-7			500/10,000 [4]
Mercuric chloride	7487-94-7			500/10,000 [4]
Mercuric oxide	21908-53-2			500/10,000 [4]
Methacrylonitrile [2-Propenenitrile, 2-methyl-]	126-98-7	10,000		500
Methacryloyl chloride	920-46-7			100
Methacryloyloxyethyl isocyanate	30674-80-7			100
Methamidophos	10265-92-6			100/10,000 [4]
Methane	74-82-8		10,000	
Methanesulfonyl fluoride	558-25-8			1,000
Methidathion	950-37-8			500/10,000 [4]
Methiocarb	2032-65-7			500/10,000 [4]
Methomyl	16752-77-5			500/10,000 [4]
Methoxyethylmercuric acetate	151-38-2			500/10,000 [4]
Methylamine [Methanamine]	74-89-5		10,000	
Methyl bromide	74-83-9			1,000
2-Methyl-1-butene	563-46-2		10,000	
3-Methyl-1-butene	563-45-1		10,000	
Methyl chloride [Methane, chloro-]	74-87-3	10,000		
Methyl 2-chloroacrylate	80-63-7			500
Methyl chloroformate [Carbonochloridic acid,	79-22-1	5,000		500
Methyl ether [Methane, oxybis-]	115-10-6		10,000	
Methyl formate [Formic acid, methyl ester]	107-31-3		10,000	
Methyl hydrazine [Hydrazine, methyl-]	60-34-4	15,000		500
Methyl isocyanate [Methane, isocyanato-]	624-83-9	10,000		500
Methyl isothiocyanate [5]	556-61-6			500
Methyl mercaptan [Methanethiol]	74-93-1	10,000		500
Methylmercuric Dicyanamide	502-39-6			500/10,000 [4]
Methyl phosphonic dichloride [5]	676-97-1			100
2-Methylpropene [1-Propene, 2-methyl-]	115-11-7		10,000	
Methyl thiocyanate [Thiocyanic acid, methyl ester]	556-64-9	20,000		10,000
Methyltrichlorosilane [Silane, trichloromethyl-]	75-79-6	5,000		500
Methyl vinyl ketone	78-94-4			10
Metolcarb	1129-41-5			100/10,000 [4]
Mexacarbate	315-18-4			500/10,000 [4]

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Mitomycin C	50-07-7			500/10,000 [4]
Monocrotophos	6923-22-4			10/10,000 [4]
Muscimol	2763-96-4			500/10,000 [4]
Mexacarbate	315-18-4			500/10,000 [4]
Mitomycin C	50-07-7			500/10,000 [4]
Monocrotophos	6923-22-4			10/10,000 [4]
Muscimol	2763-96-4			500/10,000 [4]
Mustard gas [3]	505-60-2			500
Nickel carbonyl	13463-39-3	1,000		1
Nicotine sulfate	65-30-5			100/10,000 [4]
Nitric acid [1] (conc 1% or greater)	7697-37-2			1,000
Nitric acid (conc 80% or greater)	7697-37-2	15,000		
Nitric oxide [Nitrogen oxide (NO)]	10102-43-9	10,000		100
Nitrobenzene [3]	98-95-3			10,000
Nitrogen dioxide	10102-44-0			100
Norbormide	991-42-4			100/10,000 [4]
Oleum (Fuming H_2SO_4) [Sulfuric acid, mixture with	8014-95-7	10,000		
Organorhodium complex (PMN-82-147)	MIXTURE			10/10,000 [4]
Ouabain	630-60-4			100/10,000 [4]
Oxamyl	23135-22-0			100/10,000 [4]
Ozone	10028-15-6			100
Paraquat dichloride	1910-42-5			10/10,000 [4]
Paraquat methosulfate	2074-50-2			10/10,000 [4]
Parathion-methyl	298-00-0			100/10,000 [4]
Paris Green	12002-03-8			500/10,000 [4]
Pentaborane	19624-22-7			500
Pentadecylamine	2570-26-5			100/10,000 [4]
1,3-Pentadinene	504-60-9		10,000	
Pentane	109-66-0		10,000	
1-Pentene	109-67-1		10,000	
2-Pentene, (E)-	646-04-8		10,000	
2-Pentene, (Z)-	627-20-3		10,000	
Peracetic acid [Ethaneperoxoic acid]	79-21-0	10,000		500
Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-]	594-42-3	10,000		500
Phenol	108-95-2			500/10,000 [4]
Phenol, 2,2'-thiobis(4-chloro-6-methyl)-	4418-66-0			100/10,000 [4]
Phenol, 3-(1-methylethyl)-, methylcarbamate	64-00-6			500/10,000 [4]
Phenoxarsine, 10, 10' - oxydi-	58-36-6			500/10,000 [4]
Phenyl dichloroarsine [3]	696-28-6			500
Phenylhydrazine hydrochloride	59-88-1			1,000/10,000 [4]
Phenylmercury acetate	62-38-4			500/10,000 [4]
Phenylsilatrane	2097-19-0			100/10,000 [4]
Phenylthiourea	103-85-5			100/10,000 [4]
Phorate [3]	298-02-2			10
Phosacetim	4104-14-7			100/10,000 [4]
Phosfolan	947-02-4			100/10,000 [4]
Phosgene [Carbonic dichloride]	75-44-5	500		10
Phosmet	732-11-6			10/10,000 [4]
Phosphine	7803-51-2	5,000		500
Phosphonothioic acid, methyl-, S-(2-(bis(1-methylethyl)amino)ethyl) O-ethyl ester. [3]	50782-69-9			100
Phosphorus [5]	7723-14-0			100
Phosphorus oxychloride [Phosphoryl chloride]	10025-87-3	5,000		500
Phosphorus pentachloride [5]	10026-13-8			500

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Phosphorus trichloride [Phosphorous trichloride]	7719-12-2	15,000		1,000
Physostigmine	57-47-6			100/10,000 [4]
Physostigmine, salicylate (1:1)	57-64-7			100/10,000 [4]
Picrotoxin	124-87-8			500/10,000 [4]
Piperidine	110-89-4	15,000		1,000
Potassium arsenite	10124-50-2			500/10,000 [4]
Potassium cyanide [5]	151-50-8			100
Potassium silver cyanide [5]	506-61-6			500
Promecarb	2631-37-0			500/10,000 [4]
Propadiene [1,2-Propadiene]	463-49-0		10,000	
Propane	74-98-6		10,000	
Propargyl bromide	106-96-7			10
Propiolactone, beta- [3]	57-57-8			500
Propionitrile [Propanenitrile]	107-12-0	10,000		500
Propiophenone, 4-amino-	70-69-9			100/10,000 [4]
Propyl chloroformate [Carbonochloridic acid,	109-61-5	15,000		500
Propylene [1-Propene]	115-07-1		10,000	
Propylene oxide [Oxirane, methyl-]	75-56-9	10,000		10,000
Propyleneimine [Aziridine, 2-methyl-]	75-55-8	10,000		10,000
Propyne [1-Propyne]	74-99-7		10,000	
Prothoate	2275-18-5			100/10,000 [4]
Pyrene	129-00-0			1,000/10,000 [4]
Pyridine, 4-amino-	504-24-5			500/10,000 [4]
Pyridine, 4-nitro-, 1-oxide	1124-33-0			500/10,000 [4]
Pyriminil	53558-25-1			100/10,000 [4]
Salcomine	14167-18-1			500/10,000 [4]
Sarin [3]	107-44-8			10
Selenious acid	7783-00-8			1,000/10,000 [4]
Semicarbazide hydrochloride	563-41-7			1,000/10,000 [4]
Silane	7803-62-5		10,000	
Sodium arsenate	7631-89-2			1,000/10,000 [4]
Sodium arsenite	7784-46-5			500/10,000 [4]
Sodium azide (Na (N3)) [5]	26628-22-8			500
Sodium cacodylate	124-65-2			100/10,000 [4]
Sodium cyanide (Na (CN)) [5]	143-33-9			100
Sodium fluoroacetate	62-74-8			10/10,000 [4]
Sodium selenate	13410-01-0			100/10,000 [4]
Sodium selenite	10102-18-8			100/10,000 [4]
Sodium tellurite	10102-20-2			500/10,000 [4]
Stannane, acetoxytriphenyl-	900-95-8			500/10,000 [4]
Strychnine	57-24-9			100/10,000 [4]
Strychnine sulfate	60-41-3			100/10,000 [4]
Sulfur dioxide	7446-09-5			500
Sulfur dioxide (anhydrous)	7446-09-5	5,000		
Sulfuric acid [8]	7664-93-9			1,000
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-]	7783-60-0	2,500		100
Sulfur trioxide [5]	7446-11-9	10,000		100
Tabun [3]	77-81-6			10
Tellurium hexafluoride	7783-80-4			100
Tetrafluoroethylene [Ethene, tetrafluoro-]	116-14-3		10,000	
Tetramethyllead [Plumbane, tetramethyl-]	75-74-1	10,000		100
Tetramethylsilane [Silane, tetramethyl-]	75-76-3		10,000	
Tetranitromethane [Methane, tetranitro-]	509-14-8	10,000		500
Thallium sulfate	10031-59-1			100/10,000 [4]
Thallous carbonate	6533-73-9			100/10,000 [4]

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Thallous chloride	7791-12-0			100/10,000 [4]
Thallous malonate	2757-18-8			100/10,000 [4]
Thallous sulfate	7446-18-6			100/10,000 [4]
Thiocarbazide	2231-57-4			1,000/10,000 [4]
Thiofanox	39196-18-4			100/10,000 [4]
Thiosemicarbazide	79-19-6			100/10,000 [4]
Thiourea, (2-Chlorophenyl)-	5344-82-1			100/10,000 [4]
Thiourea, (2-Methylphenyl)-	614-78-8			500/10,000 [4]
Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-	7550-45-0	2,500		100
Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1- methyl-] [3]	584-84-9	10,000		500
Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2- methyl-] [3]	91-08-7	10,000		100
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3- diisocyanatomethyl-] [3]	26471-62-5	10,000		
Triamiphos	1031-47-6			500/10,000 [4]
Trichloro(chloromethyl)silane	1558-25-4			100
Trichloro(dichlorophenyl)silane	27137-85-5			500
Trichlorosilane [Silane, trichloro-]	10025-78-2		10,000	
Triethoxysilane	998-30-1			500
Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79-38-9		10,000	
Trimethylamine [Methanamine, N,N-dimethyl-]	75-50-3		10,000	
Trimethylchlorosilane [Silane, chlorotrimethyl-]	75-77-4	10,000		1,000
Trimethylolpropane phosphite	824-11-3			100/10,000 [4]
Trimethyltin chloride	1066-45-1			500/10,000 [4]
Triphenyltin chloride	639-58-7			500/10,000 [4]
Tris(2-chloroethyl)amine [3]	555-77-1			100
Valinomycin	2001-95-8			1,000/10,000 [4]
Vanadium pentoxide	1314-62-1			100/10,000 [4]
Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	15,000		1,000
Vinyl acetylene [1-Buten-3-yne]	689-97-4		10,000	
Vinyl chloride [Ethene, chloro-]	75-01-4		10,000	
Vinyl ethyl ether [Ethene, ethoxy-]	109-92-2		10,000	
Vinyl fluoride [Ethene, fluoro-]	75-02-5		10,000	
inylidene chloride [Ethene, 1,1-dichloro-]	75-35-4		10,000	
Vinylidene fluoride [Ethene, 1,1-difluoro-]	75-38-7		10,000	
Vinyl methyl ether [Ethene, methoxy-]	107-25-5		10,000	
Warfarin	81-81-2			500/10,000 [4]
Warfarin sodium	129-06-6			100/10,000 [4]
Xylylene dichloride	28347-13-9			100/10,000 [4]
Zinc, dichloro(4,4-dimethyl-5(((methylamino) carbonyl)oxy)Imino) pentanenitrile)-, (T-4)-.	58270-08-9			100/10,000 [4]
Zinc phosphide [5]	1314-84-7			500

1. Consult Section 2770.5 of the CalARP Program regulations (Tables 1, 2, and 3) for the official chemical listings. Consult Sections 2770.2, 2770.4, and 2770.4.1, for specific exemptions and exclusions.
2. Flammable substances when used as a fuel or held for sale as a fuel at a retail facility are excluded from the CalARP Program (Section 2770.4.1).
3. Substances that failed the evaluation pursuant to Section 25532(j)(2) of the HSC but remain listed pursuant to potential health impacts. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.
4. These extremely hazardous substances are solids. These substances are regulated at the lower listed threshold if: 1) the chemical is in powdered form with a particle size of less than 100 microns; or 2) if handled in solution or in molten form; or 3) the substance has an NFPA rating for reactivity of 2, 3, or 4. If the above 3 conditions do not apply, the threshold for each of these substances is 10,000 pounds. (Note: The 10,000 pound threshold for these substances is a remnant from the former RMPP program. Cal OES is considering initiating a regulatory change to remove the 10,000 pound thresholds, in accordance with HSC 25532(j)(2)(A)(iii).) In addition, the exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.
5. These extremely hazardous substances are reactive solids. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.
6. Appropriate synonyms or mixture of extremely hazardous substances with the same CAS number are also regulated, e.g., formalin. The listing of ammonia includes anhydrous and aqueous forms of ammonia pursuant to Section 25532(j)(2). Consult USEPA's "CAA Section 112(r) Frequently Asked Questions," April 2000, Questions II. 20 (List Rule Response to Comments page 50, docket A 91-74), II. 22, II. 36, and II. 37 for further discussion on ammonium hydroxide and formaldehyde.
7. Hydroquinone is exempt in crystalline form.
8. Sulfuric acid fails the evaluation pursuant to Section 25532(j)(2) of the HSC but remains listed as a Regulated Substance only under the following conditions:
    a. If concentrated with greater than 100 pounds of sulfur trioxide or the acid meets the definition of oleum. (The Table 3 threshold for sulfur trioxide is 100 pounds.) (The Table 1 threshold for oleum is 10,000 pounds.)
    b. If in a container with flammable hydrocarbons (flash point < 73 F).

Appendix B

CalARP Program Toxic Endpoint Table

The following Toxic Endpoint (TE) Table should be used for all toxic substance listed in **Section 2770.5, Table 1** and **Table 3**, of the CalARP Program. Where USEPA provided a TE for the Fed RMP Program, that TE is listed in the Table below. All other TEs were provided by the Office of Environmental Health Hazard Assessment (OEHHA), using preexisting toxicity values.

Table of Toxic Endpoints [to be used as described in Section 2750.2]

		Toxic Endpoint (TE)		
Chemical Name	CAS Number	TE (gm/m^3 or mg/l)	TE (ppm)	Basis for TE
Acetone cyanohydrin	75-86-5	0.012	3.448	AEGL-2 [2]
Acetone thiosemicarbazide	1752-30-3	0.01		US EPA LOC [2]
Acrolein [2-Propenal]	107-02-8	0.0011	0.5	US EPA RMP Program [3]
Acrylamide	79-06-1	0.060		US EPA LOC [2]
Acrylonitrile [2- Propenenitrile]	107-13-1	0.076	35	US EPA RMP Program [3]
Acrylyl chloride [2-Propenoyl chloride]	814-68-6	0.00090	0.2	US EPA RMP Program [3]
Aldicarb	116-06-3	0.0003		US EPA LOC[2]
Aldrin	309-00-2	0.010		IDLH95/10[2]
Allyl alcohol [2-Propen-1-ol]	107-18-6	0.036	15	US EPA RMP Program [3]
Allylamine [2-Propen-1-amine]	107-11-9	0.0032	1	US EPA RMP Program [3]
Aluminum phosphide	20859-73-8	0.0047		AEGL-2 [2]
Aminopterin	54-62-6	0.025		US EPA LOC [2]
Amiton oxalate	3734-97-2	0.003		US EPA LOC [2]
Ammonia (anhydrous) or (aqueous), or ammonium hydroxide	7664-41-7	0.14	200	US EPA RMP Program [3]
Aniline	62-53-3	0.046	12	AEGL-2 [2]
Antimycin A	1397-94-0	0.0018		US EPA LOC [2]
ANTU	86-88-4	0.010		US EPA LOC [2]
Arsenic pentoxide	1303-28-2	0.0005 as As		IDLH95/10 [2]
Arsenous oxide	1327-53-3	0.0005 as As		IDLH95/10 [2]
Arsenous trichloride	7784-34-1	0.010	1	US EPA RMP Program [3]
Arsine	7784-42-1	0.0019	0.6	US EPA RMP Program [3]
Azinophos-ethyl	2642-71-9	0.0039		US EPA LOC [2]
Azinophos-methyl	86-50-0	0.001		IDLH95/10 [2]
Benzene, 1-(Chloromethyl)-4-nitro-	100-14-1	0.028		US EPA LOC [2]
Benzenearsonic acid	98-05-5	0.00027		US EPA LOC [2]
Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	3615-21-2	0.013		US EPA LOC [2]
Benzotrichloride	98-07-7	0.0007	0.1	US EPA LOC [2]
Bicyclo[2.2.1] heptane-2-carbonitrile, 5-chloro- 6-(((methylamino) carbonyl)oxy)imino)-, (1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))-	15271-41-7	0.019		US EPA LOC [2]
Bis(chloromethyl) ketone	534-07-6	0.00027		US EPA LOC [2]
Bitoscanate	4044-65-9	0.020		US EPA LOC [2]
Boron trichloride [Borane, trichloro-]	10294-34-5	0.010	2	US EPA RMP Program [3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		
		TE (gm/m3 or mg/l)	TE (ppm)	Basis for TE
Boron trifluoride [Borane, trifluoro-]	7637-07-2	0.028	10	US EPA RMP Program [3]
Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro[oxybis[methane]]-, T-4	353-42-4	0.023		US EPA RMP Program [3]
Bromadiolone	28772-56-7	0.001		US EPA LOC[2]
Bromine	7726-95-6	0.0065	1	US EPA RMP Program [3]
Cadmium oxide	1306-19-0	0.004		US EPA LOC [2]
Cadmium sterate	2223-93-0	0.0013		US EPA LOC [2]
Calcium arsenate	7778-44-1	0.0015		IDLH95/10 [2]
Camphechlor	8001-35-2	0.02		US EPA LOC [2]
Cantharidin	56-25-7	0.0043		US EPA LOC [2]
Carbachol chloride	51-83-2	0.015		US EPA LOC [2]
Carbamic acid, methyl-,o-(((2,4-dimethyl-1, 3-dithiolan-2-yl) methylene)amino)-	26419-73-8	0.001		US EPA LOC [2]
Carbofuran	1563-66-2	0.00043		US EPA LOC [2]
Carbon disulfide	75-15-0	0.16	50	US EPA RMP Program [3]
Chlorine	7782-50-5	0.0087	3	US EPA RMP Program [3]
Chlorine dioxide [Chlorine oxide (ClO2)]	10049-04-4	0.0028	1	US EPA RMP Program [3]
Chlormequat chloride	999-81-5	0.007		US EPA LOC [2]
Chloroacetic acid	79-11-8	0.0018		US EPA LOC [2]
Chloroform [Methane, trichloro-]	67-66-3	0.49	100	US EPA RMP Program [3]
Chloromethyl ether [Methane, oxybis[chloro-]]	542-88-1	0.00025	0.05	US EPA RMP Program [3]
Chloromethyl methyl ether [Methane, chloromethoxy-]	107-30-2	0.0018	0.6	US EPA RMP Program [3]
Chlorophacinone	3691-35-8	0.001		US EPA LOC [2]
Chloroxuron	1982-47-4	0.010		US EPA LOC [2]
Chromic chloride	10025-73-7	0.0005 as CrIII		TLV96 [2]
Cobalt carbonyl	10210-68-1	0.00027		US EPA LOC [2]
Cobalt, ((2,2'-(1,2-Ethanediylbis (nitrilomethylidyne)) bis(6-fluorophenolato))(2-)-N,N',O,O')-	62207-76-5	0.003		US EPA LOC [2]
Colchicine	64-86-8	0.0009		US EPA LOC [2]
Coumaphos	56-72-4	0.003		US EPA LOC [2]
Coumatetralyl	5836-29-3	0.0165		US EPA LOC [2]
Cresol, o-	95-48-7	0.100		US EPA LOC [2]
Crimidine	535-89-7	0.0012		US EPA LOC [2]
Crotonaldehyde [2-Butenal]	4170-30-3	0.029	10	US EPA RMP Program [3]
Crotonaldehyde, (E)- [2-Butenal, (E)-]	123-73-9	0.029	10	US EPA RMP Program [3]
Cyanogen bromide	506-68-3	0.044		US EPA RMP Program [3]
Cyanogen chloride	506-77-4	0.030	12	US EPA RMP Program [3]
Cyanogen iodide	506-78-5	0.180		IDLH95/10 [2]
Cyanuric fluoride	675-14-9	0.00017	0.031	US EPA LOC [2]
Cycloheximide	66-81-9	0.002		US EPA LOC [2]
Cyclohexylamine [Cyclohexanamine]	108-91-8	0.160	39	US EPA RMP Program [3]
Decaborane (14)	17702-41-9	0.002		IDLH95/10 [2]
Dialifor	10311-84-9	0.005		US EPA LOC [2]
Diborane	19287-45-7	0.0011	1	US EPA RMP Program [3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE (gm/m^3 or mg/l)	TE (ppm)	
Diepoxybutane	1464-53-5	0.0035	0.994	
Digitoxin	71-63-6	0.00018		US EPA LOC [2]
Digoxin	20830-75-5	0.0002		US EPA LOC [2]
Dimethoate	60-51-5	0.030		US EPA LOC [2]
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	0.026	5	US EPA RMP Program [3]
1,1-dimethylhydrazine [Dimethylhydrazine] [Hydrazine,1,1-dimethyl-]	57-14-7	0.012	5	US EPA RMP Program [3]
Dimethyl-p-phenylenediamine	99-98-9	0.00013		US EPA LOC [2]
Dimethyl sulfate	77-78-1	0.00062	0.120	AEGL-2 [2]
Dimetilan	644-64-4	0.025		US EPA LOC [2]
Dinitrocresol	534-52-1	0.0005		US EPA LOC [2]
Dinoseb	88-85-7	0.0045		US EPA LOC [2]
Dinoterb	1420-07-1	0.025		US EPA LOC [2]
Diphacinone	82-66-6	0.0009		US EPA LOC [2]
Disulfoton	298-04-4	0.002	0.178	US EPA LOC [2]
Dithiazanine iodide	514-73-8	0.020		US EPA LOC [2]
Dithiobiuret	541-53-7	0.005		US EPA LOC [2]
Emetine, Dihydrochloride	316-42-7	0.00015		US EPA LOC [2]
Endosulfan	115-29-7	0.0008		US EPA LOC [2]
Endothion	2778-04-3	0.017		US EPA LOC [2]
Endrin	72-20-8	0.0003		IDLH95/10 [2]
Epichlorohydrin [Oxirane, (chloromethyl)-]	106-89-8	0.076		US EPA RMP Program [3]
EPN	2104-64-5	0.0005		IDLH95/10 [2]
Ergocalciferol	50-14-6	0.040		US EPA LOC [2]
Ergotamine tartrate	379-79-3	0.010		US EPA LOC [2]
Ethylenediamine [1,2-Ethanediamine]	107-15-3	0.490	200	US EPA RMP Program [3]
Ethylene fluorohydrin	371-62-0	0.00006	0.023	US EPA LOC [2]
Ethyleneimine [Aziridine]	151-56-4	0.018	10	US EPA RMP Program [3]
Ethylene oxide [Oxirane]	75-21-8	0.090	50	US EPA RMP Program [3]
Fenamiphos	22224-92-6	0.0009		US EPA LOC [2]
Fluenetil	4301-50-2	0.006		US EPA LOC [2]
Fluorine	7782-41-4	0.0039	2.5	US EPA RMP Program [3]
Fluoroacetamide	640-19-7	0.0058		US EPA LOC [2]
Fluoroacetic acid	144-49-0	0.00047		US EPA LOC [2]
Fluoroacetyl chloride	359-06-8	0.010	2.5	US EPA LOC [2]
Fluorouracil	51-21-8	0.019		US EPA LOC [2]
Formaldehyde	50-00-0	0.012	10	US EPA RMP Program [3]
Formetanate hydrochloride	23422-53-9	0.018		US EPA LOC [2]
Formparanate	17702-57-7	0.0072		US EPA LOC [2]
Fuberidazole	3878-19-1	0.0033		US EPA LOC [2]
Furan	110-00-9	0.0012	0.4	US EPA RMP Program [3]
Gallium trichloride	13450-90-3	0.032		US EPA LOC [2]
Hydrazine	302-01-2	0.011	8	US EPA RMP Program [3]
Hydrochloric acid or hydrogen chloride	7647-01-0	0.030	20	US EPA RMP Program [3]
Hydrocyanic acid	74-90-8	0.011	10	US EPA RMP Program [3]
Hydrofluoric acid or hydrogen fluoride	7664-39-3	0.016	20	US EPA RMP Program [3]
Hydrogen selenide	7783-07-5	0.00066	0.2	US EPA RMP Program [3]
Hydrogen sulfide	7783-06-4	0.042	30	US EPA RMP Program [3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE (gm/m^3 or mg/l)	TE (ppm)	
Hydroquinone	123-31-9	0.003		IDLH95/10 [2]
Iron, Pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-]	13463-40-6	0.00044	0.05	US EPA RMP Program [3]
Isobenzan	297-78-9	0.002		US EPA LOC [2]
Isobutyronitrile [Propanenitrile, 2-methyl-]	78-82-0	0.140	50	US EPA RMP Program [3]
Isocyanic acid, 3,4-dichorophenyl ester	102-36-3	0.014		US EPA LOC [2]
Isodrin	465-73-6	0.007		US EPA LOC [2]
Isophorone diisocyanate	4098-71-9	0.00125		US EPA LOC [2]
Isopropyl chloroformate [Carbonochloridic acid,1-methylethyl ester]	108-23-6	0.100	20	US EPA RMP Program [3]
Leptophos	21609-90-5	0.030		US EPA LOC [2]
Lewisite	541-25-3	0.00012	0.014	AEGL-2 [2]
Lindane	58-89-9	0.050		IDLH95/10 [2]
Lithium hydride	7580-67-8	0.0001		ERPG [2]
Malononitrile	109-77-3	0.013		AEGL-2 [2]
Manganese, tricarbonyl methylcyclopentadienyl	12108-13-3	0.0006	0.067	US EPA LOC [2]
Mechlorethamine (Nitrogen Mustard 2)	51-75-2	0.000022	0.003	AEGL-2 [2]
Mercuric acetate	1600-27-7	0.00001		TLV96 [2]
Mercuric chloride	7487-94-7	0.00003		TLV96 [2]
Mercuric oxide	21908-53-2	0.000027		TLV96 [2]
Methacrylonitrile [2-Propenenitrile, 2-methyl-]	126-98-7	0.0027	1	US EPA RMP Program [3]
Methacryloyl chloride	920-46-7	0.0006	0.14	US EPA LOC [2]
Methacryloyloxyethyl isocyanate	30674-80-7	0.00063	0.100	ERPG-2 [2]
Methamidophos	10265-92-6	0.060		US EPA LOC [2]
Methanesulfonyl fluoride	558-25-8	0.0125	3.116	US EPA LOC [2]
Methidathion	950-37-8	0.020		US EPA LOC [2]
Methiocarb	2032-65-7	0.015		US EPA LOC [2]
Methomyl	16752-77-5	0.010		US EPA LOC [2]
Methoxyethylmercuric acetate	151-38-2	0.000048		TLV96 [2]
Methyl bromide	74-83-9	0.00388		IDLH95/10 [2]
Methyl 2-chloroacrylate	80-63-7	0.005	1.014	US EPA LOC [2]
Methyl chloride [Methane, chloro-]	74-87-3	0.820		US EPA RMP Program
Methyl chloroformate [Carbonochloridic acid, methylester]	79-22-1	0.0019	0.5	US EPA RMP Program [3]
Methyl hydrazine [Hydrazine, methyl-]	60-34-4	0.0094	5	US EPA RMP Program [3]
Methyl isocyanate [Methane, isocyanato-]	624-83-9	0.0012	0.5	US EPA RMP Program [3]
Methyl isothiocyanate	556-61-6	0.033		US EPA LOC [2]
Methyl mercaptan [Methanethiol]	74-93-1	0.049	25	US EPA RMP Program [3]
Methylmercuric dicyanamide	502-39-6	0.000045		TLV96 [2]
Methyl phosphonic dichloride	676-97-1	0.0014		US EPA LOC [2]
Methyl thiocyanate [Thiocyanic acid, methyl ester]	556-64-9	0.085	29	US EPA RMP Program [3]
Methyltrichlorosilane [Silane, tricholoromethyl-]	75-79-6	0.018	3	US EPA RMP Program [3]
Methyl vinyl ketone	78-94-4	0.00049	0.02	US EPA LOC [2]
Metolcarb	1129-41-5	0.0048		US EPA LOC [2]
Mexacarbate	315-18-4	0.014		US EPA LOC [2]
Mitomycin C	50-07-7	0.023		US EPA LOC [2]
Monocrotophos	6923-22-4	0.00063		US EPA LOC [2]
Muscimol	2763-96-4	0.017		US EPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE (gm/m3 or mg/l)	TE (ppm)	
Mustard gas [Sulfure Mustard]	505-60-2	0.0001	0.015	AEGL-2 [2]
Nickel carbonyl	13463-39-3	0.00067	0.1	US EPA RMP Program [3]
Nicotine sulfate	65-30-5	0.009		US EPA LOC [2]
Nitric acid	7697-37-2	0.026	10	US EPA RMP Program 3
Nitric oxide	10102-43-9	0.031		US EPA RMP Program 3
Nitrobenzene	98-95-3	0.100	20	US EPA LOC 2
Nitrogen dioxide	10102-44-0	0.00094	1	NAS SPEGL 2
Norbormide	991-42-4	0.0038		US EPA LOC 2
Oleum (Fuming H2SO4) [H2SO4, mixture with SO3]	8014-95-7	0.010	3	US EPA RMP Program 3
Organorhodium complex (PMN-82-147) (MIXTURE)	MIX	0.000292		US EPA LOC 2
Ouabain	630-60-4	0.0083		US EPA LOC 2
Oxamyl	23135-22-0	0.0017		US EPA LOC 2
Ozone	10028-15-6	0.002	1.109	IDLH95/10 2
Paraquat dichloride	1910-42-5	0.0005		IDLH95/10 2
Paraquat methosulfate	2074-50-2	0.015		US EPA LOC 2
Parathion-methyl	298-00-0	0.00034		US EPA LOC 2
Paris Green	12002-03-8	0.00338		US EPA LOC 2
Pentaborane	19624-22-7	0.00036	0.1	IDLH95/10 2
Pentadecylamine	2570-26-5	0.002		US EPA LOC 2
Peracetic acid [Ethaneperoxoic acid]	79-21-0	0.0045	1.5	US EPA RMP Program 3
Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-]	594-42-3	0.0076	1	US EPA RMP Program 3
Phenol	108-95-2	0.089		AEGL-2 2
Phenol, 2,2'-thiobis(4-chloro-6-methyl)-	4418-66-0	0.0013		US EPA LOC 2
Phenol, 3-(1-methylethyl)-, methylcarbamate	64-00-6	0.016		US EPA LOC 2
Phenoxarsine, 10, 10' - oxydi-	58-36-6	0.014		US EPA LOC 2
Phenyl dichloroarsine	696-28-6	0.000061	0.007	AEGL-2 2
Phenylhydrazine hydrochloride	59-88-1	0.05		IDLH95/10 2
Phenylmercury acetate	62-38-4	0.000168		TLV96 2
Phenylsilatrane	2097-19-0	0.001		US EPA LOC 2
Phenylthiourea	103-85-5	0.003		US EPA LOC 2
Phorate	298-02-2	0.00004	0.004	AEGL-2 2
Phosacetim	4104-14-7	0.0037		US EPA LOC 2
Phosfolan	947-02-4	0.009		US EPA LOC 2
Phosgene [Carbonic dichloride]	75-44-5	0.00081	0.2	US EPA RMP Program 3
Phosmet	732-11-6	0.00054		US EPA LOC 2
Phosphine	7803-51-2	0.0035	2.5	US EPA RMP Program 3
Phosphonothioic acid, methyl-, S-(2-(bis (1-methylethyl)amino) ethyl) O-ethyl ester [VX]	50782-69-9	0.000029	0.003	AEGL-2 [2]
Phosphorus	7723-14-0	0.00075		TLV96 [2]
Phosphorus oxychloride [Phosphoryl chloride]	10025-87-3	0.0030	0.5	US EPA RMP Program [3]
Phosphorus pentachloride	10026-13-8	0.0125		IDLH95/10 [2]
Phosphorus trichloride	7719-12-2	0.028	5	US EPA RMP Program [3]
Physostigmine	57-47-6	0.0045		US EPA LOC [2]
Physostigmine, salicylate (1:1)	57-64-7	0.0025		US EPA LOC [2]
Picrotoxin	124-87-8	0.015		US EPA LOC [2]
Piperidine	110-89-4	0.022	6	US EPA RMP Program [3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE (gm/m^3 or mg/l)	TE (ppm)	
Potassium arsenite	10124-50-2	0.003		IDLH95/10 [2]
Potassium cyanide	151-50-8	0.0050		IDLH95/10 [2]
Potassium silver cyanide	506-61-6	0.0250		IDLH95/10 [2]
Promecarb	2631-37-0	0.016		US EPA LOC [2]
Propargyl bromide	106-96-7	0.00003	0.006	US EPA LOC [2]
Propiolactone, beta	57-57-8	0.0015	0.5	US EPA LOC [2]
Propionitrile [Propanenitrile]	107-12-0	0.0037	1.6	US EPA RMP Program [3]
Propiophenone, 4'-amino-	70-69-9	0.0056		US EPA LOC [2]
Propyl chloroformate [Carbonochloridic acid, propylester]	109-61-5	0.010	2	US EPA RMP Program [3]
Propylene oxide [Oxirane, methyl-]	75-56-9	0.590	250	US EPA RMP Program [3]
Propyleneimine [Aziridine, 2-methyl-]	75-55-8	0.120	50	US EPA RMP Program [3]
Prothoate	2275-18-5	0.0017		US EPA LOC [2]
Pyrene	129-00-0	0.0025		US EPA LOC [2]
Pyridine, 4-amino-	504-24-5	0.020		US EPA LOC [2]
Pyridine, 4-nitro-, 1-oxide	1124-33-0	0.080		US EPA LOC [2]
Pyriminil	53558-25-1	0.0062		US EPA LOC [2]
Salcomine	14167-18-1	0.039		US EPA LOC [2]
Sarin	107-44-8	0.000035	0.006	US EPA LOC [2]
Selenious acid	7783-00-8	0.000327		IDLH95/10 [2]
Semicarbazide hydrochloride	563-41-7	0.100		US EPA LOC [2]
Sodium arsenate	7631-89-2	0.000027		IDLH95/10 [2]
Sodium arsenite	7784-46-5	0.0006		IDLH95/10 [2]
Sodium azide (Na (N3))	26628-22-8	0.00029		US EPA LOC [2]
Sodium cacodylate	124-65-2	0.003		US EPA LOC [2]
Soduim cyanide	143-33-9	0.0025		US EPA LOC [2]
Sodium fluoroacetate	62-74-8	0.0002		US EPA LOC [2]
Sodium selenate	13410-01-0	0.000479		US EPA LOC [2]
Sodium selenite	10102-18-8	0.000438		US EPA LOC [2]
Sodium tellurite	10102-20-2	0.0075		US EPA LOC [2]
Stannane, acetoxytriphenyl-	900-95-8	0.000345		TLV96 [2]
Strychnine	57-24-9	0.0003		US EPA LOC [2]
Strychnine sulfate	60-41-3	0.005		US EPA LOC [2]
Sulfur dioxide	7446-09-5	0.0078	3	US EPA RMP Program [3]
Sulfuric acid	7664-93-9	0.0002	0.25	NAS EEGL
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-]	7783-60-0	0.0092	2	US EPA RMP Program [3]
Sulfur trioxide	7446-11-9	0.010	3	US EPA RMP Program [3]
Tabun	77-81-6	0.000014	0.002	AEGL-2 [2]
Tellurium hexafluoride	7783-80-4	0.001	0.101	US EPA LOC [2]
Tetramethyllead [Plumbane, tetramethyl-]	75-74-1	0.0040	0.4	US EPA RMP Program [3]
Tetranitromethane [Methane, tetranitro-]	509-14-8	0.0040	0.5	US EPA RMP Program [3]
Thallium sulfate	10031-59-1	0.002		US EPA LOC [2]
Thallous carbonate	6533-73-9	0.002		US EPA LOC [2]
Thallous chloride	7791-12-0	0.002		US EPA LOC [2]
Thallous malonate	2757-18-8	0.002		US EPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE (gm/m^3 or mg/l)	TE (ppm)	
Thallous sulfate	7446-18-6	0.00062		US EPA LOC [2]
Thiocarbazide	2231-57-4	0.100		US EPA LOC [2]
Thiofanox	39196-18-4	0.0085		US EPA LOC [2]
Thiosemicarbazide	79-19-6	0.0015		US EPA LOC [2]
Thiourea, (2-chlorophenyl)-	5344-82-1	0.0046		US EPA LOC [2]
Thiourea, (2-methylphenyl)-	614-78-8	0.050		US EPA LOC [2]
Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-]	7550-45-0	0.020	2.6	US EPA RMP Program [3]
Toluene-2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-]	584-84-9	0.0070	1	US EPA RMP Program [3]
Toluene-2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-]	91-08-7	0.0070	1	US EPA RMP Program [3]
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-]	26471-62-5	0.0070	1	US EPA RMP Program [3]
Triamiphos	1031-47-6	0.010		US EPA LOC [2]
Trichloro(chloromethyl)silane	1558-25-4	0.050	0.04	US EPA LOC [2]
Trichloro(dichlorophenyl)silane	27137-85-5	0.084	0.7	US EPA LOC [2]
Triethoxysilane	998-30-1	0.00336	0.7	US EPA LOC [2]
Trimethylchlorosilane [Silane, chlorotrimethyl-]	75-77-4	0.050	11	US EPA RMP Program [3]
Trimethylolpropane phosphite	824-11-3	0.0025		US EPA LOC [2]
Trimethyltin chloride	1066-45-1	0.000168		TLV96 [2]
Triphenyltin chloride	639-58-7	0.000325		TLV96 [2]
Tris(2-chloroethyl)amine [Nitrogen Mustard 3]	555-77-1	0.000022	0.003	AEGL-2 [2]
Valinomycin	2001-95-8	0.0025		US EPA LOC [2]
Vanadium pentoxide	1314-62-1	0.00050		IDLH95/10 [2]
Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	0.260	75	US EPA RMP Program [3]
Warfarin	81-81-2	0.020		US EPA LOC [2]
Warfarin sodium	129-06-6	0.009		US EPA LOC [2]
Xylylene dichloride	28347-13-9	0.002		US EPA LOC [2]
Zinc, dichloro(4,4-dimethyl-5((((methylamino) carbonyl)oxy) imino) pentanenitrile)-, (T-4)-	58270-08-9	0.009		US EPA LOC [2]
Zinc phosphide	1314-84-7	0.011		AEGL-2 [2]

Footnotes

1 ppm = [gm/m3 / molecular weight] x 24,450. Conversion to ppm is used for liquids and gases only. No ppm conversion is given for a regulated substance that is a solid. Table 1 regulated substances were converted to ppm from mg/l.

2 TEs were provided by OEHHA. Each TE is based on preexisting toxicity values. The selection of each TE was based on the best available scientific information, within the United States Environmental Protection Agency (USEPA) framework. Following the USEPA methodology (1987, 1994, 1996) and the availability of recent information, the TE was chosen from the hierarchy, AEGL>SPEGL>EEGL>ERPG-2>IDLH/10>TLV. In some cases, an evaluation of the available documentation suggested that a value from a guideline outside of this order was more appropriate.

The definitions of specific standards are given below:

AEGL-2: Acute Emergency Guidance Level, developed by the USEPA. AEGL-2 is an air concentration that a person could be exposed to without developing or experiencing irreversible or other serious health effects or symptoms that would impair taking corrective action.

LOC: Level of Concern developed by the USEPA (1987) for emergency planning. LOCs are based primarily on IDLH levels developed by NIOSH, and in the absence of IDLHs, TLVs. As proposed by USEPA (1987), the IDLH was divided by 10.

EEGL: Emergency Exposure Guideline Level developed by the National Academy of Sciences (NAS) Committee on Toxicology (COT) (NAS, 1988).

IDLH: level considered as Immediately Dangerous to Life and Health, developed by the National Institute for Occupational Safety & Health. Because an IDLH is associated with death or the inability of the exposed individual to safely leave, USEPA (1987) divided the IDLH by 10 to obtain an LOC. Updated IDLHs are indicated as IDLH95 (NIOSH, 1995).

ERPG-2: Emergency Response Planning Guideline developed by the American Industrial Hygiene Association and represents an airborne toxin concentration below which most persons could be exposed for one hour without experiencing irreversible or other serious health effects that could interfere with the ability to take protective action (AIHA, 1996).

SPEGL: Short Term Public Emergency Guideline Level developed by the NAS-COT (1988).

PEL: Public Emergency exposure Limit (NAS, 1971).

TLV: 8 hour occupational Threshold Limit Value developed by the American Conference of Governmental Industrial Hygienists (ACGIH, 1996).

These TE values are based on the listed substance, except when indicated to be based on the elemental constituent (e.g., "as AS" means the TE is based on the element arsenic). Other exceptions: the TE for boron trichloride (BCl3) is based on hydrochloric acid (HCl) and the assumption of 3 moles of HCl per mole of BCl3; the basis for the TE for phenylhydrazine hydrochloride is the toxicity of phenylhydrazine free base (CAS 100-63-0). No values were available for the hydrochloride.

3 TEs (in mg/l) were taken from USEPA's Accidental Release Prevention Program found in Title 40, Code of Federal Regulations, Part 68, Appendix A.

Appendix C

State-Specific CalARP Program Information

Table of State-Specific CalARP Program Information

Regulation Section	Specific California Requirement
2735.1	Purpose of the CalARP Program
2735.2	Scope of the CalARP Program
2735.3(h)	Definition of Cal OES
2735.3(i)	Definition of Cal OSHA
2735.3(m)	Definition of change
2735.3(r)	Definition of damage mechanism
2735.3(t)	Definition of employee representative
2735.3(v)	Definition of feasible
2735.3(x)	Definition of hierarchy of hazard control
2735.3(y)	Definition of highly hazardous material
2735.3(aa)	Definition of human factor
2735.3(bb)	Definition of Independent Protection Layer
2735.3(cc)	Definition of inherent safety
2735.3(dd)	Definition of initiating cause
2735.3(ff)	Definition of interested parties
2735.3(gg)	Definition of isolate
2735.3(ii)	Definition of major incident
2735.3(mm)	Definition of modified stationary source
2735.3(qq)	Definition of new stationary source
2735.3(tt)	Definition of owner or operator
2735.3(uu)	Definition of Part 68
2735.3(vv)	Definition of petroleum refinery
2735.3(yy)	Definition of process for Program 4
2735.3(zz)	Definition of process equipment
2735.3(aaa)	Definition of process safety hazard
2735.3(bbb)	Definition of process safety culture
2735.3(ccc)	Definition of process safety performance indicators
2735.3(ggg)	Definition of qualified operator
2735.3(hhh)	Definition of qualified person
2735.3(iii)	Definition of qualified position
2735.3(jjj)	Definition of RAGAGEP
2735.3(nnn)	Definition of revalidation
2735.3(ppp)	Definition of safeguard
2735.3(qqq)	Definition of safety instrumented systems
2735.3(sss)	Definition of temporary pipe or equipment repair
2735.3(ttt)	Definition of threshold quantity
2735.3(uuu)	Definition of trade secrets (HSC 25538)
2735.3(vvv)	Definition of turnaround
2735.3(www)	Definition of turnaround for Program 4
2735.3(yyy)	Definition of UPA
2735.3(zzz)	Definition of utility for Program 4
2735.4	Applicability
2735.4(a)(2)	UPA risk determination for Table 3 chemicals
2735.4(f)	Program 4 eligibility requirements

Regulation Section	Specific California Requirement
2735. 5(a)	Requires coordination between facility and UPA to implement Program
2735.5(c)	Use of Model RMP's
2740.1(a)	UPA gets a copy of RMP submitted to USEPA
2740.1	Registration
2745.1(a)	RMP submittal requirements for Program 4
2745.1	RMP submission to UPA
2745.1(b)	RMP submittal timeframe for existing facilities
2745.1(d)	RMP submittal timeframe for new or modified facilities
2745.1(d) and (e)	State-only required RMP information does not get submitted to USEPA
2745.1(f)	UPA consults with the Agricultural Commissioner or Department of Food and Agriculture (Department of Pesticide Regulation) for pesticide-related RMPs.
2745.1(i)	UPA provides RMP information to Cal OES, if requested
2745.2	RMP review process
2745.6	Program 2 Prevention Program external events analysis
2745.7	Program 3 Prevention Program external events analysis
2745.10(b)	RMP updates for Table 3 chemicals (copied Fed RMP Program)
2745.10(c)	Copy of revised registration is also submitted to UPA
2745.10(d)	Table 3 RMP update timeframe
2745.10(e)	Revised RMPs subject to public review
2745.10(f)	New owners/operators have 30 days to update registration information. The new owner/operator determines if RMP changes are necessary.
2745.11	Covered process modifications
2745.12	Certificate of Occupancy
2750.2(a)	Offsite Consequence Analysis Parameters - Discussion of toxic endpoints for Table 3
2750.3(j)	Parameters for OCA and solids
2755.2(b)	Program 2: facility consults with UPA for Hazard Review
2755.2(c)	Program 2: Checklists must be acceptable to UPA
2755.2(d)	Program 2: Hazard Review external events consideration, including seismic
2760.2(b)	Program 3: Coordination with UPA on PHA
2760.2(c)(8)	Program 3: PHA external events consideration, including seismic
Article 6.5	Prevention program for Program Level 4
2765.2(a)	Additional language about emergency planning and emergency response
2765.2(a)(3)	Training for all employees in relevant procedures and aspects of the Incident Command System
2765.2(b)	Contingency Plan format – 25503.4 HSC format, information shall be provided to Cal OES, upon request
2765.2(d)	Hazardous materials Business Plan annual submittal requirements and provisions.
2765.3	Emergency Response Program for Program 4 (in rulemaking)
2775.2(a)	Audits coordinated with Unified Program
2775.2(d)	UPA has access the stationary source, supporting documentation and any other areas where an accidental release could occur.
2775.2(g)	UPA consults with the owner of the stationary source to determine time-table for implementation.
2775.3	UPA shall inspect every stationary source
2775.4	Enforcement
2775.6	Permit Content and Air Permitting Authority or CalOES Requirements
2775.6(d)(3)	Coordination of notification of initial enforcement action by air quality district
2775.6(e)	CalARP Program applicability under state requirements shall not in itself be subject to federal requirements Title 40 of CFR
2780.1 – 2780.7	Local program evaluation
2785.1	Technical assistance

Appendix D

Table of CalARP Program Time-Frames

Time-frames for submission, review, and update of the Risk Management Plan.

Subject	Initiating Event	Ending Event	Time-frame	Chapter/ Reference*
Submission of RMP:				
Submission of RMP (Table 1 or 2)	Facility existed prior to 6/21/99	Facility existed prior to 6/21/99	By 6/21/99	3 2745.1
Submission of RMP (Table 3)	Facility existed prior to 6/21/99	Facility existed prior to 6/21/99	12-36 months after UPA determination	3 2745.1
Submission of RMP (Table 3)	Facility is new or has been modified	Facility is new or has been modified	Before TQ is present in process	3 2745.1
Review of RMP:				
Certification	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	Within Submittal Time-Frame	3 2745.2
Completeness determination	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	Within Submittal Time-Frame	3 2745.2
Initial public notice	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	Within Submittal Time-Frame	3 2745.2
RMP review	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	Within Submittal Time-Frame	3 2745.2

Subject	**Initiating Event**	**Ending Event**	**Time-frame**	**Chapter/ Reference***
Deficiency notice	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	No set time boundaries for these activities, as long as they are completed within the overall submittal time-frame	Within Submittal Time-Frame	3 2745.2
Deficiency correction	Deficiency notice	Resubmission of corrected RMP	60 days (90 days if requested)	3 2745.2
Formal public notice	RMP completeness determination	Publication of formal public notice	15 days	3 2745.2
Formal public Review	Publications of formal public notice	End of formal public review periods	45 days	3 2745.2
Evaluation review (Programs 1 and 2)	End of formal public review period	RMP acceptance or rejection	36 months	3 2745.2
Evaluation review (Program 3)	End of formal public review period	RMP acceptance or rejection	24 months	3 2745.2

Review of RMP:

RMP update	Initial Submission	RMP Update	Within 5 years	3 2745.10
Periodic RMP regulated	A new chemical is first listed in regulation	RMP Update	Within 3 years	3 2745.10
New regulated chemical added to existing process	A new chemical is added to an existing process	RMP Update	Same day	3 2745.10

Appendix E

Acronyms

AIChE/CCPs	American Institute of Chemical Engineers/Center for Chemical Process Safety
APCD	Air Pollution Control District
AQMD	Air Quality Management District
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
Cal OES	California Governor's Office of Emergency Services
Cal OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Prevention Program
CalEPA	California Environmental Protection Agency
CAMEO	Computer-Aided Management of Emergency Operations
CAS	Chemical Abstract Service
CCR	California Code Regulations
CEPPO	Chemical Emergency Preparedness and Prevention Office
CFR	Code of Federal Regulations
CFC	California Fire Code
CICC	Chemical Industry Council of California
DOT	United States Department of Transportation
EHS	Extremely Hazardous Substance
HSC	Health and Safety Code
LEPC	Local Emergency Planning Committee
NAICS	North American Industry Classification System
NFPA	National Fire Protection Association
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
OSHA	Federal Occupational Safety and Health Administration

PA	Participating Agency
PSM	Process Safety Management
RAGAGEP	Recognized and Generally Accepted Good Engineering Practices
RMP	Risk Management Plan
RS	Regulated Substance
SDS	Safety Data Sheet
SEMS	Standardized Emergency Management System
SERC	State Emergency Response Commission
T8	Title 8, General Industrial Safety Orders, CCR
T19	Title 19, Public Safety, CCR
TQ	Threshold Quantity
UPA	Unified Program Agency
USEPA	United States Environmental Protection Agency

Appendix F

Preliminary Risk Determinations (Table 3 Facilities)

This appendix is intended to suggest a logical method to evaluate the risks associated with the mandated preliminary risk determination of a facility. This determination must be made by UPAs to support the need for a facility to comply with the CalARP Program.

The California Health and Safety Code Section 25534 requires the UPA to make a preliminary determination whether there is a significant likelihood that a facility's use of a Table 3 regulated substance poses an accident risk. When making this preliminary determination, the UPA should coordinate with other agencies responsible for responding to a release from the facility, including the potential for the release to cross-jurisdictional lines.

If the UPA determines that the likelihood of an accident risk is not significant or is remote the UPA may choose to not require an RMP for the facility. To repeat, this "UPA preliminary risk determination" only applies to Table 3 facilities; it does not apply to Table 1 or Table 2 facilities. Table 1 or Table 2 facilities are automatically in the CalARP Program.

Establishment and collection of the State Surcharge for any of the Unified Program elements, including the CalARP Program, falls under the authority of the Secretary of California Environmental Protection Agency (CalEPA). The issues of CalARP Program Surcharge collection from "RMP exempt" stationary sources is specifically addressed in Title 27 CCR, Section 15240 (c)(3)(A)(1):

> A business is not required to pay the CalARP program component of the surcharge if a CUPA makes a determination that there is not a significant likelihood of a regulated substances accident risk and does not require the preparation and submission of a risk management plan at any stationary source operated by that business in the CUPA's jurisdiction, pursuant to Health and Safety Code, Section 25534.
>
> This CalARP program surcharge component waiver is effective starting in the following fiscal year after the determination is made by the CUPA. If subsequent changes lead to a re-determination and a requirement by the CUPA to prepare and submit any risk management plan at any of the business's stationary source(s), then this surcharge component will be assessed beginning in the following fiscal year.

Note: The risk ranking procedure presented in this Appendix is just a suggestion. It uses toxicity of the potentially released chemical as the primary variable for risk ranking. Other models may use the likelihood of an accident or some other parameter as the primary variable. Choose the variable that most closely fits your needs.

Suggestions for CalARP Program Facility Risk Ranking

Option 1: If the facility has a chemical above the threshold quantity, in a process, an RMP is automatically required; no risk determinations are necessary. Every facility can be given the same RMP due date 12 months in advance. End of discussion.

Option 2: If administrative reality or logic necessitates a graduated approach to requesting California-only RMPs, the following approach is one way to quantify the process of ranking each facility's potential risk to health and safety and the environment. This same process could be used by the UPA to justify Program 3 requirements.

Note of Caution: Whatever process is used, the UPA will need to establish and follow written policies and procedures and document each and every case where risk ranking is applied. This is to protect the UPA from possible accusations of being arbitrary and capricious, especially if competitors from the same industry are going to be impacted differently within the same jurisdiction or if environmental justice issues are raised.

Methodology: Risk is a factor of likelihood and severity of consequences. Three variables will be used. The UPA is free to use this recommendation or use more or different variables to suit the approach they wish to take.

- **Toxicity Factor (TF)** (how much and how bad is this substance?)
- **Population Exposed (PE)** (how many and what type of receptors are nearby?)
- **Facility Risk Index (FI)** (how likely is the facility to have an accident?)

This risk analysis approach is based on the significance of a potential release. Therefore, for the purposes of this risk determination model:

- The Toxicity Factor (TF) is considered to be the most important factor related to health impacts.
- The population exposed (PE) is considered second in importance related to the potential significance of estimated off site consequences.
- The Facility Risk Index (FI) is considered third in importance and should include analysis of potential and actual accidents, accident causes, and an assessment of the probability and frequency of accidents that may be anticipated.

Formula: Total Risk = 3(TF) + 2(PE) + FI

More weight is now given to acute health impacts due to toxic or flammable chemical properties and potential population impacts than actual accident potential. This approach evaluates the problem from the "accident risk" perspective, but is based on the significance of an accident.

This approach avoids an over-inflated approach of emphasizing accident analysis where many accidents may be of little significance. Thus, the chemical quantity at risk is an element that must be factored into potential health and safety issues.

Procedure:

Step 1. Calculate the Toxicity Factor (TF) for the chemical in question.

TF = Reported quantity of chemical divided by its threshold quantity, multiplied times one over the Toxic Endpoint (TE), from Appendix A of Title 19, or Appendix B of this document. If these numbers turn out to be huge, you can divide by 100 or 1000, as long as all of the TF calculations are handled the same way. Add up the TFs for multiple chemicals being used at the same facility, if applicable.

TF = (Q/TQ) X (1/TE) = _____

$TF_{total} = TF_1 + TF_2 + TF_3 \ldots$

Step 2. Calculate the best estimate for population exposure (PE).

In the absence of any other off-site consequence modeling and vulnerability analysis, try using the DOT Emergency Response Guidebook for protective action distances. Use the following questionnaire, or modify it according to conditions within the jurisdiction:

1. Can the toxic chemical become airborne rapidly (i.e., a gas, fine dust, highly volatile liquid)? Is the material highlighted in the yellow and blue indexes and listed in the green bordered pages of the DOT Emergency Response Guidebook as being Toxic by Inhalation (TIH)?

   NO = 0 YES = 2

   If answer to question #1 is No, proceed to question #6

   If answer to question #1 is YES, determine the greatest protective action distance (or distance to toxic endpoint). Distance = _____.

2. Is there a school within the protective action (toxic endpoint) distance?

   NO = 0 YES = 2

3. Is there a hospital or nursing home within the distance?

   NO = 0 YES = 2

4. Is there residential housing within the distance?

   NO = 0 YES = 1

5. Is the population density of this area higher than average (multi-family or multi-story structures within the distance)?

   NO = 0 YES = 1

6. What is the occupancy of the facility where the chemical is being handled?

   Less than 5 people = 1

6 to 25 people = 2

26 to 50 people = 3

More than 50 people = 4

TOTAL Population Exposure (PE) = (add the values of responses)

Step 3. Facility Process Questionnaire.

Develop a questionnaire to measure activities or conditions that increase the likelihood of a release. Add up the affirmative responses to such questions as:

1. Is the chemical manufactured or used in a chemical reaction?
2. Is there any other flammable or explosive material manufactured or used in a chemical reaction?
3. Are any of the reactions in questions 1 or 2 (above) moderately or highly exothermic (e.g., alkylation, esterification, oxidation, nitration, polymerization or condensation) or do they involve electrolysis?
4. Can an accidental release to the atmosphere result from the malfunction of a scrubbing, treatment or neutralization system or from the discharge of a pressure relief valve?
5. Does any physical or chemical process utilizing the chemical involve a batch process?
6. Does any process involving the production or use of the chemical operate at a pressure in excess of 15 psi?
7. At a pressure exceeding 275 psi?
8. Does any process involving the production or use of the chemical operate at a temperature in excess of 125 degrees F?
9. In excess of 250 degrees F?
10. Can explosive dust be present in the same building as the chemical?
11. Are there any ignition sources or open flames within 100 feet of the process, transfer or storage areas where the chemical may be present? (Areas protected by fire rated separations may warrant exclusion or predicted impact modification.)
12. Is any lined or non-metallic pipe used in the transfer of the chemical?
13. Is any equipment or piping handling the chemical more than 10 years old?
14. More than 25 years old?
15. (Delete any non-applicable questions and insert any of your own questions based on experience or local conditions.)

Total # of "Yes" answers to the questionnaire (x) =

Step 4. Evaluate the safety record and inspection history of the facility.

This will be somewhat intuitive depending on the types and frequencies of historical accidents or violations. Put the facility in one of the three categories and assign it the corresponding value (y).

Reasonable = 0 Needs some improvement = 5 Unsatisfactory = 10

Safety Record & Inspection History (y) =

Step 5. Factor in any significant element not directly addressed in the questionnaire.

Make a note of what the complicating factor was in support of the decision. This is where, if there's a compelling reason, points may be added to require the RMP in borderline cases.

Minimal = 0 Considerable = 4 Substantial = 8

Complicating Factor (z) = (describe what the factor is and why the value)

Step 6. Assign the composite Facility Risk Index (FI)

FI = 0.5(x) + y + z FI = _____

Step 7. Assign the Total RMP Risk Score for the facility. Add up the weighted values.

Toxicity Factor (TF) from Step #1	(TF)_____	x	3	=	_____
Population Exposed (PE) from Step #2	(PE)_____	x	2	=	_____
Facility Risk Index (FI) from Step #6	(FI)_____	x	1	=	_____

TOTAL RMP Risk Score _____

Example:

A farm uses Methyl Bromide in ten 150# cylinders, evaluated and considered to be in a process due to co-location. The facility exceeds the TQ (1,000 lbs) for the chemical. There are no other regulated chemicals at this stationary source.

Toxicity Factor (TF):

Quantity = 1,500; Threshold = 1,000 pounds;

1,500 lbs of methyl bromide divided by the TQ (1,000 lbs) = 1.5

TE = 0.00388;(1/TE) = 257.73

TF = 1.5 X (257.73) = 386.60

Since this is a very large number compared to the other factors, for convenience, divide it by 100. If you do this, then all of the toxicity factors for other stationary sources being compared to this one must also be divided by 100.

TF = (386.60)/100 = 3.87

Population Exposure (PE):

DOT ERG lists methyl bromide as a Toxic by Inhalation (2 points) material with a protective distance of 0.9 miles. There is one school (2 points) and some residential housing (2 points) within this distance from the facility. There are 10 employees on site (2 points).

Therefore, Population Exposure (PE) = 8 (results from Step #2)

Facility Risk Index (FI):

There are five questions answered "yes" on the facility risk index questionnaire (x = 5). There have been no accidents, but the farm has some labeling violations and poor used oil management practices (y = 5, "Needs some improvement"). There are no other complicating factors involved (z = 0, "Minimal").

Therefore, Facility Risk Index (FI) FI = 0.5(x) + y + z
FI = 0.5(5) + 5 + 0
FI = 7.5

Total RMP Risk: (Total risk = 3(TF) + 2(PE) + FI

TF	=	3.87	x	3	=	11.61
PE	=	8	x	2	=	16
FI	=	7.5	x	1	=	7.5
	Total RMP Risk Score				**=**	**35.11**

Complete this process for every potential CalARP Program facility and rank the scores from highest to lowest. Develop criteria for establishing at what specific points RMPs (and/or Program 3) will be required. Commit the methodology to a written procedure and have your UPA management approve, adopt, or modify the policy.