

**REGION I LEPC**

**CALIFORNIA  
ACCIDENTAL RELEASE  
PREVENTION PROGRAM  
(CalARP)**

**IMPLEMENTATION GUIDANCE  
DOCUMENT**

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# INTRODUCTION

The federal Risk Management Program (RMP) rule (40 CFR Part 68: “Chemical Accident Prevention Provisions”) was issued by the U.S. Environmental Protection Agency (USEPA) in June 1996 to implement Section 112 (r)(7) of the Clean Air Act Amendments of 1990. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5), was recently issued by the Governor’s Office of Emergency Services (OES). CalARP adopts the federal RMP rule, with certain additional requirements specific to California, pursuant to Article 2, Chapter 6.95, of the California Health and Safety Code. A copy of the CalARP regulation may be found in Appendix A-1 of this guidance document.

OES is seeking delegation from USEPA to implement and enforce RMP in California, using the CalARP regulation to demonstrate that it has the authority and resources for such delegation. Once delegation has been received, the local administering agency (AA) responsible for implementing the CalARP Program will be, in most instances, the Certified Unified Program Agency (CUPA). When there is no CUPA, the implementing agency will be designated by the Secretary for Environmental Protection or OES. *[In Region 1 the CalARP implementing agency will be either the CUPA or a Participating Agency (PA) designated by the CUPA]*

**This CalARP Guidance Document only addresses the specific requirements for the CalARP Program in LEPC Region I and therefore is intended to be used together with the “General Guidance for Risk Management Programs (40 CFR Part 68)”, which has been issued by the USEPA Chemical Emergency Preparedness and Prevention Office (CEPPO).** The chapters in this Guidance correspond to the same chapters as the USEPA/CEPPO RMP guidance. This Guidance serves as an addendum or supplement to the USEPA/CEPPO RMP guidance, providing implementation and submission guidelines for compliance with the additional CalARP requirements only. A glossary of the abbreviations used throughout this document may be found in Appendix G

A free copy of the USEPA/CEPPO RMP General Guidance can be obtained by calling the EPCRA Hotline at (800) 424-9346 or, if you have access to the Internet, you can download it from the home page of EPA’s Chemical Emergency Preparedness and Prevention Office @ <http://www.epa.gov/ceppo/>.

## **GUIDANCE FOR INDUSTRY-SPECIFIC RISK MANAGEMENT PROGRAMS**

Model RMPs (industry-specific RMP guidance) may be used as a basic guidance if accepted by the AA, in consultation with OES. Model RMPs for a process that has in excess of a threshold quantity of a regulated substance listed in Table 1 or 2, must also be recognized by USEPA. OES may limit the use, application, or scope of these models (Section 2735.5(c)).

USEPA-recognized Model RMPs have been developed (or are being developed) for the following industries:

- Petroleum Refineries
- Water Treatment Plants
- Propane Storage Facilities
- Chemical Distributors
- Ammonia Refrigeration
- POTWs

## **COORDINATION**

You must closely coordinate with the AA to implement the requirements of the CalARP Program regulations and to determine the appropriate level of documentation required for an RMP (Section 2735.5(a)).

In order to facilitate an RMP submission and review process, you may be requested to complete and return to the AA the “CalARP Program Screening Questionnaire” and “Screening Matrix”. This questionnaire is a tool for internal planning and scheduling of RMP preparation, and it allows AA assessment of the level of assistance needed for RMP development by a regulated source. A questionnaire, matrix, and instructions are included as Appendix H of this document.

## **TRADE SECRETS**

Trade secrets are protected pursuant to Section 25538 of the California Health and Safety Code.

“Trade secret” has the same meaning as found in subdivision (d) of Section 6254.7 of the Government Code: “Trade secrets may include, but are not limited to, any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented, which is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value and which gives its

user an opportunity to obtain a business advantage over competitors who do not know or use it”.

The AA shall not disclose any **properly substantiated** trade secret, which is so designated by the owner of the stationary source, to the public. It may disclose trade secrets to authorized officers or employees of other governmental agencies, like a state or local emergency response agency, only in connection with the official duties pursuant to any law for the protection of health and safety.

### **CLASSIFIED INFORMATION**

Classified information need not be included in the RMP but shall be made available to the AA to the extent allowable by law. “Classified information” means any information or material that has been determined by the United States Government pursuant to an Executive order, statute, or regulation, to require protection against unauthorized disclosure for reasons of national security and any restricted data as defined in the Atomic Energy Act of 1954, Section 11(r) concerning design or manufacture of atomic weapons, the production of special nuclear material, or the use of special nuclear material in the production of energy.

### **WHERE DO I GO FOR MORE CalARP INFORMATION?**

- Your Certified Unified Program Agency or Administering Agency
- OES Website: <http://www.oes.ca.gov> (at the Hazardous Materials icon)
- OES Hazmat information line: (916) 464-3221
- OES Hazmat staff line: (916) 464-3230

# CHAPTER 1: GENERAL APPLICABILITY

## 1.3 REGULATED SUBSTANCES AND THRESHOLDS

Regulated substances are listed in three separate tables in Section 2770.5 of the Chapter 4.5. These tables are included in the CalARP regulation which may be found in Appendix A-1 of this guidance document. Regulated toxic and flammable substances under Section 112(r) of the Clean Air Act are the substances listed in Tables 1 and 2. Table 3 lists the regulated substances pursuant to Section 25532(g)(2) of the California Health and Safety Code.

## 1.7 WHEN YOU MUST COMPLY

**1.7.A** If your stationary source has a process with more than the threshold quantity (TQ) of a regulated substance (RS), as listed in **Table 1 or 2**, or in **Table 1 or 2 and Table 3**, you shall comply with the CalARP Program regulations pursuant to the following time frames (Section 2735.4(a)(3)):

**The RMP information required by the USEPA and the RMP information required by the AA shall be submitted to the USEPA and the AA, respectively, no later than the latest of the following dates:**

**(1) June 21, 1999;**

**(2) Three years after the date on which a RS is first listed under Section 68.130, Part 68, Title 40 of CFR;**

**(3) The date on which a RS is first present in a process, above the TQ, as listed on Section 2770.5 Table 1 or 2.**

**1.7.B** If your stationary source has a process with more than the TQ of a regulated substance as listed only in **Table 3** (Appendix A-1), your administering agency is responsible for making a determination if a CalARP RMP is required.

For an existing stationary source you shall submit an RMP to the AA after you have received **a notice from the AA requesting submission of an RMP**. The AA shall, in consultation with you, establish an RMP submittal date (between 12 months and 3 years from the date of a notice). For a new or modified stationary source, if a determination is made that a source must comply with the CalARP Program regulations, you shall submit an RMP to the AA prior to the date in which a RS is first present in a process above the listed TQ.

## CHAPTER 2: APPLICABILITY OF PROGRAM LEVELS

### 2.6 DEALING WITH PROGRAM LEVELS

The CalARP Program regulations allow the AA to change the Program Level for a covered process (Section 2735.4(e)(3)); this provision applies only to a stationary source which is not otherwise required to submit an RMP pursuant to 40CFR Part 68.

If the AA determines that the accident risk posed by a regulated substance, because of the nature and quantity of the regulated substance involved, requires the additional safety afforded by Program 3 requirements (and this substance is subject only to the CalARP regulation), the AA may reclassify the covered process from **Program 2 to Program 3**.

If the AA determines that there is not significant likelihood of an accident risk posed by a regulated substance (and this substance is subject only to the CalARP regulation), it may reclassify a covered process from **Program 3 to Program 2** or from **Program 2 to Program 1** (Health and Safety Code, Section 25534(2)(B)).

A copy of the CalARP regulation may be found in Appendix A-1 of this guidance document.

## **CHAPTER 3: FIVE-YEAR ACCIDENT HISTORY**

There is no difference between the state CalARP and federal RMP regulation in this area and Region 1 LEPC has no additional guidance to offer beyond that in the USEPA RMP General Guidance.

# CHAPTER 4: OFFSITE CONSEQUENCE ANALYSIS

## 4.1 INTRODUCTION

### HOW SHOULD THE ANALYSES BE CONDUCTED?

To conduct these offsite consequence analyses, you may use several tools USEPA has developed, methods and reference tables (called “Lookup Tables”) or a software program called RMP\*Comp™, or you may use a computer model of your own choice - from the public domain or proprietary. The USEPA RMP General Guidance describes these options in its Chapter 4. However, if you choose to use a proprietary computer model, you will have to provide detailed documentation of the model to the CUPA/AA, including the results of the validation studies performed under similar accidental release conditions.

It should be noted that, although the offsite consequence analysis conducted here may adequately demonstrate compliance with the CalARP regulation, it may not adequately address the similar analytical requirements of other government agencies for other purposes, e.g. land use planning.

## 4.2 WORST-CASE RELEASE SCENARIOS

### MODELING ASSUMPTIONS

**Topography:** It is suggested, based on recent research, that the publicly available air dispersion model DEGADIS may be used for modeling the dispersion of denser-than-air substances when applying large surface roughness values of 1 meter to represent urban topographical conditions.

**Release (source) diameter:** This parameter is related to the geometry of the source vessel and type of release - it generally describes the size of the hole in a tank or pipeline through which the hazardous substance may escape during an accidental release. It is a necessary input parameter for air dispersion models and is used to calculate the hazardous substance release rate.

For the worst-case toxic gas releases, where the entire vessel contents are assumed to be released over 10 minutes, an estimate of the source diameter must still be provided for dispersion modeling even though the worst case release rate requirements may make such a source diameter a purely theoretical value. In this situation, the release diameter has to be calculated using a theoretical approach. USEPA has provided guidance for such a theoretical

calculation. The details are provided in the USEPA document "Application of Refined Dispersion Models for Hazardous/Toxic Air Releases, May 1993". A summary is provided below:

$$D = \sqrt{(2 / u) * (E / \rho)}$$

Where,

- D** = Release Diameter, m
- u** = Ambient Wind Speed, m/s
- E** = Emission Rate, kg/s
- ρ** = Release Density, kg/m<sup>3</sup>

## ESTIMATING RELEASE RATES

**Toxic Gases:** For dispersion modeling of gases liquefied under pressure, you should consider the formation of aerosols and determine the density of the cloud consisting of vapor and aerosol (especially for anhydrous ammonia, hydrogen fluoride, chlorine, and sulfur dioxide). The results of past studies have shown that clouds generated during accidental releases of anhydrous ammonia and hydrogen fluoride (stored at ambient temperature) are denser than air.

### 4.3 ALTERNATIVE RELEASE SCENARIOS

#### ACCEPTABLE ALTERNATIVE SCENARIOS

You should discuss your alternative scenario with your CUPA/AA before performing the OCA, to ensure that the CUPA/AA understands your selection of the alternative release scenario. You must consider your accident history (a minimum of five years) in selecting the alternative release scenario.

#### MODELING ASSUMPTIONS

**Wind Speed and Atmospheric Stability:** An additional source for obtaining the representative meteorological data is the local air quality management district or air pollution control district. If site-specific or locally representative meteorological data is not available, a wind speed of 3.0 meters per second and D stability class, if reasonable, may be used for performing the offsite consequence analysis.

## ESTIMATING RELEASE RATES

**Toxic Gases:** For dispersion modeling of gases liquefied under pressure, you should consider the formation of aerosols and determine the density of the cloud consisting of vapor and aerosol (especially for anhydrous ammonia, hydrogen fluoride, chlorine, and sulfur dioxide). The results of past studies have shown that clouds generated during accidental releases of anhydrous ammonia and hydrogen fluoride (stored at ambient temperature) are denser than air.

### 4.4 ESTIMATING OFFSITE RECEPTORS

#### OTHER PUBLIC RECEPTORS

- A. For the Worst-Case Scenario submission, you only need to indicate whether certain specified public receptors are within the vulnerability zone (you do not have to count them or list them individually). However, backup data to substantiate these public receptor findings should be kept at the facility.

These specific public receptors include: child day-care and long-term health-care facilities (convalescent homes), in addition to schools, residential areas, hospitals, prisons, public recreational areas or arenas, and commercial or industrial areas.

You may also want to include in the Risk Management Plan a legibly prepared map for the Worst-Case Release Scenario showing location of the regulated facility and including major features and roads within the zone of vulnerability. The map should be of appropriate scale and be legible. The minimum size of the map should be 8 1/2" x 11". Submission of such a map for the Worst-Case is optional, but recommended as it could be useful for communication of risk to the public and assisting outside agencies with emergency response planning.

- B. For each Alternative Release Scenario, you **must include** in the Risk Management Plan a **legibly prepared map** showing the locations of the facility and the following sensitive receptors: child day-care facilities, long-term health-care facilities, schools, hospitals, residential areas, and prisons within the zone of vulnerability. If using a dispersion model, provide a footprint of a release in the direction of the prevailing wind.

In case the radius of the vulnerability zone is less than one-half mile, the Alternative Release Scenario map should be developed for a radius of one-half mile to comply with the California Health and Safety Code, Chapter 6.95,

Article 1, Section 25507.10. The Alternative Release Scenario map must show major features and roads, including the names of freeways and major roads. The map should be of appropriate scale and be legible. The minimum size of the map should be 8 1/2" x 11".

- C. For the alternative release scenario, a list of sensitive receptors within the vulnerability zone should also be developed and included in the Risk Management Plan. This list should include the name, address, and telephone number for each sensitive receptor.

Information on child day-care and long-term healthcare facilities in your area may be obtained by purchasing a directory through the California Department of Social Services Community Care Licensing Office in Sacramento at (916) 327-0982.

## **CHAPTER 5: MANAGEMENT SYSTEM**

There is no difference between the state CalARP and federal RMP regulation in this area and Region 1 LEPC has no additional guidance to offer beyond that in the USEPA RMP General Guidance.

## CHAPTER 6: PREVENTION PROGRAM (PROGRAM 2)

### 6.3 HAZARD REVIEW

#### EXTERNAL EVENTS

The hazard review shall include the consideration of **applicable** external events (see table following), including seismic events (Section 2755.2 (d)). These are events, which might occur outside the boundaries of the process, and/or may be the result of a malicious or intentional act, which could have a deleterious impact on the process perhaps, resulting in an accidental release of a regulated substance.

It should be noted that current design codes for chemical processing plants have safety factors to allow plant equipment to withstand major external events (such as earthquake, flood, tornado or extreme wind) without a catastrophic failure. Thus, the major emphasis in hazard assessments related to external events should be placed on mitigating the risk of an accidental release by ensuring that there are safe shutdown systems and procedures or by evaluating substitution of an inherently safer technology for the process.

#### SEISMIC ASSESSMENTS

The intent of the CalARP Program seismic assessment is to provide reasonable assurance that a release of Regulated Substances (RS) having offsite consequences will not occur as the result of an earthquake. For those items of equipment requiring seismic evaluation, it is recommended that you follow the “**Guidance for California Accidental Release Prevention (CalARP) Program Seismic Assessments**” document included in **Appendix I** of this CalARP Program Guidance.

Only equipment items that are part of a **covered process** require a seismic assessment. The seismic assessments may range from review of a previous evaluation to a completely new evaluation that results in the need for seismic upgrades. Specific items of equipment that store or process regulated substances in excess of the threshold quantity must be evaluated. Other equipment that store or process regulated substances in covered processes should receive assessments commensurate with the potential that their seismically induced failure during an earthquake could result in offsite consequences.

Facilities should consider a phased seismic assessment plan:

Phase 1 - Determine the equipment in each covered process requiring evaluation, review previous seismic evaluations to determine current compliance, and layout a strategy for field inspection;

Phase 2 - Perform a field inspection, if necessary;

Phase 3 - Perform detailed evaluations, if necessary; and,

Phase 4 - Design upgrades and schedule their implementation, if necessary.

Facilities that have recently performed seismic evaluations under RMPP or other programs, and can demonstrate that the equipment is in current compliance with CalARP requirements and have recently inspected the equipment may only have to perform Phase 1. Equipment that is in current seismic compliance but has not been inspected for several years may only require Phase 1 and 2 evaluations. Items in covered processes that have not previously received a seismic assessment, or are no longer in compliance, may require a partial or full evaluation if their failure could result in offsite consequences.

It is the responsibility of the facility and their seismic consultant to set up a seismic assessment plan and coordinate it with their local Administering Agency to assure that an offsite release would not occur as the result of an earthquake.

**PARTIAL LIST OF EXTERNAL EVENTS FOR CONSIDERATION  
IN HAZARD REVIEW OR PROCESS HAZARD ANALYSIS**

EVENT	NOTES AND COMMENTS
Aircraft Impact	Sites less than three miles from airport have higher frequencies
Avalanche	Can be excluded from most sites in the United States
Coastal Erosion	Also review external flooding
Drought	May impact the availability of cooling water for plant site
External Flooding	Review rivers, lakes, streams, and storm water drainage impacts
Extreme Winds or Tornadoes	Site specific; extreme winds can create large numbers of missiles
Fire: onsite	Review location of flammable-containing systems near plant site; gasoline storage, LPG, fuel oil, etc.
Fire: brush fire, forest fire , wildfire	Review location of plant relative to large areas of standing trees, brush, and other flammable vegetation, that can serve as a receptive carrier fuel. The following terrain features are critical to the spread of fire: hillsides; drainages, chutes and draws; saddles; narrow canyons; wide canyons. For more information refer to: Los Angeles City Brush Clearance requirements.
Fog	May increase frequency of accidents
Forest Fire	Review location of plant relative to large areas of standing trees
Frost	Frost heave may damage foundations of plant structures
Hail	Include with review of possible missile impacts on plant
High Tide, High Lake Level, or High River Stage	Include in external flooding review
High Summer Temperature	Review impact on vapor pressure of chemicals in storage systems
Hurricane	Site specific; include impacts under storm surge and extreme winds
Ice Cover	Ice blockage of rivers, loss of cooling, and mechanical damage due to falling ice are possible
Industrial or Military Facility Accident	Site specific (What other facilities are near plant site?) Consider effects of fire, explosion, or release of hazardous materials from nearby plants or due to the proximity of transport routes.
Internal Flooding	Review failure of any large water storage tank on plant site; blockage of storm-water sewers
Landslide	Get geological assessment of surrounding area to assess landslide potential.
Lightning	Should be considered during design; computer control systems are vulnerable; may also damage plant power grid

EVENT	NOTES AND COMMENTS
Low Lake or River Level	May halt raw materials and product shipping; alternative truck or rail shipping may be used
Low Winter Temperature	Thermal stresses and embrittlement may occur in storage tanks
Meteorite Impact	All sites have approximately the same frequency of occurrence
Missile Impact	Shrapnel and large pieces of pressure vessels are possible from explosions; rocks, bolts, and lumber may become missiles as a result of extreme winds.
Nearby Pipeline Accident	Site specific (What pipelines are nearby?); un-confined vapor cloud explosions, spreading pool fires, and toxic chemical release possible
Intense Precipitation	Include under external and internal flooding
Release of Chemicals from Storage (external to the process)	Toxic chemicals may impair operators; corrosive chemicals may damage equipment and instruments; chemical interactions may cause fire, explosion or release of toxic vapor.
River Diversion	Include under low river stage
Sabotage	Disgruntled employee deliberately damages/destroys vital systems
Sandstorm	May damage equipment and block air intakes
Seiche	Include under flooding
Seismic Activity	Review earthquake classification of site; may require detailed analysis (see CalARP Seismic Guidance – Appendix I)
Shipwreck	May halt raw material and product shipping; alternative truck or railing shipping may be used
Snow	Review design load of roofs; may increase frequency of in-plant accidents; include snow melt under high river and flooding
Soil Shrink/Swell or Consolidation	May damage structure foundations or roads
Storm Surge	Include under flooding; impact surge may damage structures
Terrorist Attack	High explosives and weapons may be used against selected targets; essential personnel may be ransomed or killed
Transportation Accidents	Site-specific; accident on major highway or waterway may cause plant evacuation
Tsunami	Site-specific; include under flooding and storm surge
Toxic Gas	May impair operators
Turbine-generated Missiles	Review location of high-speed rotating equipment
Volcanic Activity	May cause extensive downstream flooding; volcanic ash may damage equipment and plug air intakes
War	Damage caused by high-intensity combat will probably be greater than that caused by worst credible case from plant site
Waves	Include under external flooding

## CHAPTER 7: PREVENTION PROGRAM (PROGRAM 3)

### 7.3 PROCESS HAZARD ANALYSIS

#### EXTERNAL EVENTS

The Process Hazard Analysis (PHA) shall include the consideration of external events (see table in Chapter 6), including seismic events, if applicable (Section 2760.2(c)(8)). These are events which might occur outside the boundaries of the process and/or may be the result of a malicious or intentional act, which could have a deleterious impact on the process perhaps resulting in an accidental release of a regulated substance. PHAs, completed for other regulations where external events were not considered, shall be updated to include them in the analysis.

It should be noted that current design codes for chemical processing plants have safety factors to allow plant equipment to withstand major external events (such as earthquake, flood, tornado or extreme wind) without a catastrophic failure. Thus, the major emphasis in hazard assessments related to external events should be placed on mitigating the risk of an accidental release by ensuring that there are safe shutdown systems and procedures or by evaluating substitution of an inherently safer technology for the process.

CalARP Program regulations require you to work closely with AAs in deciding which PHA methodology is the best suited to determine the hazards of the process being analyzed (Section 2760.2(b)). It is recommended that you notify your AA of the dates of your PHA activities, including a PHA revalidation or update, and invite their representative to participate.

#### SEISMIC ASSESSMENTS

The intent of the CalARP Program seismic assessment is to provide reasonable assurance that a release of Regulated Substances (RS) having offsite consequences will not occur as the result of an earthquake. For those items of equipment requiring seismic evaluation, it is recommended that you follow the “**Guidance for California Accidental Release Prevention (CalARP) Program Seismic Assessments**” document included in Appendix I of this CalARP Program Guidance.

Only equipment items that are part of a **covered process** require a seismic assessment. The seismic assessments may range from review of a previous evaluation to a completely new evaluation that results in the need for seismic upgrades.

Specific items of equipment that store or process regulated substances in excess of the threshold quantity must be evaluated. Other equipment that store or process regulated substances in covered processes should receive assessments commensurate with the potential that their seismically induced failure during an earthquake could result in offsite consequences.

Facilities should consider a phased seismic assessment plan:

Phase 1 - Determine the equipment in each covered process requiring evaluation, review previous seismic evaluations to determine current compliance, and layout a strategy for field inspection;

Phase 2 - Perform a field inspection, if necessary;

Phase 3 - Perform detailed evaluations, if necessary; and,

Phase 4 - Design upgrades and schedule their implementation, if necessary.

Facilities that have recently performed seismic evaluations under RMPP or other programs, and can demonstrate that the equipment is in current compliance with CalARP requirements and have recently inspected the equipment may only have to perform Phase 1. Equipment that is in current seismic compliance but has not been inspected for several years may only require Phase 1 and 2 evaluations. Items in covered processes that have not previously received a seismic assessment, or are no longer in compliance, may require a partial or full evaluation if their failure could result in offsite consequences.

It is the responsibility of the facility and their seismic consultant to set up a seismic assessment plan and coordinate it with their local Administering Agency to assure that an offsite release would not occur as the result of an earthquake.

# CHAPTER 8: EMERGENCY RESPONSE PROGRAM

## 8.2 ELEMENTS OF AN EMERGENCY RESPONSE PROGRAM

The CalARP additional requirements for an emergency response plan are listed below:

- Procedures for **interfacing** with the public and local emergency response agencies about accidental releases, emergency planning, and emergency response ( Section 2765.2(a)(1)(A)).
- Training for all employees in relevant aspects of the **Incident Command System** (Section 2765.2(a)(3)).

### Note:

**You are not required to meet the business plan requirements (Health and Safety Code Section 25504), if the emergency response plan developed under this section is consistent with the business plan requirements pursuant to Sections 2731 and 2732 of Title 19 of CCR. This does not exempt the owner from requirements which relate to the annual inventory or emergency response planning for hazardous materials which are not regulated substances.**

## COORDINATION AND COMMUNICATION FOR OFF-SITE EMERGENCY PLANNING

This topic is too broad to provide comprehensive guidance within this document. However, this is an important issue that should be addressed jointly by the facility and emergency response agencies. Although the primary responsibility and **authority** for off-site emergency response rests with local emergency response agencies, the primary body of knowledge of the details associated with potential emergencies generally lies at the facility (i.e., with the user of the hazardous substance). It is important for the local emergency response agency (the agency with emergency response capability and authority for the facility) and facility personnel to plan and coordinate both on-site and off-site response to potential emergencies.

Every facility and community represents a unique situation, and every local emergency response agency has different capabilities - therefore, there is no single solution for every facility. However, some activities worthy of consideration include:

- ensuring, at a minimum, that emergency response plans:

- ◆ have been prepared and have been coordinated with the local emergency response agency
  - ◆ address necessary community actions in response to potential events
  - ◆ address coordination with local emergency response agencies, such items as:
    - how plant personnel will interface with the Incident Command System (ICS)
    - communication issues before, during and after an emergency, including who (facility versus response agency) will say what to the public
    - mutual aid participation agreement
  - ◆ include not only notification phone numbers for responsible agencies, but also key contact phone numbers for neighboring facilities and sensitive populations within the emergency planning zone
- performance of emergency drills (“tabletop” drills are acceptable for most facilities) that include personnel from the facility and the local emergency response agencies (e.g., fire department, environmental health department, etc.)
  - inviting the fire department and/or other local emergency response agencies to the facility for “familiarization training” and joint exercises
  - testing emergency response plans
  - in coordination with the CUPA/AA and local CAER group members, developing a reasoned communication of emergency planning/emergency response issues to the community (Note: that this may be a logical extension of an RMP/CalARP risk communication plan), such as:
    - ◆ discussion of relevant potential hazards and risks
    - ◆ emergency response and risk mitigation measures in place at the facility
    - ◆ actions that facility personnel may take
    - ◆ actions that emergency response agency personnel may take
    - ◆ coordination between facility emergency responders and emergency response agencies
    - ◆ potential emergency response measures for the Community to take, e.g.: shelter-in-place, evacuation

The above activities are in addition to specific emergency response requirements mandated by the CalARP regulation and may be coordinated with other risk communication activities (see Chapter 11 of the USEPA RMP General Guidance - “Communication with the Public”). The primary objective of the above coordination and communication items in emergency planning/emergency response is for the facility to **interface** with the local emergency response agency and the general public about action to be taken in the event of an accidental release (Section 2765.2(a)(1)(A)).

## CALARP GUIDANCE CORRELATED TO SPECIFIC SECTIONS IN CHAPTER 8 OF THE USEPA RMP GENERALGUIDANCE

### 8.3 DEVELOPING AN EMERGENCY RESPONSE PROGRAM

**"Collect relevant facility documents."** - *Clarification* - Facilities may also wish to review existing Risk Management and Prevention Program (RMPP) submittals (as well as supporting emergency response planning documents).

### 8.4 INTEGRATION OF EXISTING PROGRAMS

The California Health and Safety Code, Section 25503.4, requires OES to adopt a format that will allow a facility subject to two or more of the following planning requirements to meet those requirements in one document. The following table outlines the six emergency response plans and the applicable regulatory references.

Emergency Plan Required	Program Element	Regulatory Reference
Business Plan	Hazardous Materials Release Response Plans and Inventory	CCR, Title 19, Sec. 2729-2732
Contingency Plan	Hazardous Waste Generator Program	CCR, Title 22, Sec. 6626.24-66264.25
Spill Prevention Control and Countermeasure Plan	Oil Pollution Prevention/Above Ground Storage of Petroleum	Calif. HSC, Chap. 6.67, Sec. 25270.5
Marine Facility Oil Spill Contingency Plan	Oil Spill Prevention and Response Program	CCR, Title 14, Sec. 816.02-817.02
Accident/Spill Prevention Plan or Response Plan	Underground Storage Tank Program	CCR, Title 23, Sec. 2632(d)
Risk Management Plan - Emergency Response Program Component	California Accidental Release Prevention Program	CCR, Title 19, Sec. 2765.2

The format adopted by OES in the CCR, Title 19, Section 2731, establishes the standard for the organization of “California Hazardous Materials Consolidated Contingency Plan”. This plan is modeled after the National Response Team’s Integrated Contingency Plan, the “One Plan”. You have the option to use the Consolidated Contingency Plan format adopted by OES or the format developed by your CUPA/PA, if one exists.

OES has prepared a Guidance Document to assist you, if you choose to use the consolidated plan format in meeting the statutory and regulatory emergency planning requirements. This Guidance Document can be obtained from John Paine, Senior Emergency Operations Planner - OES, at (916) 464-3279.

Note: USEPA provides a list of federal emergency planning/emergency response regulations in Exhibit 8-2 of Chapter 8 in the USEPA RMP General Guidance. Many of these are comparable to the above California plans. Appendix J shows analogous California regulations, which would apply, in the same context (to California facilities) as the referenced federal emergency response/emergency planning regulations.

As shown in Appendix J, California has received OSHA delegation and has adopted the OSHA “Hazardous Waste Operations and Emergency Response” (HAZWOPER) standard under the California Code of Regulations, Title 8, Section 5192.

## **8.6 COORDINATION WITH LOCAL EMERGENCY PLANNING ENTITIES**

**“Key Coordination Issues, Third Paragraph”** - *Clarification* - Instead of the LEPC, the Facility Owner/Operator should provide draft versions of key emergency response program elements to the local emergency response agency having jurisdiction over the facility. This is the agency that will respond to releases of a regulated substance at the facility, usually a fire department or an emergency management agency with emergency response capability.

# CHAPTER 9: RISK MANAGEMENT PLAN

## 9.1 ELEMENTS OF THE RMP - STATE-ONLY REQUIRED INFORMATION

### RMP Registration (Section 2740.1)

- (a) If an RMP submittal to USEPA is required, the owner or operator of a stationary source must submit registration information with the RMP when it is submitted to USEPA, with a copy provided to the AA.
- (c) Under CalARP, the AA may request CalARP registration information from a stationary source prior to submittal of the RMP to USEPA.

A sample CalARP registration form is shown in Appendix K.

### RMP Program 2 Prevention Program Component (Section 2745.6):

- (l) You shall submit the following external events analysis information:
  - (1) The types of natural and human caused external events considered in Hazard Review;
  - (2) The estimated magnitude or scope of external events which were considered. If not known, you shall work closely with the AA to determine what is required. For applicable seismic events, submit the parameters used in the seismic risk assessment and which edition of the Uniform Building Code was used when the process was designed;
  - (3) For each external event, with the potential to create a release of a RS that will reach an endpoint offsite, provide the following information:
    - 1) The expected date of completion of any changes resulting from the hazard review;
    - 2) Major hazards identified;
    - 3) Process controls in use;
    - 4) Mitigation systems in use;
    - 5) Monitoring and detection systems in use; and
    - 6) Changes since the last hazard review.
  - (4) The date of the most recent field verification that equipment is installed and maintained as designed.

RMP Program 3 Prevention Program Component (Section 2745.7):

(q ) You shall submit the following external events analysis information:

- (1) The types of natural and human caused external events considered in PHA;
- (2) The estimated magnitude or scope of external events which were considered. If not known, you shall work closely with the AA to determine what is required. For applicable seismic events, submit the parameters used in the seismic risk assessment and which edition of the Uniform Building Code was used when the process was designed;
- (3) For each external event, with the potential to create a release of a RS that will reach an endpoint offsite, provide the following information:
  - 1) The expected date of completion of any changes resulting from the hazard review;
  - 2) Major hazards identified;
  - 3) Process controls in use;
  - 4) Mitigation systems in use;
  - 5) Monitoring and detection systems in use; and
  - 6) Changes since the last hazard review.
- (4) The date of the most recent field verification that equipment is installed and maintained as designed.

## 9.2 RMP SUBMISSION

### HARD COPY SUBMISSION

You shall submit a **single Risk Management Plan to the AA** for all covered processes. The RMP shall include the information required by CalARP Sections 2745.3 through 2745.9. You shall submit a copy of USEPA required RMP information to the AA. You are not required to submit external event analysis or supplemental information, required by the AA, to USEPA unless that information is required by federal law.

You are required to work closely with your AA to determine the appropriate scope and level of details for the Risk Management Plan. See Appendix L for recommended Table of Contents.

#### **9.4 RESUBMISSION AND UPDATES**

When you intend to make a modification to a process which may result in a significant increase in either the amount of RS or the risk of handling a RS, then you shall do all of the following (Section 2745.11):

- 1) Where reasonably possible, notify the AA in writing of your intent to modify the stationary source at least five calendar days before implementing any modifications. As part of the notification process, you shall consult with the AA when determining whether the RMP should be reviewed and revised. Where pre-notification is not reasonably possible, you shall provide written notice to the AA no later than 48 hours following the modification.
- 2) Establish procedures to manage the proposed modification, which shall be substantially similar to the “management of change” procedures, and notify the AA that that the procedures have been established.

You shall revise the appropriate documents expeditiously, but not later than 60 days from the date of the modification.

#### **9.5 RMP REVIEW PROCESS**

The Risk Management Plan review process by the Administering Agency shall be conducted according to Section 2745.2 of the CalARP Program regulations, and shall include: completeness review, public review, and evaluation review.

## **CHAPTER 10: IMPLEMENTATION**

This chapter will be developed when California receives delegation from USEPA for implementation and enforcement of 40 CFR part 68 and USEPA finalizes its RMP Audit Guidance (the latter is currently scheduled for March, 1999).

The California Accidental Release Prevention Program (CalARP) rule is more stringent than the USEPA RMP rule, so the delegation will not be direct. First, USEPA must determine that California has the authority and resources to implement and enforce part 68 for all covered processes in the state. Then it will adopt, through rulemaking and subject to the constraints of 40 CFR part 63, CalARP as a substitute for part 68 in the state. This will make CalARP federally enforceable.

# CHAPTER 11: COMMUNICATION WITH THE PUBLIC

## 11.3 COMMUNICATION ACTIVITIES AND TECHNIQUES

In discussion of Worst-Case and Alternative accidental release scenario data with the public and/or with RMP submission to your AA, you may want to include a characterization of risk to put the hazard presented by the release scenario into context. This risk characterization may also be useful to explain the selection of alternative scenarios and recommended mitigation measures. Such a risk characterization could be conducted using a risk matrix approach (reference: USEPA, "Technical Guidance for Hazards Analysis", section 2.3.5, pg. 2-28, EPA-OSWER-88-0001, 12/87; LA County Fire Department, "Risk Management and Prevention Program Guidelines", attachment 5, pg. A6, 10/94; or Center for Chemical Process Safety (CCPS), "Guidelines for Hazard Evaluation Procedures, Second Edition with Worked Examples", pg. 208-209, American Institute of Chemical Engineers, New York, NY, 1992), or other appropriate method. You should discuss your proposed risk characterization approach and results with your CUPA/AA prior to formal submission and/or presentation to the public.

A sample risk matrix approach from the American Institute of Chemical Engineers' Center for Chemical Process Safety (CCPS) may be found in Appendix M.