California Accidental Release Prevention Program

The following information is provided to assist with understanding the California Accidental Release Prevention (CalARP) program. This information is not to be relied upon as legal advice or interpretation by the Office of Emergency Services or the State of California. It does not create any rights, obligations, or establish any new standards. Local governments often have requirements that are more stringent than state and should be contacted for advice about this program in their area.

Most Frequently Asked CalARP Questions

1. Question: What is the Risk Management Plan Program?

Answer: In the State of California, the "Risk Management Plan Program" is the California Accidental Release Prevention Program, or CalARP. CalARP is the Federal Risk Management Plan Program with additional state requirements, including an additional list of regulated substances and thresholds.

Health & Safety Code (H&SC), §§ 25531 to 25543.3 is the California statute that authorizes the program. California Code of Regulations, Title 19 (19 CCR or "Title 19"), §§ 2735.1 to 2785.1, contains the regulations for the program.

The federal statute covering the Risk Management Plan Program is the Clean Air Act 112(r), codified as 42 U.S.C. 7412(r). The federal regulations are found in Code of Federal Regulations (CFR), Title 40, Part 68.

2. Question: What is a Risk Management Plan?

Answer: A Risk Management Plan (RMP) is a document prepared by the owner or operator of a stationary source containing detailed information including, but not limited to:

- regulated substances held onsite at the stationary source;
- offsite consequences of an accidental release of a regulated substance;
- the accident history at the stationary source;
- the emergency response program for the stationary source;
- coordination with local emergency responders;
- hazard review or process hazard analysis;
- operating procedures at the stationary source;
- training of the stationary source's personnel;
- maintenance and mechanical integrity of the stationary source's physical plant; and
- incident investigation.

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3. Question: What is the purpose of the RMP?

Answer: The intent of the RMP is to:

- Provide basic information that may be used by first responders in order to prevent or mitigate damage to the public health and safety and to the environment from a release or threatened release of a hazardous material.
- Satisfy federal and state Community Right-To-Know laws.

4. Question: Who must complete and submit an RMP?

Answer: An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance (listed in Tables 1-3, Title 19 § 2770.5) in a process (as defined in #5 below) **may** have to complete and submit a risk management plan. See Question #9 below (exemptions and exclusions) to see when an RMP is not required.

5. Question: What is the definition of "process"?

Answer: Process, as defined in Title 19 § 2735.3, 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. 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, is considered a single process. The owner or operator of the stationary source must make a reasonable determination as to whether two or more vessels may be involved in the same accident, or whether a release from one vessel may be anticipated to lead to a release from another. The owner/operator should work with the Administering Agency (usually a Certified Unified Program Agency or CUPA) to document his decision as to whether the individual vessels do or do not constitute a single process.

6. Question: To whom do I submit my RMP?

Answer: If the stationary source has a threshold quantity of a regulated substance in a process and the regulated substance and threshold quantity are listed in Title 19 § 2770.5, Tables 1 or 2, the RMP must be submitted to the local Administering Agency and to the United States Environmental Protection Agency (USEPA).

If the stationary source has a threshold quantity of a regulated substance in a process and the regulated substance and threshold quantity are listed in Title 19 § 2770.5, Table 3, the RMP must be submitted to the local Administering Agency only.

7. Question: How do the CalARP risk management program requirements differ from the hazardous chemical reporting requirements under the Hazardous Materials Release Response Plans and Inventory (Business Plan) Program?

Answer: The hazardous chemical reporting requirements under H&SC, Chapter 6.95, Article 1 (Business Plan), are separate and distinct from those under Article 2 of the same chapter (CalARP). Business Plan hazardous chemical inventory reporting applies to all hazardous substances, as defined by H&SC § 25501. Information reported under the hazardous chemical inventory regulations includes the types and amounts of hazardous chemicals, location and storage information, and facility contact information. The CalARP risk management program applies to a distinct set of regulated substances listed in Title 19, § 2770.5. The risk management program requirements go beyond emergency planning and reporting; they require a holistic approach to accident prevention and mitigation. Elements required under the risk management program regulations vary for individual stationary sources, but generally include a hazard assessment, a prevention program, an emergency response program, and a management system.

8. Question: When determining whether a threshold amount of a regulated substance is present in a process (e.g., a tank), must the owner or operator of a stationary source consider the total capacity of the process, or the actual amount of regulated substance contained in the process?

Answer: The threshold determination is based on the maximum actual amount of the regulated substance contained in a process at any one time (Title 19, § 2770.2). The owner or operator must implement documented administrative controls to limit the quantities in the process to ensure threshold quantities are not exceeded.

9. Question: Are there exemptions or exclusions from submitting an RMP?

Answer: Yes. The State of California exempts the following from the CalARP requirements:

- Exemption – If a regulated toxic chemical is less than one percent by weight of a mixture, it doesn't count toward the threshold quantity (Title 19, § 2770.2(b)(1)(A)).
- Exemption – If a regulated toxic chemical is greater than one percent by weight of a mixture, but it can be demonstrated that the partial pressure of the regulated substance in the mixture, under handling or storage conditions, is less than 10 mm Hg, it doesn't count toward the threshold quantity (Title 19, § 2770.2(b)(1)(B)). Also see Question #17, below, for further information.
- Exemption – Ammonia, when held by farmers and used as an agricultural nutrient (Title 19, § 2770.4). Federal regulations offer the same exemption for the Federal RMP program (40 CFR, § 68.125).
- Exclusion – Flammable substances from Table 2, when used as a fuel by an end user, or when held for retail sale as a fuel (Title 19, § 2770.4.1). Federal regulations offer the same exclusion for the Federal RMP program (40 CFR, § 68.126).
- Preliminary risk determination – For toxic substances held in a process above the threshold quantity listed in Title 19 § 2770.5, **Table 3 ONLY**, the Administering Agency shall make a preliminary

determination whether the facility poses an accident risk. Based on this determination, the AA **may** require an RMP, **may** exempt the facility from the provisions of the CalARP program, or **may** change the facility's program level. (H&SC § 25534).

10. Question: Are transportation activities subject to CalARP?

Answer: No. Transportation-related chemical safety is the responsibility of the California Department of Transportation, the California Public Utilities Commission and the California Highway Patrol.

11. Question: Do CalARP program regulations cover the loading and unloading of transportation containers?

Answer: The definition of 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 (Title 19, § 2735.3). In a January 6, 1998 final rule (63 FR 640), USEPA clarified that if a container remains attached to the motive power that delivered it to the site, even if a facility accepts delivery, it would be in transportation, and the contents would not be subject to threshold determination. If the stationary source is utilizing the contents of a transportation container directly, in other words, the product is not being offloaded into a separate storage container, but rather directly connected for utilization in a process, that transportation container has become part of the process, regardless whether the motive power is still connected or not.

Conversely, a container detached from the motive power that delivered it to the site is included as a part of the stationary source, regardless whether it is connected to another process or not.

12. Question: A stationary source has a mixture containing 9,000 pounds of butane and 1,001 pounds of water in a process. The mixture meets the criteria for a National Fire Protection Association flammability rating of 4 (NFPA 4). Is this process covered under the CalARP regulations?

Answer: Yes. Where the concentration of the regulated flammable substance in the mixture is one percent or more by weight of the mixture, the entire weight of the mixture must be applied toward the 10,000 pound threshold quantity for the flammable substance unless the owner or operator can demonstrate that the mixture itself does not have an NFPA flammability hazard rating of 4 (Title 19, § 2770.2(b)(2)). Because this mixture does have an NFPA 4 rating and is present in a process in an amount greater than the threshold quantity, the process is a covered process under CalARP Program regulations.

13. Question: According to the definition of "process" in Title 19, § 2735.3, any group of vessels that are interconnected is considered to be a single process. If a stationary source has two interconnected vessels and one contains 6,000 pounds of butane while the other contains 6,000 pounds of propane, is this a covered process under the CalARP Program?

Answer: No. Although the two interconnected vessels are considered a single process, in order for that process to be subject to the risk management program regulations, it must contain more than a threshold quantity of a regulated substance (Title 19, § 2735.4(a)). The threshold quantity for both butane and propane (and all other regulated flammable substances) is 10,000 pounds (Title 19, § 2770.5). The amounts of different regulated substances present in a single process need not be aggregated to determine whether a threshold is exceeded. If, at any time, more than 10,000 pounds of either butane or propane (when not used or sold as fuel) is present in a process, that process is covered by the CalARP Program regulations.

Although this process as described is not subject to CalARP, it is subject to the Federal Clean Air Act (CAA) § 112(r)(1), the general duty clause (see #14, below).

If butane and propane are present in a mixture in the process, then the threshold quantity must be calculated differently. Because a mixture of propane and butane would meet the NFPA 4 flammability criteria, the entire weight of the mixture needs to be treated as the regulated substance and added up to account for the threshold quantity.

14. Question: What is the "general duty clause" referred to in the previous answer?

Answer: The CAA general duty clause directs owners and operators of stationary sources to identify hazards that may result from accidental releases, to design and maintain a safe facility, and to minimize the consequences of releases when they occur. There is no specific list of substances which subject a stationary source owner or operator to the general duty provisions. The general duty provisions apply to owners and operators of all stationary sources which have any "extremely hazardous substances." Extremely hazardous substances are not limited to the list of regulated substances found in the CalARP regulations, nor the federal extremely hazardous substances listed under EPCRA §302 (40 CFR Part 355, Appendices A and B). The provisions of the general duty clause are enforced by USEPA ONLY. Enforcement powers for this clause have not been delegated to the State or to the CUPAs, and the State of California has no equivalent provision.

15. Question: A stationary source has a mixture above the threshold. At standard temperature and pressure, the mixture does not meet the criteria for a National Fire Protection Association flammability rating of 4 (NFPA 4). At elevated temperatures and pressures, however, the mixture meets the NFPA 4 criteria. Is this process covered under the risk management program regulations?

Answer: No. The determination of whether a substance or mixture meets the NFPA 4 hazard rating is made in accordance with the definition of flammability hazard rating 4 in the NFPA 704, Standard System for the Identification of the Fire Hazards of Materials, and boiling point and flash point shall be defined and determined in accordance with NFPA 321, Standard on the Basic Classification of Flammable and Combustible Liquids. Standard (or ambient) temperatures and pressures are referenced in these standards. Although this mixture as described is not subject to the CalARP Program, it is subject to CAA § 112(r)(1), the general duty clause.

16. Question: Drums containing regulated substances are stored in several separate locations at a stationary source and there is no possibility that an accidental release in any of the individual storage areas would impact any of the other storage areas. Must the overall amount of the regulated substance present at the stationary source be considered when determining whether the threshold quantity for that substance is exceeded?

Answer: No. Applicability of the CalARP Program regulations is contingent upon the existence of more than a threshold quantity of a regulated substance in a process at a stationary source (Title 19, § 2735.4(a)). Although the definition of "process" does include storage, the total amount of a regulated substance in storage at a stationary source does not necessarily constitute a single process. Separate, individual vessels must be considered as a single process for the purpose of threshold determination if both could be released during a single release event, including an event that is external to both vessels. The owner or operator of a stationary source must use his or her best judgment, backed up by a sound technical and scientific basis, to make a determination as to whether two or more vessels may be involved in the same accident, or whether a release from one vessel may reasonably be anticipated to lead to a release from another vessel. The owner or operator, in coordination with the Administering Agency, should be able to document the decision that the individual vessels do or do not constitute a single process.

17. Question: When determining the threshold quantity of a regulated toxic substance, mixtures of less than 1% by weight, and mixtures which can be demonstrated not to equal or exceed 10 millimeters of mercury (mm Hg) partial pressure of the toxic regulated substance need not be counted toward the threshold quantity. If the regulated toxic component of the mixture is less than 1% by weight, but the partial pressure is 10 mm Hg or more, does the stationary source have to include the regulated substance in that mixture toward the threshold quantity?

Answer: No. The concentration test (Title 19, § 2770.2(b)(1)(A)) and the partial pressure test (§ 2770.2(b)(1)(B)) are each intended to stand alone and to be applied serially (one after the other). If the amount of the regulated toxic substance in a mixture is less than 1% by weight, end of discussion, it doesn't have to be included in the threshold quantity. It doesn't matter what the partial pressure is. This is one issue that is not as clearly expressed in the CalARP regulations as it is in federal Title 40. 40 CFR § 68.115 (b)(1) clearly states that the concentration of the regulated substance in the mixture must be above 1% for the partial pressure test to apply. The initial 1998 CalARP rulemaking file also makes it clear that the intent of the regulation was to mirror the federal requirement.

18. Question: The eligibility criteria for Program 1 status under the CalARP regulations include a requirement that the process must not have had an accidental release resulting in serious offsite consequences for the past five years (Title 19 § 2735.4(c)(1)). Can a newly-constructed process that has no accident history qualify for Program 1 status?

Answer: Yes. A covered process is eligible for Program 1 status provided that:

(1) the process has not had an accidental release of a regulated substance that resulted in off-site death, injury, or response or restoration activities at an environmental receptor in the five years prior to the submission date of the RMP;
(2) there are no public receptors within the distance to a toxic or flammable endpoint associated with a worst-case release scenario; and
(3) emergency response procedures have been coordinated with the local emergency planning committee (LEPC) and response organizations (Title 19 § 2735.4).

The emergency response plan must include the name and phone number of the coordinating agency. A facility's emergency response plan must be coordinated with the community emergency response plan.

If your facility does not have an emergency response plan, indicate the agency that you have coordinated your response activities with. If you have regulated **toxic** substances and your employees will **not** be responding to accidental releases, your facility must be included in the community emergency response plan developed by the LEPC (or area plan developed by the CUPA). If that is the case, indicate the name and phone number of your LEPC on the RMP. If you only have regulated **flammable** substances and your employees will **not** be responding to releases of those substances, you must have coordinated response actions with the local fire department. If that is the case, indicate the name and phone number of your local fire department on your RMP.

19. Question: Program 3 applies to processes in certain North American Industry Classification System (NAICS) codes as well as any process subject to the Occupational Safety and Health Administration (OSHA) Process Safety Management (PSM) standard, unless the process is eligible for Program 1. If a process meets the requirements of Program 1, but is also in NAICS code 32211 (one of those identified for Program 3 applicability), is that process subject to the Program 1 or Program 3 requirements?

Answer: The Program 1 eligibility criteria are found in Title 19, § 2735.4(c). If a process meets the criteria for Program 1, that process is subject only to the Program 1 requirements, regardless of the applicable NAICS code or whether the process is subject to OSHA's PSM. Program 3 requirements (Title 19 § 2735.4(e)) do not apply to processes which meet the Program 1 eligibility criteria.

20. Question: If five years have passed since the last accident involving a covered process, and that process meets the other two requirements identified under Title 19, § 2735.4(c) for Program 1 eligibility, could that process become a Program 1 process even if it had previously been identified as a Program 2 or 3 process?

Answer: Yes. The status of a particular process can change over time. Any process that meets all of the criteria listed in Title 19, § 2735.4(c) is eligible for Program 1 status, regardless of the prior status of that process. If the owner or operator chooses to change Program levels, he must file an updated RMP to reflect this change in program level within six months of becoming eligible for Program 1 (See Title 19 § 2745.10(b)(7)).

21. Question: A process with more than a threshold quantity of a regulated substance had an accident with off-site consequences three years ago. After the accident, the process was altered to reduce the quantity stored onsite. Now the worst-case release scenario indicates that there are no public receptors within the distance to an endpoint. Can this process qualify for Program 1?

Answer: No. The process does not qualify for Program 1 until five years have passed since any accident has occurred with consequences that initially disqualified the process for Program 1.

22. Question: Are exercises required as a part of the emergency response program requirements under Title 19, Article 7 (Emergency Response Program)?

Answer: The owner or operator of a stationary source with Program 2 or Program 3 processes must develop and implement an emergency response program as described in Title 19 § 2765.2. Although there is no specific requirement to perform emergency response "exercises," exercises are a good tool for training and testing emergency response plans. In addition, training for all employees in relevant response procedures is required (Title 19 § 2765.2(a)(3)).

23. Question: Must the amount of chlorine present in sodium hypochlorite be considered when determining whether a process is subject to the CalARP Program regulations in Title 19?

Answer: No. The CalARP Program regulations apply only to processes that contain more than a threshold quantity of one of the specifically listed regulated substances in Title 19, § 2770.5. Sodium hypochlorite (CAS # 7681-52-9) is not a listed regulated substance. Elemental chlorine (CAS # 7782-50-5) is a regulated substance. If elemental chlorine (or any other regulated substance) is present in a process, the amount of that substance must be considered when determining whether the process is covered. Sodium hypochlorite does not contain elemental chlorine; rather it is a chemical compound comprised of a chlorine ion bonded to an oxygen atom. Therefore, the amount of the chlorine ion present in sodium hypochlorite should not be considered when determining whether a threshold amount of chlorine is present in a process.

24. Question: The list of regulated toxic substances in Title 19, § 2770.5, Table 1 includes both "ammonia (anhydrous)" and "ammonia (conc 20% or greater)," but does not include a specific listing for "ammonium hydroxide." The Chemical Abstract Registry Service (CAS) number for ammonium hydroxide is 1336-21-6, and the CAS number for ammonia is 7664-41-7. Ammonium hydroxide is, however, simply a mixture of ammonia and water. Must a stationary source owner or operator consider the amount of ammonia present in ammonium hydroxide that is contained in a process when determining whether the threshold for ammonia is exceeded?

Answer: Yes. For the purposes of the Title 19 risk management program regulations, ammonium hydroxide must be treated as a solution of ammonia and water, regardless of the fact that ammonium hydroxide may be identified by a unique CAS number. USEPA has made it clear that the listing for "ammonia (conc 20% or greater)" applies to aqueous solutions of ammonia. If the concentration of ammonia in the ammonium

hydroxide is 20% or greater, then the mixture is subject to threshold determination for "ammonia (conc 20% or greater)" under Title 19, § 2770.2. Table 3 of Title 19, § 2770.5 includes a listing for "ammonia", and does not discriminate between anhydrous and aqua ammonia. The threshold on Table 3 is the same for both anhydrous ammonia and aqueous solutions of ammonia, contrary to Table 1, which has a lower threshold for anhydrous ammonia. In addition, subject to the provisions of Title 19 § 2770.2(b)(2)(B) (the 10 mm Hg partial pressure rule, see Questions #9 and #17 above) solutions of ammonia are regulated down to 1% under Table 3: under Table 1 thresholds, ammonia solutions less than 20% are not regulated.

25. Question: Does a facility have to revise its entire RMP when updating contact names and phone numbers?

Answer: No, when making minor administrative changes to the RMP, such as providing a new phone number or contact name, a facility does not have to update its entire RMP. Further, making corrections or administrative changes does not affect the five-year anniversary date for updating the entire RMP.

26. Question: What is the difference between an inspection (Title 19, § 2775.3) and an audit (Title 19, § 2775.2)?

Answer: An inspection of a CalARP facility is the same thing as any other Unified Program inspection; in other words, it is a site visit, evaluating the stationary source for compliance with all applicable laws and regulations, including the Title 19 CalARP regulations and the provisions of the site's RMP. An inspection is an enforcement-oriented activity, and any violation of the CalARP statutes and regulations is subject to enforcement action, as outlined in Title 19, § 2775.4 and H&SC §§ 25540-25542, 25404.1.1 and 25404.1.2. The CUPA must inspect every CalARP facility at least once every three years.

An audit, on the other hand, is not an enforcement-track activity. It is to be performed "periodically"; "period" is not defined. While the inspection evaluates the stationary source's compliance with the RMP, the purpose of an audit is to review the adequacy of the RMP itself. The CUPA may choose to audit the entire RMP, or may select portions of the RMP for audit. Title 19, § 2775.2 (b) contains a list of criteria the CUPA may use to select a stationary source for audit. Two obvious criteria for an audit are the stationary source's accident history, and the proximity of public and environmental receptors. This latter criterion is quite common in California, with population growth regularly encroaching on formerly remote industrial areas.

Following the audit, the CUPA may issue a preliminary determination that the RMP must be revised. The owners or operators of the CalARP facility then have 90 days to respond in writing, agreeing or disagreeing, all, or in part, with the findings of the CUPA's preliminary determination. After evaluating the stationary source's response, the CUPA may then issue a final written determination of necessary revisions, and will coordinate a timetable for implementing these revisions. Thirty days after the activities defined in this timetable are completed, the stationary source must submit a revised RMP.

The Title 19 § 2775.2 audit should not be confused with the prevention program compliance audits found in Title 19 §§ 2755.6 (Program 2) and 2760.8 (Program 3). These activities are self-audits performed by the

owners or operators of the stationary source on the prevention program portion of their RMP, at least once every three years.

27. Question: How should the CUPA handle contractor training requirements? Should the CalARP facility produce evidence that they have reviewed the contract employee's training records, or would a "statement of qualifications" from a contractor in lieu of proof of training suffice? Some facilities are more or less hands off when it comes to maintenance and have had long-term contracts with maintenance contractors.

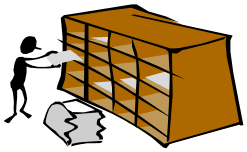
Answer: Contractors must provide a record of training to the CalARP facility. Check with the facility to see if the contractor has provided the training information to them. If not, instruct the facility to request the documentation from their contractor. A statement of qualifications from the contractor must include all the information required under § 2760.12(c). If not, the facility is in violation of § 2760.12(b), because it's the facility's responsibility to obtain this information (among other things listed in § 2760.12 (c)) from their contractor.

28. Question: A fruit packing facility utilizes anhydrous ammonia as a refrigerant. This closed-loop system was installed (piecemeal; variety of manufacturers) in the mid-1970's. How does the CUPA ensure the mechanical/structural integrity of piping and storage components, per Title 19? (The CUPA checked International Institute of Ammonia Refrigeration (IIAR) and American Society of Mechanical Engineers (ASME) directives, but didn't find anything definitive on testing (intervals, associated protocols, etc)).

Answer: You can either fall back on the individual mechanical integrity procedures from the original equipment vendors (if they still exist) or have the stationary source bring in a maintenance contractor to develop, integrate, and execute comprehensive mechanical integrity procedures for all components of the system at this time. Use T19, § 2755.5 (Program 2) or § 2760.5 (Program 3) as your authority. The stationary source **must** get a handle on this, because the existing situation could lead to lack of proper maintenance.

Whom do I call if I have questions?

- Contact your local CUPA or AA, or the Office of Emergency Services Hazardous Materials Unit at (916) 845-8741, if you have any CalARP questions.



Additional Resources
www.oes.ca.gov
www.calcupa.net
www.epa.gov

If you have any questions regarding RMP Submittals please call the Hazardous Material Unit
(916) 845-8741