

## Summary of Risk Management Programs (RMP) for Chemical Accident Prevention - (40 CFR Part 68)

### 1.0 Scope and Objectives

The objective of Part 68 is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur.

The regulations apply to a stationary source that has more than a threshold quantity of a regulated substance in a process. Part 68 requires covered facilities to develop and implement a risk management plan (RMP) and maintain the documentation at the site.

The RMP includes:

- a) An analysis of the potential offsite consequences of a worst case accidental release
- b) A 5 year accident history
- c) A prevention program and
- d) Emergency planning.

### 1.1 Program Levels

The regulations define 3 Program levels based on a process's relative potential for public impact and the level of effort needed to prevent accidents. The eligibility requirements for the programs are as follows:

#### *Program 1:*

A covered process is eligible for Program 1 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 that has led to death, injury or response/restoration activities of an environmental receptor.
- The distance to a toxic or flammable endpoint for a worst-case release assessment conducted is less than the distance to any public receptor and
- Emergency response procedures have been coordinated between the stationary source and local emergency planning and response organizations.

#### *Program 2:*

A covered process is eligible for Program 2 requirements if it does not meet the eligibility requirements of Program 1 or of Program 3.

#### *Program 3:*

A covered process is eligible for Program 3 requirements if the process does not meet the requirements of Program 1 and if either of the following conditions are met:

- The process is in one of ten specified the North American Industrial Classification System (NAICS) codes or
- The process is subject to the OSHA PSM standard.

The requirements for each Program Level are illustrated in Figure 1.

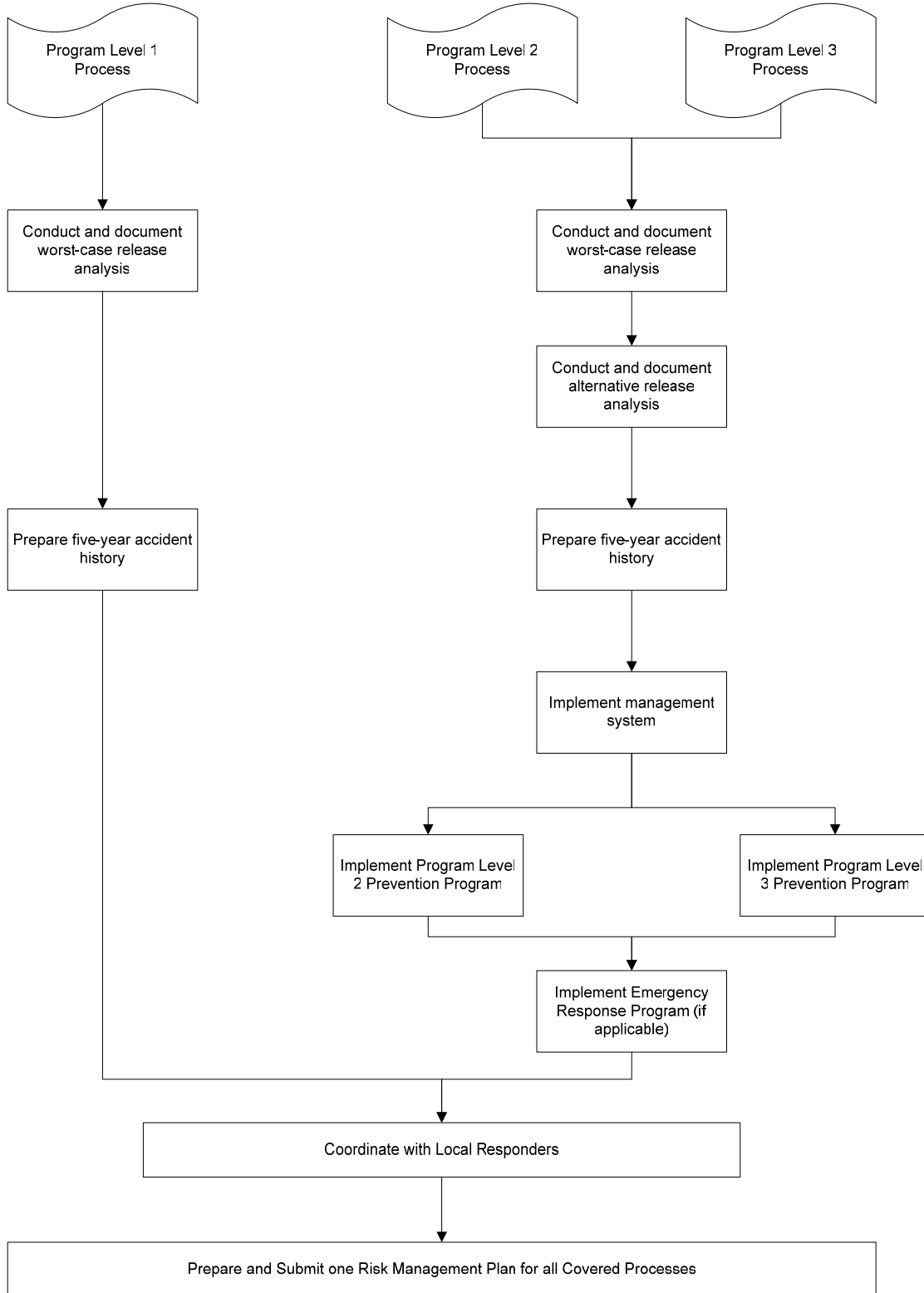


Figure 1: Risk Management Program for the 3 Program levels

### ***1.2 Worst Case release scenario***

The regulations state that the owner or operator shall carry out a worst case release scenario analysis to identify the potential reach and effect of hypothetical worst-case accidental releases.

The definition of what constitutes worst case release is explicitly stated in the regulations. For example, for toxic substances that are normally gases at ambient temperature and handled as a gas or as a liquid under pressure, it shall be assumed that the quantity in a vessel or pipe is released as a gas over 10 minutes. The release rate is assumed to be the total quantity divided by 10 unless passive mitigation systems are in place.

### ***1.3 Alternative release scenario***

The regulations requires the owner or operator to identify and analyse at least one alternative scenario for each regulated toxic substance held in a covered process and at least one alternative release scenario to represent all flammable substances held in covered processes.

The alternative scenario considers the potential reach and effect of hypothetical accidental releases under more realistic circumstances.

### ***1.4 Prevention Program 2***

Program 2 processes are likely to be relatively simple and typically located at small businesses. The prevention program for this program level consists of 7 prevention practices that must be integrated into a risk management program. The prevention practices are:

- Safety information – Compile and maintain up-to-date safety information related to the regulated substances, processes and equipment.
- Hazard review – conduct a review of the hazards associated with the regulated substances, process and procedures.
- Operating procedures – Prepare written operating procedures that provide clear instructions or steps for safely conducting activities associated with each covered process consistent with the safety information for that process.
- Training – Employees trained or tested competent in operating procedures.
- Maintenance – Prepare and implement procedures to maintain on-going mechanical integrity of the process equipment.
- Compliance audits – evaluate compliance with the provision of the prevention program at least every 3 years to verify that procedures and practices developed are adequate and are being followed.
- Incident investigation – investigate, within 48 hours, each incident which resulted in, or could have resulted in a catastrophic release.

### ***1.5 Prevention Program 3***

The Program 3 includes the requirements of the OSHA PSM standard which are outlined in the PSM Regulations summary document. There are 12 elements to the Program 3 namely:

- Process safety information
- Process hazard analysis
- Operating procedures
- Training
- Mechanical integrity
- Management of change
- Pre-Startup review
- Compliance audits
- Incident investigation
- Employee participation
- Hot Work permit
- Contractors