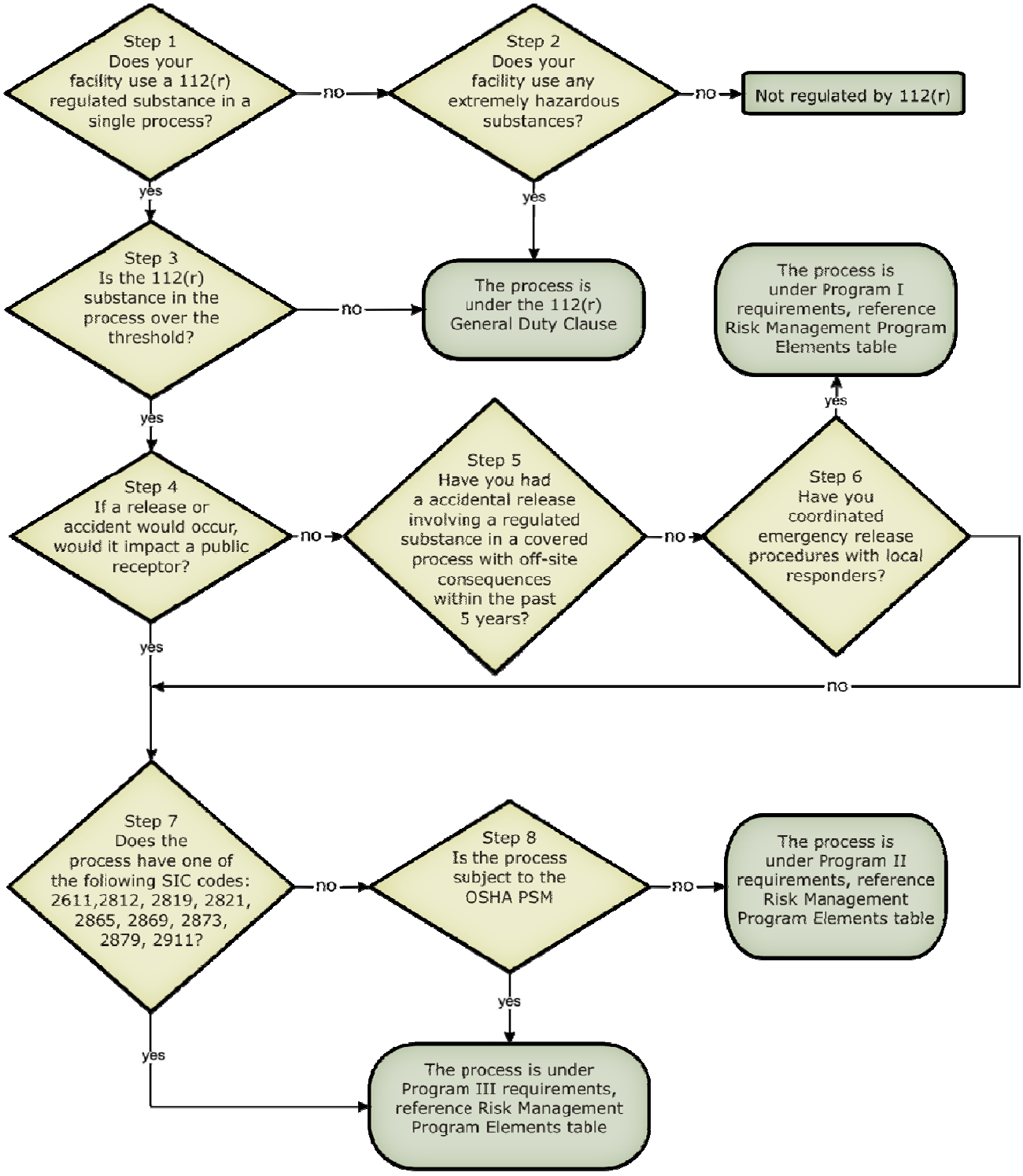
Clean Air Act Risk Management Flow Chart



Introduction: The following steps are to assist in creating a CAA Risk Management Plan IAW CAA section 112 and 40 CFR Part 68.

Clean Air Act Risk Management Flow Chart

Step 1--Does the Facility Use 112(r) Regulated Substances?

Determine if your party uses a regulated substance for a single process. A list of pollutants, regulated substances, is located in the Clean Air Act (CAA) section 112(b) (1). If your facility has more than the threshold quantity (TQ) of a 112(r) listed "regulated substance" in a single process, then you must develop and implement a risk management program as specified by the rule. In terms of the regulation, "process" means manufacturing, storing, distributing, handling, or using a regulated substance in any way. All flammable substances used as fuel at any facility are exempt from these requirements.

For a list of the substances found in section 112 see:

CAA 112(r) found in Title I Part A Section 112: http://www.epa.gov/air/caa/

If the answer is "yes" go to Step 3. If the answer is "no" go to Step 2.

Step 2-- Does the Facility Use Extremely Hazardous Substances?

Determine if your facility uses any type of extremely flammable substances. "Extremely hazardous substances" are not defined in Section 112(r). They are not limited to the list of regulated substances listed under Section 112(r) or the extremely hazardous substances under EPCRA.

Although there is no definition for extremely hazardous substances, the legislative history of the 1990 Clean Air Act Amendments suggests criteria which EPA may use to determine if a substance is extremely hazardous. The Senate Report stated the intent that the term "extremely hazardous substance" would include any agent "which may or may not be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with releases to the air cause death, injury or property damage due to its toxicity, reactivity, flammability, volatility, or corrosively

The general duty clause reflects Congressional intent that the owners and operators of stationary sources/facilities have the primary responsibility for the prevention of accidents. EPA has jurisdiction to implement and enforce the general duty clause through Sections 113 and 114 of the Clean Air Act at any facility where extremely hazardous substances are present. Owners and operators have been subject to the general duty clause since November 15, 1990.

Step 3--Does the 112(r) Substance Exceed Thresholds?

Determine if the substance has a threshold and if it is over the threshold limit. The list for regulated threshold substances is located in 40 CFR Part 68, Appendix A. CAA section 112(r).

http://www.access.gpo.gov/nara/cfr/waisidx_08/40cfr68_08.html

The list consists of toxic and flammable chemical substances that if accidentally released could cause death, injury, or severe adverse effects to human health and the environment. The threshold quantities range from 500 to 20,000 pounds for each process.

Step 4--Would a Release or Accident Impact the Public?

Determine if a spill or release of any substance that is regulated would impact the public. Off-site consequence analysis consisting of the Worst Case Release Scenario and the Alternative Release Scenario must be performed. The worst-case release scenario requires that the facility assume a release of the largest vessel (either storage tank or receiver vessel in a time period of 10 minutes for toxic gasses). For explosive gasses, the area affected by the explosion is one which includes an over pressure of 1 psi. “Look-up Tables” are available to standardize the process for organizations that have the same materials. Unlike the worst-case release scenario, the alternative release scenario includes the *most likely* release situation.

Look up tables:

http://www.epa.gov/tri/guide_docs/pdf/1999/chem1.pdf

If the answer is “yes” go to Step 7. If the answer is “no” go to Step 5.

Step 5--Has an Accidental Release Occurred within the Past 5 Years with Off-site Consequences?

Check facility history to determine if any accidental release involving a regulated substance has occurred. A five-year accident history must be developed. This activity involves any event that resulted in death, injury, significant property damage, evacuations, etc.

Step 6--Are There Coordinated Emergency Release Procedures with Local Responders?

Coordinate with any local emergency responders in case of any accidental releases. The Emergency Response Program requires stationary sources to prepare for possible catastrophic releases and thereby reduce risk to the public by having informed and prepared responders. The Emergency Response Program must include an emergency response plan, procedures for the use, inspection, and maintenance of emergency response equipment, training and procedures to review and update the emergency response plan. (NOTE: The Air Force Emergency Response Program is defined by AFI 32-4002, "Hazardous Material Emergency Planning and Response Compliance." The National Response Team has published guidance for integrated contingency plans in 61 FR 28641 plus correction pages at 61 FR 31103.)

Step 7--Does the Process Have Program 3 Level Codes?

Use SIC codes provided to determine if a potential release falls under Program Level 3. The applicability of Program 3 of the 40 CFR Part 68 rule is driven, in part, by Standard Industrial Classification (SIC) codes. Stationary sources subject to the rule are required to report SIC codes in the risk management plan.

If the answer is “yes” implement Program Level 3 requirements (see Table after Step 8).

Step 8: If step 7 is NO then OSHA Process Safety Management (PSM) Standard will determine if the facility falls under either Program 2 or Program 3. Guidance is located in 29 CFR 1910.119.

http://edocket.access.gpo.gov/cfr_2008/julqtr/pdf/29cfr1910.119.pdf

The table below identifies the steps that need to be taken for the different Risk Management Program Elements. These are broken down by Program Level.

SIC Chart

SIC	Industry Sector	NAICS
2611	Pulp Mills	32211
2812	Alkalis & Chlorine Manufacturing	325181
2819/2869	All Other Basic Inorganic Chemical Manufacturing	325188
2821	Plastics Materials & Resin Manufacturing	325211
2865	Cyclic Crude & Intermediates	325192
2873	Nitrogenous Fertilizer Manufacturing	325311
2879	Pesticides & Other Agricultural Chemical Manufacturing	32532
2911	Petroleum Refineries	32411
2865/2869	Petrochemical Manufacturing	32511
2969/2899	All Other Basic Organic Chemical Manufacturing	325199

Clean Air Act Risk Management Flow Chart

TABLE
Risk Management Program Elements

Program Level 1	Program Level 2	Program Level 3
Management System		
	Develop management system	Develop management system
Hazard Assessment		
Worst-case release scenario analysis	Worst-case release scenario analysis	Worst-case release scenario analysis
	Alternative release scenario analysis	Alternative release scenario analysis
	Definition of population/receptors	Definition of population/receptors
5-year accident history	5-year accident history	5-year accident history
Prevention Programs		
Certify no additional steps needed	Safety information	Process safety information
	Hazard review	Process hazard analysis
	Operating procedures	Operating procedures
	Training	Training
	Maintenance	Mechanical integrity
	Compliance audits	Management of change
	Incident investigation	Pre-startup review
		Compliance audit
		Incident investigation
		Employee participation
		Hot work permits
		Contractors
		(Program 3 Prevention Program elements conform to the OSHA PSM Standard)
Emergency Response Program		
Coordinate with local responders	Develop emergency response plan	Develop emergency response plan
Risk Management Plan (RMP)		
Executive summary	Executive summary	Executive summary
Registration of processes/chemicals	Registration of processes/chemicals	Registration of processes/chemicals
Hazard assessment data	Hazard assessment data	Hazard assessment data
5-year accident history	5-year accident history	5-year accident history
Certification	Prevention program information	Prevention program information
	Emergency response information	Emergency response information
	Certification	Certification