

**WELCOME**

**Risk Management Programs for  
Chemical Accidental  
Release Prevention**

**Clean Air Act 112(r)  
40 CFR Part 68**

# **Risk Management Program**

## **Purpose**

- ) Reduce accidental releases**
- ) Improve communication**
- ) Coordinate emergency response actions**

# The Statute

) Established a general duty for facilities :

- Identify hazards that may result from releases

- Design and maintain a safe facility

- Minimize the consequences of releases

# The Statute

Continued

**Required EPA to promulgate a list of substances and set thresholds**

**Required EPA to put into place a regulatory framework for facility generated Risk Management Plans**

# Substances and Threshold

) Final Rule - January 31, 1994

Lethal effects from acute exposure

Estimated 66,000 affected facilities

77 Acutely Toxics - 500-20,000 lbs Thresholds

63 Flammables substances - 10,000 lbs Threshold

# Substances Required By Statute

- Anhydrous ammonia
- Methyl chloride
- Vinyl chloride
- Hydrogen cyanide
- Hydrogen sulfide
- Phosgene
- Hydrogen fluoride
- Anhydrous Hydrogen Chloride
- Anhydrous Sulfur Dioxide
- Chlorine
- Ethylene oxide
- Methyl isocyanate
- Ammonia
- Toluene diisocyanate
- Bromine
- Sulfur Trioxide

# Risk Management Program

## Applicability

- ) A stationary source with more than a threshold quantity of a regulated substance in a process

# **Chemical List**

## **Publications**

- ) 59 Fed Reg 4478 (January 31, 1994)**
- ) 40 CFR 68.130, Table 1-4**
- ) EPCRA "List of Lists" (12/96)**

# **Risk Management Program**

## **Components**

**Final Rule issued on June 20, 1996**

- Registration**
- Hazard Assessment**
- Accident Release Prevention Program**
- Emergency Response Program**
- Risk Management Plan**

# **Risk Management Program**

## **Process Categories**

- ) Program 1 - Certification Statement**
- ) Program 2 - Streamlined Prevention**
- ) Program 3 - Entire Prevention**

# RMP - Hazard Assessment

- ) Release Scenarios
  - 5 Worst-case
  - 5 Alternative
- ) Off-site Impacts
  - 5 Human Population
  - 5 Environmental
- ) 5-year Accident History

# **Accidental Release Prevention Program**

- **Management System**
- **Maintenance**
- **Process Hazard Analysis**
- **Pre-startup Review**
- **Management of Change**
- **Safety Audits**
- **Standard Operating Procedures**
- **Accident Investigations**
- **Training**

# Emergency Response Program

- ) Establish and implement an Emergency Response Plan
  - Procedures for informing the public and response agencies
  - Train employees in emergency response procedures
  - Coordinate plan development with LEPC's and response agencies

# **Risk Management Program**

## **Risk Management Plan**

- ) Submit to central point specified by EPA**
- ) Executive summary**
- ) Registration**
- ) Data Elements**
- ) Certification**
- ) Updates**

**40 CFR 69 Subpart G**

# RMP Information

) **Electronic Submission**

# **Why Electronic Submission?**

# Industry Benefits

- ) **Reduced Paperwork**
- ) **Reduced Mailing Costs**
- ) **Increased Efficiency**

# **Implementing Agency Benefits:**

- ) Decreased Information Processing Time**
- ) Reduced Paperwork**
- ) Increased Efficiency**

# Tax Payer Benefits

- ) Reduced Data Entry Costs
- ) Increased Data Accuracy

# Electronic Submission Workgroups

- ) State Issues
- ) Model Plans
- ) Method of Submission
  - 5electronic vs. paper
- ) Submission Design
  - Features/Requirements

# Electronic Submission Workgroups (Continued)

- ) Data Quality/Usefulness
- ) Policies of Access
  - 5 (universal access vs restricted access)
- ) Access Design Features/Requirements

# Time Frames

- ) **October 1996-May 1997: System Design**
- ) **June 1997-December 1998: System Development**
- ) **January 1999:Implementation**

# How Can You Keep Informed?

- ) E-mail list of about 145 subscribers is kept up-to-date through the meeting summaries
- ) All information on CEPPPO Homepage
- ) Federal Register "Notice of Availability" for the Electronic Submission Workgroup recommendations report this summer
- ) FINAL Federal Register to announce the final "form" and method

# **Risk Management Plan**

## **Submission Deadline**

- ) June 21, 1999**
- ) Date When Regulated Substance is in Process and Above TQ**
- ) Three Years From Date a New Substance is Listed by EPA**

# Facility-Chemical Data Sources

## Links to EPCRA

### -Emergency Notification

76 RMP are Extremely Hazardous Substances

### -Tier II's

All RMP are OSHA Hazardous

### -Toxic Release

### Inventory

56 RMP are Toxic Release Inventory chemicals

# Risk Management Program

## LEPC - Facility Interaction

- ) Possible Facility Roles
  - 5 Chemical expertise
  - 5 Computers
  - 5 Manpower
  - 5 Equipment

# Risk Management Program

## LEPC - Facility Interaction

### ) Possible LEPC Roles

- 5 ID sensitive populations
- 5 Provide limited CAMEO modeling & assumptions
- 5 Buffer between facilities & public

# Internet Access

- ) Access EPA documents through the Internet for review or for download
- ) Technology Transfer Network (TTN)
- ) CEPPO EPA Homepage  
5 <http://www.epa.gov/ceppo>

# Phone Numbers

- ) EPA Hotline 1-800-535-0202
- ) EPA Region 7 (913) 551-7020

# **Risk Management Program**

## **Determining Your Threshold Quantity**

**Jan. 31, 1994 Federal Register**  
**June 20, 1996 Federal Register**

# Threshold Determination

## Applicability

- ) **Stationary source**
- ) **In a process**
- ) **More than the threshold quantity of a regulated substance**

**40 CFR 68.10(a)**

# Threshold Determination

## Stationary Source

- ) Buildings, structures, equipment, etc.
- ) Same industrial group
- ) One or more contiguous properties
- ) Under the control of the same person or persons

40 CFR 68.3

# Threshold Determination

## Processes

- ) Storage
- ) Manufacturing
- ) Handling
- ) Onsite movement , or
- ) Any combination of these activities

40 CFR 68.3

# Threshold Determination

## Processes

) Includes:

- 5 Vessels that are interconnected, or
- 5 Separate vessels which could be involved

# Threshold Determination

Stayed Provisions  
(until 12/22/97)

- ) Gasoline to be used for fuel
- ) Explosives
- ) Naturally occurring hydrocarbons prior to processing
- ) Mixtures of regulated flammables without a NFPA flammability index 4

40 CFR 68.2

# Threshold Determination

## Transportation

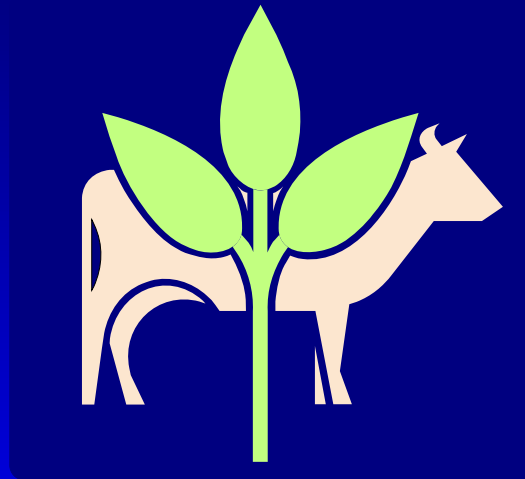
- ) Processes include transportation containers:
  - 5 no longer under active shipping papers
  - 5 connected to equipment
  
- ) Not subject to 112(r)
  - 5 Storage incidental to transportation
  - 5 Actual transportation

40 CFR 68.3 (Stationary source definition)

# Threshold Determination

## Exempt Processes

- ) Ammonia used as a nutrient by farmers



40 CFR 68.125

# **Threshold Determination**

## **Toxic Mixture Exemption**

- ) Toxic chemicals need not be considered from portions of a process where the partial pressure is less than 10mm of mercury.**
- ) Toxic chemicals need not be considered if present in mixture at a concentration of less than 1%.**

**40 CFR 68.115(b)(1)**

# Threshold Determination

## Toxic Mixture Exemption

- ) The following chemicals should be reported if concentrations is greater than 1%, regardless of the partial pressure.

5 Oleum

5 Toluene-2,4 Diisocyanate

5 Toluene-2,6 Diisoncyanate

5 Toluene Diisocyanate (unspecified isomers)

40 CFR 68.115(b)(1)

# Threshold Determination

## Flammable Mixture Exemption

- ) Regulated flammable substance is below 1% by weight in a mixture
- ) If greater than 1% by weight, then the entire weight of the mixture is considered for the threshold determination
  - 5 *Unless the owner/operator can demonstrate the mixture itself does not have an NFPA flammability rating of 4.*

40 CFR 68.115(b)(2)

# Threshold Determination

## Article Exemption

- ) Regulated substances in articles need not be considered when determining if a threshold quantity is present at a stationary source

40 CFR 68.115(b)(4)

# Threshold Determination

## Use Exemption

- ) Structural component of stationary source
- ) Routine janitorial maintenance
- ) Employees' personal items
- ) Present in water and air as it is drawn from the environment.

40 CFR 68.115(b)(5)

# Threshold Determination

## Laboratory Exemption

- ) Regulated substances manufactured, processed, or used in a laboratory under the direction of a qualified individual.

40 CFR 68.115(b)(6)

# Threshold Determination

## Definition

- ) A person or persons who:
  - ) because of education, training, or experience is capable of understanding the health and environmental risks associated with the chemical substance which is under his or her supervision
  - ) is responsible for enforcing appropriate methods of conducting scientific experimentation, analysis, or chemical research to minimize such risks

40 CFR.720.3 (ee)

# Threshold Determination

## Definition

- ) Continued:
  - ) is responsible for the safety assessments and clearances related to the procurement, storage, use, and disposal of the chemical substance as may be appropriate or required within the scope of conducting a research and development activity.

# Threshold Determination

## Laboratory Exemption

) Not exempt :

5 Specialty chemical production

5 Pilot scale operations

5 Activities conducted outside the lab

40 CFR 68.115(b)(6)

# Example

**There are two 1-ton chlorine cylinders feeding a water treatment system. The chlorine concentration is below 1% in the water. The water is then used in water treatment tanks.**

# Solution

- The interconnected chlorine cylinders constitute one process
- Exemption for chlorine in water with a concentration below 1%
- Quantity = 4,000 pounds

# **Risk Management Program**

## **Levels of Compliance**

**40 CFR 68.10 & 68.12**

# Levels of Compliance

## Program 1

- ) **May apply to processes for which a worst-case release would not affect the public.**
- ) **Remotely located facilities using listed flammables might be eligible for this program.**

# Levels of Compliance

## Program 2

- ) May apply to less complex operations that do not involve chemical processing (e.g., retailers, propane users, non-chemical manufacturers, and other processes not regulated under OSHA's PSM Standard.

# Levels of Compliance

## Program 3

- ) May apply to higher risk, complex chemical processing operations and processes already subject to OSHA PSM.

# General Program Requirements

- ) For all program levels the following is required:
  - ) Register
  - ) Hazard Assessment
  - ) Submit RMP

# Program 1

## Eligibility

- ) **No accident history**
- ) **No public receptors in worst-case scenario**
- ) **Emergency response coordinated with local responders**

**40 CFR 68.10(b)**

# **Program 1**

## **Requirements**

- ! General Program Requirements, plus:**
- ! Certify no worst-case off-site consequences**
- ! Coordinate with local responders**

**40 CFR 68.12(b)**

# **Program 1**

## **Risk Management Plan Contents**

- ! Executive Summary (40 CFR 68.155)**
- ! Registration (40 CFR 68.160)**
- ! Worst-case data (40 CFR 68.165(a)(1))**
- ! 5-year accident history (40 CFR 68.168)**
- ! Certification (40 CFR 68.185(a))**

# Program 2

## Eligibility

- ) Process not eligible for Program 1 or Program 3

40 CFR 68.10(c)

# **Program 2**

## **Requirements**

- ) General Program Requirements, plus**
- ) Document Management System**
- ) Prevention Program**
- ) Emergency Response Plan**

**40 CFR 68.12(c)**

# Program 2

## Risk Management Plan Contents

! Executive Summary

5 (40 CFR 68.155)

! Registration

5 (40 CFR 68.160)

! Worst-case data

5 (40 CFR 68.165(a)(2))

! Alternative Release data

5 (40 CFR 68.165(a)(2))

# Program 2

## Risk Management Plan Contents (cont.)

- ! 5-year accident history  
5 (40 CFR 68.168)
- ! Prevention Program  
5 (40 CFR 68.170)
- ! Emergency Response  
5 (40 CFR 68.180)
- ! Certification  
5 (40 CFR 68.185(b))

# Program 3

## Eligibility

) Process subject to OSHA PSM  
29 CFR 1910.119

) Process in SIC Code:

4	2611	-2869
4	2812	- 2873
4	2819	- 2879
4	2821	-2911
4	2865	

40 CFR 68.10(d)

# **Program 3**

## **Requirements**

- ) General Program Requirements ,plus**
- ) Document Management System**
- ) Prevention Program**
- ) Emergency Response Plan**

**40 CFR 68.12(d)**

# **Program 3**

## **Risk Management Plan Contents**

- ! Executive Summary (40 CFR 68.155)**
- ! Registration (40 CFR 68.160)**
- ! Worst-case data (40 CFR 68.165(a)(1))**
- ! Alternative Release data (40 CFR 68.165(a)(2))**

# **Program 3**

## **Risk Management Plan Contents (Cont.)**

- ) 5-year accident history (40 CFR 68.168)**
- ) Prevention Program (40 CFR 68.175)**
- ) Emergency Response (40 CFR 68.180)**
- ) Certification (40 CFR 68.185(b))**

# **Risk Management Program**

## **HAZARD ASSESSMENT**

**40 CFR 68 Subpart B**

# RMP - Hazard Assessment

- ) Release Scenarios
  - 5 Worst-case
  - 5 Alternative
- ) Off-site Impacts
  - 5 Human Population
  - 5 Environmental
- ) 5-year Accident History

# Worst Case Release Scenario

## Definition

! 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.

4 Administrative controls may be considered

4 Passive mitigation included

40 CFR 68.25(a)(2), (b), (g)

# **Worst Case Release Scenario**

## **Number Required**

- ) For Program 1, one for each process**
- ) For Programs 2 & 3, one representing all toxics**
- ) For Programs 2 & 3 one representing all flammables**

**40 CFR 68.25(a)&(h)**

# Worst Case Release Scenario

## Number Required

- ) Additional scenarios for different public receptors
- ) Other considerations
  - 5 Smaller quantities at higher temperature or pressure
  - 5 Source boundary proximity

40 CFR 68.25(a)&(h)

# Worst Case Release Scenario

## Endpoints

- ) **Toxics**

  - 5** Air concentration

- ) **Flammables**

  - 5** Vapor Cloud Explosion

40 CFR 68 Appendix A

# Alternative Release Scenarios

## Considerations

- ) More likely scenario
  - 5 Split hoses
  - 5 Pipe failures
  - 5 Pump failures
  - 5 Vessel overfilling/venting
- ) Active and passive mitigation

40 CFR 68.28(b) & (d)

# Alternative Release Scenario

## Number Required

### ) Toxics

**5** At least one scenario for each toxic substance in a covered process

### ) Flammables

**5** At least one scenario to represent all flammable substances in covered processes.

40 CFR 68.28(a)

# Alternative Release Scenario

## Endpoints

- ) **Toxics**

- 5 **Air concentration**

- ) **Flammables**

- 5 **Vapor Cloud Explosion**

- 5 **Radiant heat**

- 5 **Flash Fire**

40 CFR 68.22(a)

# Release Scenarios

## DOCUMENTATION

- ) Rationale
- ) Methodology
- ) Release rate & duration
- ) Populations data
- ) Environmental receptors

40 CFR 68.39

# Hazard Assessment

## 5 Year Accident History

- ) Required of Programs 1, 2, and 3
- ) Release history of regulated process
- ) Determines eligibility for Program 1

40 CFR 68.42

# **5 Year Accident History**

## **Program 1 Criteria**

- ) Must not had the following offsite impacts:**
  - 5 Death**
  - 5 Injury**
  - 5 Response or restoration for exposure of an environmental receptor**

**40 CFR 68.10(b)(1)**

# 5 Year Accident History

## Applicable Releases

- ) All accidental releases from covered processes that result in:
  - 5 Deaths
  - 5 Injuries
  - 5 Significant property damage onsite
  - 5 Evacuations
  - 5 Sheltering in place
  - 5 Environmental damage

40 CFR 68.42(a)

# Example

- ) **A hydrogen release that resulted in an explosion that injured 2 workers at the facility, but did not have off-site effects**
- ) **This does not eliminate the company from being in Program 1**

# Example

- ) A propane release that caused an explosion that affected a federal wildlife preserve, but caused no human injuries
- ) This would eliminate the process from Program 1

# **5 Year Accident History**

## **Required Data**

- ) Date, time, duration of the release**
- ) Chemical**
- ) Quantity**
- ) Type of release event and source**
- ) Weather conditions**

**40 CFR 68.42(b)**

# **5 Year Accident History**

## **Required Data**

- ) Onsite impacts**
- ) Known Offsite impacts**
- ) Initiating event & contributing factors**
- ) Offsite responders**
- ) Resulting process changes**

**40 CFR 68.42(b)**

# **Risk Management Program (RMP)**

## **Off-Site Consequence Analysis Guidance**

**May 24, 1996**

# Off-Site Consequence Analysis Guidance

## Purpose

- ) Alternative to air dispersion models
  - 5 Methods
  - 5 Reference tables
  
- ) Determine distances for release scenarios
  - 5 Worst case
  - 5 Alternative

# Off-Site Consequence Analysis Guidance

## Specific Sector Guidance

- ) Ammonia Refrigeration
- ) Propane Distribution\*
- ) Water Treatment\*
- ) Others\*

\* Under development

# Off-Site Consequence Analysis Guidance

## Contents

- ) Modeling Parameters
- ) Release Rates
- ) Distance Estimates
- ) Offsite Receptors
- ) RMP Documentation

# Off-Site Consequence Analysis Guidance

## Modeling Parameters

- ) Describe Parameters
- ) Summary of Public Domain Models
- ) References

# Off-Site Consequence Analysis Guidance

## Release Rates

- ) Toxic Gases
- ) Toxic Liquids
- ) Toxic Water Solutions
- ) Flammable Gases
- ) Flammable Liquids

# Off-Site Consequence Analysis Guidance

## Distance Estimates

- ) Worst case scenario
  - 5 Toxic Endpoints
  - 5 Overpressure Endpoint (Flammables)
- ) Alternative scenario
  - 5 Toxic impact distance
  - 5 Flammable impact distance

# Off-Site Consequence Analysis Guidance

## Estimating Off-site Receptors

- ) Public
- ) Residential
- ) Environmental

# Off-Site Consequence Analysis Guidance

## RMP Documentation

- ) Worst case scenario
  - 5 Toxics
  - 5 Flammables
- ) Alternative scenario
  - 5 Toxics
  - 5 Flammables

# **Risk Management Program**

**Prevention Program**

**Management**

**40 CFR Part 68.15**

# Management Program

**The intent of this section is to establish a systematic approach to compliance and that we look at the big picture and not just a few small parts of the total program prior to starting.**

# Prevention Program

## Importance of Management

**For program 2 and 3 Processes:**

- Assign responsibility to a qualified person/position**
- Develop management system to oversee implementation**

# Prevention Program

Comparison of Program Requirements

See handout "Comparison of Program Requirements"

# Prevention Program

Program Requirements

40 CFR Subpart C & D

# Prevention Program

) Performance-based regulation

# **Program 1**

## **Requirements**

- ! General Program Requirements, plus:**
- ! Certify no worst-case off-site consequences**
- ! Coordinate with local responders**

**40 CFR 68.12(b)**

# Program 1

- ) **Certify no additional 40 CFR 68.12 (b) measures are necessary to prevent offsite impacts from accidental releases**

# Program 2

## General Requirements

- Register
- Conduct worst-case and other hazard assessments
- Implement 7 elements of prevention program
- Develop emergency response program
- Submit Risk Management Plan  
40 CFR 68.12(c)

# Prevention Program

## Prevention Program 2

### Elements:

- Safety Information
  - Hazard Review
  - Operating Procedures
  - Training
  - Maintenance
  - Compliance Audits
  - Incident Investigation
- 40 CFR Subpart C

# **Program 3**

## **Requirements**

- ) General Program Requirements, plus**
- ) Document Management System**
- ) Prevention Program**
- ) Emergency Response Plan**

**40 CFR 68.12(d)**

# Prevention Program 3

- ) One comprehensive prevention program that protects workers, public and the environment -- OSHA's PSM minus
- ) Wording is identical to OSHA's PSM except;
  - 5 "regulated" or "highly hazardous"
  - 5 "stationary source" for "facility"
  - 5 "owner or operator" for "facility"
  - 5 "rule" for "standard"
  - 5 "pre-startup review" for "pre-startup safety review"

# Prevention Program 3

## ) Elements:

5 Process Safety Information

5 Process Hazard Analysis

5 Operating Procedures

5 Training

5 Mechanical Integrity

5 Incident Investigation

# Prevention Program 3

- ) Elements (cont'd):
  - 5 Compliance Audits
  - 5 Management of Change
  - 5 Pre-startup Review
  - 5 Contractors
  - 5 Employee Participation
  - 5 Hot Work Permits (29 CFR 1910.252(a))

# **Prevention Program OSHA Publications**

- ) OSHA 3132 -- Process Safety Management**
- ) OSHA 3133 -- Process Safety Management  
Guidelines for Compliance**
- ) CPL 2-2.45A -- 29 CFR 1910.119, Process Safety  
Management of Highly Hazardous  
Chemicals--Compliance Guidelines and Enforcement**
- ) OSHA CD-ROM -- OSHA Regulations, Documents,  
and Technical Information**

# **Risk Management Program**

## **Emergency Response Program**

**40 CFR Part 68, Subpart E**

# Emergency Response Plan

## ) Legislative requirements:

- 5 Procedures for informing the public and local emergency response agencies about accidental releases**
- 5 Documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposure**
- 5 Procedures and measures for emergency response after a release**

# Emergency Response Plan

## ) Legislative requirements (cont'd)

- 5 Procedures for the use of emergency response equipment, its inspection, testing and maintenance
- 5 Training for all employees in relevant procedures
- 5 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

# Emergency Response Plan

**BUT**

- ) If the owner or operator of stationary source whose employees WILL NOT respond to accidental releases of regulated substances need not comply with 40 CFR Part 68.95 provided that they meet the following:

# Emergency Response Plan

) Cont'd....provided they meet the following:

- 5 For stationary sources with any regulated toxic substance held in a process above the threshold quantity is included in the community emergency response plan developed under 42 U.S.C. 11003
- 5 For stationary sources with only regulated flammable substances held in a process above the threshold quantity the owner/operator has coordinated response actions with the local fire department

# Emergency Response Plan

) Cont'd....provided they meet the following:

**5** Appropriate mechanisms are in place to notify emergency responders when there is a need for a response

# Emergency Response Program

## LOCAL EMERGENCY PLANNING COMMITTEE

### ) Membership:

- 5 Law enforcement
- 5 Firefighting
- 5 First-aid/Health/Hospital
- 5 Transportation
- 5 Local environmental
- 5 Elected State/Local Officials
- 5 Broadcast/Print Media
- 5 Community Groups
- 5 OWNERS/OPERATORS OF COVERED FACILITIES

# Emergency Response Plan

## U.S.C. 11003

42

) Each emergency plan shall include:

- 5 Identification of facilities subject to Title III emergency planning
- 5 Routes likely to be used for the transportation of EHSs
- 5 Additional facilities, such as hospitals or natural gas facilities contributing or subject to additional risk due to their proximity to covered facilities

# **Emergency Response Plan**

## **U.S.C. 11003 (Cont'd)**

### **42**

- ) Methods and procedures to be followed by facility owners/operators and local emergency and medical personnel to respond to any release, as defined in 40 CFR Part 355**
- ) Designation of a community emergency coordinator and a facility emergency coordinator for each facility subject to the emergency planning requirements, who will make determinations necessary to implement the emergency plan**
- ) Methods for determining the occurrence of a release and the areas or population likely to be affected by such a release**

# **Emergency Response Plan**

## **42 U.S.C. 11003 (Cont'd)**

- ) Procedures providing reliable, effective, and timely notification by the facility emergency coordinator to persons designated in the emergency response plan, and to the public, that a release has occurred**
- ) A description of emergency equipment and facilities, including an identification of the persons responsible for such equipment and facilities**
- ) Evacuation plans, including provisions for precautionary evacuation and alternative traffic routes**

# Emergency Response Plan

## 42 U.S.C. 11003 (Cont'd)

- ) Training programs, including schedules for training of local emergency response and medical personnel
- ) Methods and schedules for exercising the emergency response plan
- ) Review the plan once a year, or more frequently as changed circumstances in the community or at any subject facility may require

# **NATIONAL RESPONSE TEAM'S INTEGRATED CONTINGENCY PLAN (ICP) GUIDANCE**

) 61 Federal Register 28641 June 5, 1996

# **National Response Team's Integrated Contingency Plan (ICP) Guidance**

- ) Consolidate multiple facility response plans**
- ) Improve coordination of response activities**
- ) Minimize duplication and simplify plan development and maintenance**
- ) Ensure regulatory compliance**

# The Question

- ) An interesting question for many affected facilities is how to discuss worst-case scenarios with their residential neighbors. If the discussion is done properly, the neighbors may feel the facility is behaving as a responsible corporate neighbor. However, if improperly handled, these discussions can have a negative impact on community goodwill.

# **Risk Management Program**

## **Risk Management Plan Contents**

**40 CFR 68 Subpart G**

# Risk Management Plan

- ) **Summary - Risk Management Program**
  - 5 **Key Elements**
  - 5 **Electronic submission encouraged**
  - 5 **Checklist format**
  
- ) **Goal: Provide Most Useful Information to the Public and Local Agencies**

# Risk Management Plan

- ) **Submission includes:**
  - 5 **Executive Summary**
  - 5 **Registration**
  - 5 **Offsite Consequence Analysis**
  - 5 **Five-year Accident History**
  - 5 **Prevention Program**
  - 5 **Emergency Response Program**
  - 5 **Certification**

40 CFR 68.150-68.185

# **Risk Management Plan**

## **Submission Deadline**

- ) June 21, 1999**
- ) Date When Regulated Substance is in Process and Above TQ**
- ) Three Years From Date a New Substance is Listed by EPA**

**40 CFR 68.150(b)**

# **Risk Management Plan**

## **Executive Summary**

- ) Release Prevention and Response Policies**
- ) Stationary Source and Regulated Substances Handled**
- ) Worst-case & Alternative Release Scenarios**
- ) General Release Prevention Program**
- ) Five-year Accident History**
- ) Planned Changes to Improve Safety**

**40 CFR 68.155**

# Risk Management Plan

## Registration

- ) **One Registration - All Regulated Substances**
  - 5 **Name, Address, Etc.**
  - 5 **Facility Contacts**
  - 5 **Name and Quantity of Each Chemical in a Covered Process**
  - 5 **Whether the Facility is Subject to:**
    - 5 **OSHA's PSM**
    - 5 **EPA's EPCRA & CAA Title V Provisions**

40 CFR 68.160

# **Risk Management Plan**

## **Off-Site Consequence Analysis**

### **) Program 1 Processes**

**5 One Worst-Case Release Scenario  
for Each Covered Process**

**40 CFR 68.165**

# **Risk Management Plan**

## **Off-Site Consequence Analysis**

### **) Programs 2 & 3 Processes**

- 5 One Worst-Case representative of toxics**
- 5 One Worst-Case representative of Flammables**
- 5 One Alternative Release Scenario for each Toxic**
- 5 One Alternative Release Scenario representative of all Flammables**

**40 CFR 68.165**

# **Risk Management Plan**

## **Off-site Consequence Analysis (OCA)**

### **) Includes:**

**5 Chemical Name and Physical State  
(toxics only)**

**5 Basis of Results**

**5 (e.g. Model Name or Lookup Table)**

**5 Scenario (e.g. explosion, fire, etc.)**

**5 Quantity and Rate of Release**

# **Risk Management Plan**

## **Off-site Consequence Analysis (OCA) (cont.)**

**) Includes:**

**5 Other Modeling Parameters**

**5 (e.g. stability class)**

**5 Distance to Endpoint of Concern**

**5 Public and Environmental Receptors  
within Endpoint Distance**

**5 Mitigation Considered for the Scenario**

# **Risk Management Plan**

## **Five-Year Accident History Data**

### **) Includes:**

- 5 Date, Time, and Duration of Release**
- 5 Chemical Name and Quantity Released**
- 5 Type of Release Event and Source**
- 5 Weather Conditions, if Known**
- 5 On-site Impacts**

**40 CFR 68.168 & 68.42(b)**

# **Risk Management Plan**

## **Five-Year Accident History Data (cont.)**

- ) Includes:**
  - 5 Known Off-site Impacts**
  - 5 Initiating Event and Contributing Factors**
  - 5 Off-site Responder Notifications**
  - 5 Operational or Procedural Changes Made in Response to Accident**

**40 CFR 68.168 & 68.42(b)**

# **Risk Management Plan**

## **Prevention Program Elements**

- ) Program 2 - 40 CFR 68.170**
- ) Program 3 - 40 CFR 68.175**
- ) Data Elements Guidance**

# **Risk Management Plan**

## **Emergency Response Program**

**) Includes:**

- 5 Questions About the Facility's Emergency Response Plan and Procedures**
- 5 Dates of Updates/ Reviews of Emergency Response Plans and Training**
- 5 Name and Telephone of Local Agency with Which the Plan is Coordinated**
- 5 A List of Other Federal or State Emergency Plan Requirements to which Facility is Subject**

**40 CFR 68.180**

# **Risk Management Plan**

## **Certification**

### **) Program 1 Processes -**

- 5 Worst-case release scenario does not affect nearest public receptor**
- 5 No accidents causing offsite impacts in the last five years, etc...**

**40 CFR 68.185**

# **Risk Management Plan**

## **Certification**

### **) Programs 2 & 3 Processes -**

**5 To the best of the signer's knowledge, information and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.**

**40 CFR 68.185**

# **Risk Management Program**