Clean Air Act Section 112(r) General Duty & Risk Management Program
Clean Air Act Section 112(r)

- Established a General Duty Clause
- Required EPA to list at least 100 regulated substances known to cause death or serious adverse effects to human health or the environment
- Required EPA to promulgate regulations and guidance to prevent, detect, and respond to accidental releases of regulated substances
- Regulations to include a risk management plan (RMP) available to government officials and the public
General Duty Clause

• Owners and operators have a general duty to:
  – Identify hazards associated with a potential accidental release of an “extremely hazardous substance” using appropriate hazard assessment techniques
  – Design and maintain a safe facility, taking steps to prevent releases
  – Minimize the consequences of accidental releases which do occur

Not limited to a specific list of chemicals or threshold quantities
The Risk Management Program is designed to:

- Prevent accidental chemical releases to the air
- Minimize the consequences of releases that do occur
- Provide information about chemical hazards to the public and government officials in order to promote a dialogue with industry to reduce risk
40 CFR Part 68
Risk Management Program
Applicability Criteria

- Stationary source
- With one or more regulated substances
- Contained in a process
- Above a threshold quantity
Definitions – Stationary Source

• “…any buildings, structures, equipment, installations or substance emitting stationary activities
  – (i) which belong to the same industrial group,
  – (ii) which are located on one or more contiguous properties,
  – (iii) which are under the control of the same person (or persons under common control), and
  – (iv) from which an accidental release may occur” (CAA Section 112(r)(2))
Regulated Substances & Thresholds

- 77 toxic & 63 flammable substances listed
  - Chlorine – 2,500 pounds
  - Sulfur Dioxide – 5,000 pounds
  - Flammables – 10,000 pounds
Definitions – Process

• 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, are considered a single process
Applicability of Program Levels

• Program 1
  – Eligibility Criteria
    • No public receptors in worst-case scenario zone and
    • No accidents with specified OFF-SITE consequence in the last five years (68.10)
  – Requirements
    • Limited hazard assessment requirements
    • Minimal prevention and emergency response requirements

➢ Flammable storage most common
Applicability of Program Levels

• Program 3
  – Eligibility Criteria
    • Ineligible for Program 1
    • Either subject to OSHA PSM (Federal or state) or one of 10 NAICS codes specified in Part 68
  – Requirements
    • Imposes OSHA’s PSM standard as the prevention program
    • Plus additional hazard assessment, management, and emergency response requirements

➢ A publicly owned facility in a state that has a delegated OSHA program (ie. Michigan)
Applicability of Program Levels

• Program 2
  – Eligibility Criteria
    • Ineligible for Program 1 and not covered by
      Program 3
  – Requirements
    • Streamlined prevention program requirements
    • Additional hazard assessment, management, and
      emergency response requirements

➤ A publicly owned facility in a state that does not
  have a delegated OSHA program
RMP Regulation – Requirements

• Owner/operator requirements:
  – Conduct a hazard assessment
    • offsite consequence analysis & five-year accident history
  – Develop a management system and implement an accident prevention program (except Program 1 processes)
  – Implement an emergency response program or plan
  – Submit a Risk Management Plan (RMP) to EPA
    • RMPs are available to the government, limited public access
Management System

• Develop management system to oversee implementation of the Risk Management Program elements

• Designate a qualified person or position with overall responsibility
  – Development
  – Implementation
  – Integration

• Document the names of people or positions and define the lines of authority
Hazard Assessment

• Facilities must provide information on one worst-case release scenario representing all toxics and flammables
  – Additional worst-case release scenarios may be needed from another process if that process would potentially affect a different set of public receptors

• Facilities must provide information on alternative release scenarios which are more likely/realistic scenarios
  – Toxic- one scenario for each toxic
  – Flammables – one scenario for each flammable

• Facilities must provide information on 5 year Accident History
Hazard Assessment Documentation

• Keep information for Worst Case and Alternative Case Scenarios
  – Description of the vessel or pipeline, assumptions and parameters and rationale for selection
  – Documentation for quantities released
  – Methodology for determining distance to endpoint
  – Data used to estimate population
  • Current Census Information
  – Data used to determine environmental receptors
**Prevention Program Requirements**

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<th>Requirement</th>
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Process Safety Information

• Process Chemistry
• Maximum inventory
• Safe upper and lower limits (temp, pressure, flows, etc.)
• Evaluation of consequences of deviation
• Materials of construction
• Piping and instrumentation diagrams
• Electrical classification
• Relief system design and design basis
• Ventilation system design
• Design codes and standards
• Material and energy balances
• Safety systems
Process Hazard Analysis

• Perform a Process Hazard Analysis on entire/all covered processes
  – Note the technology which you used
  – Must be performed by a qualified team

• Owner or operator must establish a system to address the findings of the team
  – Must make sure that recommendations are resolved
  – Document actions to be taken and by whom
  – Develop a written schedule of when actions are to be completed.

• PHA must be updated and revalidated **every 5 years**

• PHA’s and revalidations must be retained for the **entire life of the process**.
Standard Operating Procedures

• Maintain Written Operating Procedures that are available to employees and that address:
  – Initial startup (charging)
  – Normal operations
  – Temporary operations
  – Emergency shutdown
  – Normal shutdown
  – Startup following a turnaround or emergency shutdown
  – Operating Limits
  – Safety and Health Considerations

• Certify that Operating Procedures are current and accurate annually
Training

• Assure that each employee involved in a process has been properly trained
  • Training should address safety and health, emergency operations, and safe work practices.
  • Refresher training at least every 3 years on operating procedures
• Maintain Documentation of Training
  • Should include name of employee, date of training, **means used to certify that the employee understood the training**
Mechanical Integrity

• A written policy establishing and implementing a procedure to maintain the on-going integrity of the process equipment.
  – This should state who will be maintaining equipment, what tests and inspections you are carrying out, and how you are determining what test/inspections and their frequency (schedule).
  • Equipment includes; tanks, chlorinators, regulators, cranes, detectors, scales, hoses, piping, valves...
  – Document each inspection and test that has been performed down to shift, daily, weekly, monthly, annual, etc.
Management of Change

• A Written procedures must be in place and implemented to management changes.
  – MOC document must address
    • Technical basis for the proposed change
    • Impact of change on safety and health
    • Modification to operating procedures
    • Time period needed for change
    • Authorization required
  • Employees involved in the process should be informed and trained in any changes
  • If Process Safety Information is impacted make sure change is noted
  • If operating procedures are impacted make sure change is noted
Pre-Startup Safety Review

• Generally done in conjunction with MOC

• Should include:
  – Construction and equipment met design specifications
  – Safety, operating, maintenance, and emergency procedures were in place and adequate
  – Process hazards analysis was conducted for new stationary sources prior to startup
  – Modified stationary sources meet the requirements contained in the MOC
  – Training of each employee has been completed
Compliance Audits

• Audit compliance with RMP Regulation
  – Must audit all required elements under RMP
  – Conducted by at least one person knowledgeable in the process
  – Findings need to be documented and corrected
    • Response to each finding has to be documented
    • Document that each finding has been addressed and closed out

• Conduct Audit at least every three years
  – Retain the last 2 compliance reports
Incident Investigations

• Investigate each incident that has or could result in a catastrophic release of a regulated substance

• Begin investigation within 48 hours of the incident

• Organize and investigation team of at least one person knowledgeable in the process

• Prepare a report at the conclusion of the investigation
  – Address any findings or recommendations that come out of the report
Employee Participation

• Written plan of action regarding employee participation needs to be developed
  – Employees need to be consulted regarding the conduct and development of the PHA and other elements of the prevention program
  – Employees have to have access to the PHA and all other relevant materials
Hot Work

• Do you have a Hot Work Permit Program
  – Permits must document that the fire prevention requirements in 29 CFR 1910.252(a) have been implemented prior to the beginning of the hot work
  – Permit must indicate the dates and object upon which the hot work will be performed
  – Permits must be kept on file until hot work is completed
Contractors

• Obtain and evaluate contractors safety performance
• Inform the contract owner or operator of the known hazards related to the contractor’s work and the process
• Explain the applicable provisions of the Emergency Action Plan
• Control the entrance, presence, and exit of the contract owner/operator and employees in the covered process area.
• Periodically evaluate the contractor in the performance of fulfilling their obligations.
Emergency Response

• Not First Responder
  – Coordination with local responders
  – Mechanism in place to notify responders
  – Ensure that facility is included in the community emergency response plan

• First Responder
  – Responders are trained in how to respond to emergency
  – Ensure responders know how and when to use emergency equipment and that equipment is well maintained (keep records)
  – Proper first-aid and emergency medical treatment
  – Keep Plan current and accurate
Risk Management Plan

• Plan includes:
  – Facility Information
    • Company name, address, parent company name, lat/long, mailing address, RMP Contact
  – Chemicals on-site and quantities
  – Facility/process summary as related to regulated substances
  – Facility emergency contact information
  – Previous accidental releases
  – Worst and alternative case releases
  – Prevention Program Information
  – Emergency Response Information
  – Executive Summary

• After initial submission, due at a minimum to be updated every five years
What to Expect When Inspector Arrives

• The inspector will have a pre-inspection meeting with facility staff
  • Explain what inspection entails.
• Walk through of the process
• Review Implementation of Program (records)
• Closeout
Questions

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