

Vermont Emergency Perparedness Conference

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The Aftermath of Bhopal

- When the sun rose on December 3, 1984, the city of Bhopal, India, lay in a dense cloud of toxic gas. An overnight leak at the local Union Carbide plant had loosed methyl isocyanate onto the sleeping town. So far, 2,000 people have lost their lives, with more possibly to follow from the long-range effects of the gas. More than 200,000 have suffered injuries from exposure to the gas.

A woman and her child lie dead on a street on December 3, 1984, after the toxic gas leak. The accident killed thousands and contaminated water and soil when toxic methyl isocyanate gas leaked from Union Carbide's pesticide plant



- Public demand for chemical release information skyrocketed in the mid-1980s after a deadly cloud of highly toxic pesticide killed thousands of people in Bhopal, India. Shortly thereafter, a serious chemical release at a plant in West Virginia hospitalized 100 individuals. These events led to the writing and passage of EPCRA by Congress that was signed by President Reagan in October 1986 and implemented in 1987.

Explosion rocks Danvers, several hurt, none seriously



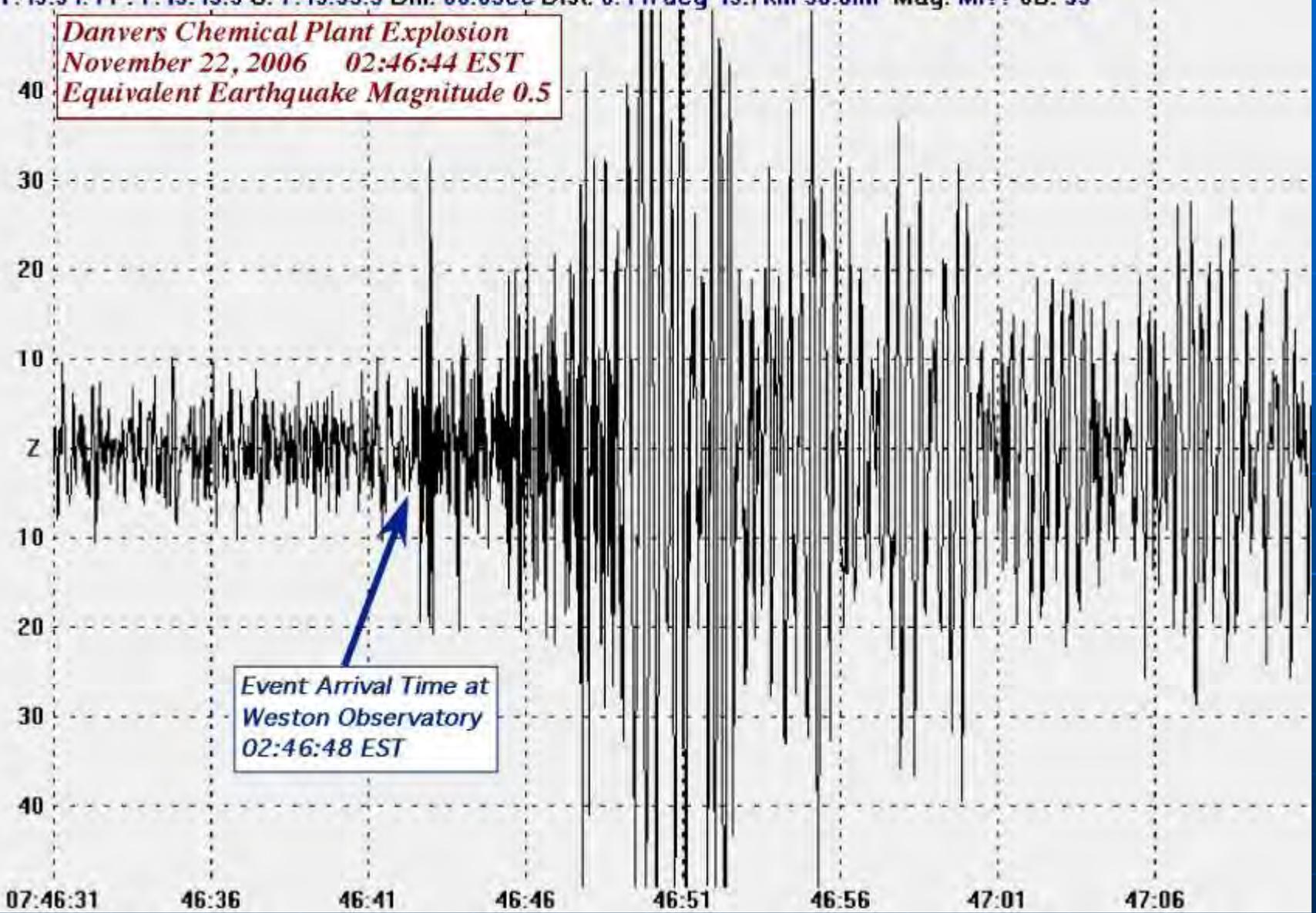


Start: 11/22/06 7:45:41 UTC Station: WES 0N 0E Samples: 7960 SPS: 40

Max/Min: 79.93/-76.98 X: 40 Y: x1

Org: 7:45:34.4 P: 7:45:45.3 S: 7:45:53.3 Diff: 08.0sec Dist: 0.447deg 49.7km 30.8mi Mag: MI?? JB: 33

*Danvers Chemical Plant Explosion
November 22, 2006 02:46:44 EST
Equivalent Earthquake Magnitude 0.5*



*Event Arrival Time at
Weston Observatory
02:46:48 EST*

07:46:31

46:36

46:41

46:46

46:51

46:56

47:01

47:06









CAUTION

208 VOLTS

N.U. POWER

CAUTION

Waterproof-resistant XPS foam
with XPS resistance to humidity and mold.

10
inch Thickness
insulation



President Obama issued Executive Order (EO) 13650 - Improving Chemical Facility Safety and Security on August 1, 2013, to enhance the safety and security of chemical facilities and reduce risks associated with hazardous chemicals to facility workers and operators, communities, and responders. The Executive Order directed Federal departments and agencies to:

Improve operational coordination with, and support to, State and local partners;

Enhance Federal agency coordination and information sharing;

Modernize policies, regulations, and standards; and

Work with stakeholders to identify best practices.

Actions to Improve Chemical
Facility Safety and Security – A
Shared Commitment Report of
the **Federal Working Group on
Executive Order 13650**



EXECUTIVE ORDER 13650
ACTIONS TO IMPROVE CHEMICAL
FACILITY SAFETY AND SECURITY –
A SHARED COMMITMENT

REPORT FOR THE PRESIDENT

May 2014



http://intranet.epa.gov/oe_mintra/

OEM Roster

OEM Org. Chart

Key Functions

OEM Budget Operating Procedures

2015 Continuity of Operations Awareness Training



OEM works with other federal partners to prevent accidents as well as to maintain superior response capabilities. One of our roles is to provide information about response efforts, regulations, tools, and research that will help the regulated community, government entities, and concerned citizens prevent, prepare for, and respond to emergencies. For more information, see: [OEM Brochure](#).

Programs and Projects Managed by the Office of Emergency Management

- Chemical, Biological, Radiological, and Nuclear Consequence Management Advisory Division (CMAD)
- Emergency Planning and Community Right-to-Know Act (EPCRA) Requirements
- Emergency Response
- Executive Order on Improving Chemical Facility Safety and Security
- Facility Response Plan (FRP) Rule
- Local Governments Reimbursement (LGR) Program
- National Contingency Plan (NCP) Subpart J Product Schedule
- Reporting Oil Discharges and Hazardous Substance Releases
- Risk Management Plan (RMP)
- Spill Prevention, Control, and Countermeasure (SPCC) Rule

EPCRA Overview (con't)

SECTION	COVERAGE/ TOPIC	REQUIREMENT	RELEVANT CHEMICAL LIST	THRESHOLDS	SUBMIT TO:
301-303	Emergency Planning	LEPC Emergency Plan, EHS Notification	356 Extremely Hazardous Substances	Specified Threshold Planning Quantities (TPQ: 1 - 10,000 #)	SERC* LEPC
304	Emergency Notification	Accidental Release Reporting	EHS and CERCLA102(a) Substances	Specified Reportable Quantities	SERC* LEPC
311	Hazardous Chemical Inventory	MSDSs or List of Chemicals	OSHA Hazardous Chemicals (No Specific List)	10,000 #; or, if EHS, 500 #, or TPQ - whichever is lower	SERC* LEPC Local Fire Dept.
312	Hazardous Chemical Inventory	Inventories, Hazards, and Locations (Tier I or II)	OSHA Hazardous Chemicals (No Specific List)	10,000 #; or, if EHS, 500 #, or TPQ - whichever is lower	SERC* LEPC Local Fire Dept.
313	Toxic Chemical Release Reporting	Total Annual Release, Waste Management, & Source Reduction Data - PPA (Form R)	Over 600 Toxic Chemicals and Chemical Categories	25,000 # manufactured or processed; 10,000 # otherwise used	EPA State

Summary Chart of EPCRA Requirements for RY 1998 (as of January 1, 1999)
Executive Order 12856 of August 3, 1993

EPCRA

Sections 301-303

Emergency Planning

Emergency Planning Requirements (EPCRA Sections 301-303)

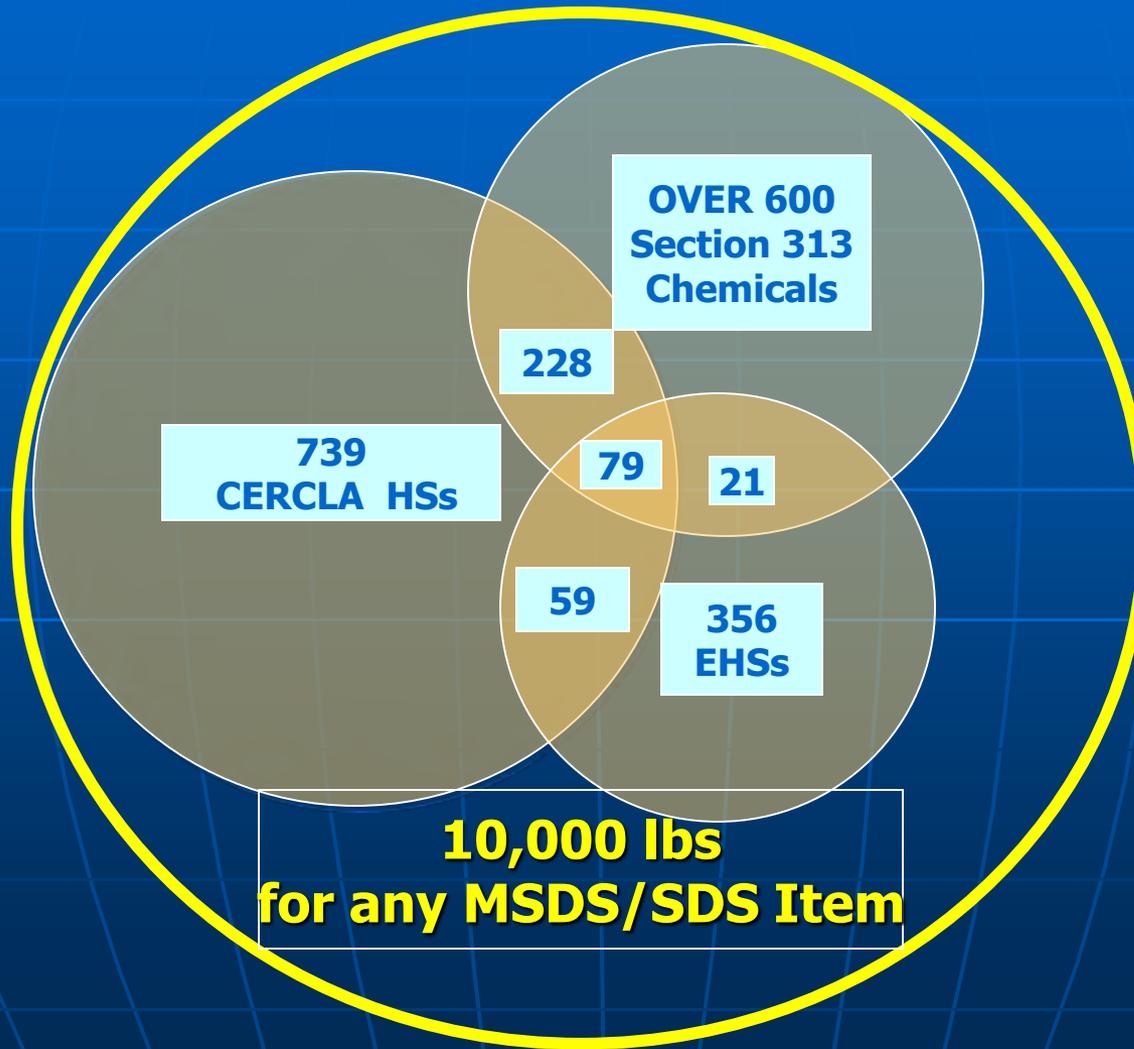
- **Section 301:** Establish State Emergency Response Commissions (SERCs), designate local emergency planning districts, and appoint Local Emergency Planning Committees (LEPCs for each district)
- **Section 302:** Designate extremely hazardous substances (EHSs) and threshold planning quantities and notification requirements for covered facilities.
- **Section 303:** Develop local emergency response plans

LEPC

Local Emergency Planning Committee

representatives from each of the following groups or organizations: elected State and local officials; law enforcement, civil defense, firefighting, first aid, health, local environmental, hospital, and transportation personnel; broadcast and print media; community groups; and **owners and operators of facilities subject to the requirements of this subchapter.**

REGULATED SUBSTANCES (cont)



Extremely Hazardous Substances (EPCRA Section 302)

- Selection criteria are based on acute lethal toxicity
- 356 chemicals currently designated as EHSs
 - **Overlap with 138 chemicals with CERCLA hazardous substances**
- EPA can revise the list by adding or deleting
- Substances identified in 40 CFR part 355

<http://www.epa.gov/oem/tools.htm#lol>

United States
Environmental Protection
Agency

Office of Solid Waste
and Emergency Response
(5104)

EPA 550-B-01-003
October 2005
www.epa.gov/ceppo



LIST OF LISTS

Consolidated List of Chemicals
Subject to the
Emergency Planning and
Community Right-To-Know Act
(EPCRA) and Section 112(r) of
the Clean Air Act

- EPCRA Section 302 Extremely Hazardous Substances
- CERCLA Hazardous Substances
- EPCRA Section 313 Toxic Chemicals
- CAA 112(r) Regulated Chemicals For Accidental Release Prevention

LIST OF LISTS

NAME	CAS/ 313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ
Hydrogen chloride (gas only)	7847-01-0	500	5,000	5,000	X		5,000
Antimony pentachloride	7847-18-9			1,000			
Phosphoric acid	7864-38-2			5,000			
Hydrofluoric acid	7864-39-3	100	100	100	X	U134	
Hydrofluoric acid (conc. 50% or greater)	7864-39-3	100	100	100	X	U134	1,000
Hydrogen fluoride	7864-39-3	100	100	100	313	U134	
Hydrogen fluoride (anhydrous)	7864-39-3	100	100	100	X	U134	1,000
Ammonia	7864-41-7	500	100	100	313		
Ammonia (anhydrous)	7864-41-7	500	100	100	X		10,000
Ammonia (conc 20% or greater)	7864-41-7			1000	X		20,000
Sulfuric acid	7864-93-9	1,000	1,000	1,000			
Sulfuric acid (aerosol forms only)	7864-93-9	1,000	1,000	1,000	313		
Sodium fluoride	7881-49-4			1,000			
Sodium hypochlorite	7881-52-9			100			
2,2-Dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylic acid (1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester	7896-12-0				X		
Tetramethrin	7896-12-0				313		
Nitric acid	7897-37-2	1,000	1,000	1,000	313		
Nitric acid (conc 80% or greater)	7897-37-2	1,000	1,000	1,000	X		15,000

LIST OF LISTS

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	SECTION 313	RCRA CODE	CAA 112(r) TQ
------	------------------------------	--------------------------------	--------------------------	--------------	----------------	--------------	---------------------

Hydrofluoric acid	7664-39-3	100	100	100	X	U134	1,000
Ammonia (anhydrous)	7664-41-7	500	100	100	313		10,000
Sulfuric acid	7664-93-9	1,000	1,000	1,000			
Nitric acid	7697-37-2	1,000	1,000	1,000	313		
Phosphorus	7723-14-0	100	1	1			
Chlorine	7782-50-5	100	10	10	313		2,500

Sulfuric Acid

- CAS# 7664-93-9
- Weighs **15 lbs** per gallon (96-98% acid)
- Specific Gravity, Liquid 1.841
- Rule-of-thumb for a typical lead acid battery is about 20% sulfuric acid

Sulfuric Acid/EHS

- TPQ = 1000 lbs
- Other Service Batteries Locations:
 - Pick-up Trucks and Towing Vehicles
 - Boats and other Watercraft
 - Emergency Power Generators
 - Emergency Lighting
 - Computer back-up power
 - Fork lifts & other equipment

The Development Process

- LEPC shall appoint a chairperson
- LEPC shall establish rules by which the committee shall function
- The rules shall include public notification and public input into the LEPC process
- Distribution of the emergency plan

The Development Process

- LEPC shall establish procedures for receiving and processing requests from the public for information
- LEPC shall designation of an official to serve as coordinator for information

Plan Components

- Each LEPC shall complete an Emergency plan
 - NRT 1 Hazardous Materials Emergency Planning Guide Update 2001 National Response Team
 - Free standing or Part of a Comprehensive plan?

NRT-1

— Hazardous Materials Emergency —
— Planning Guide —

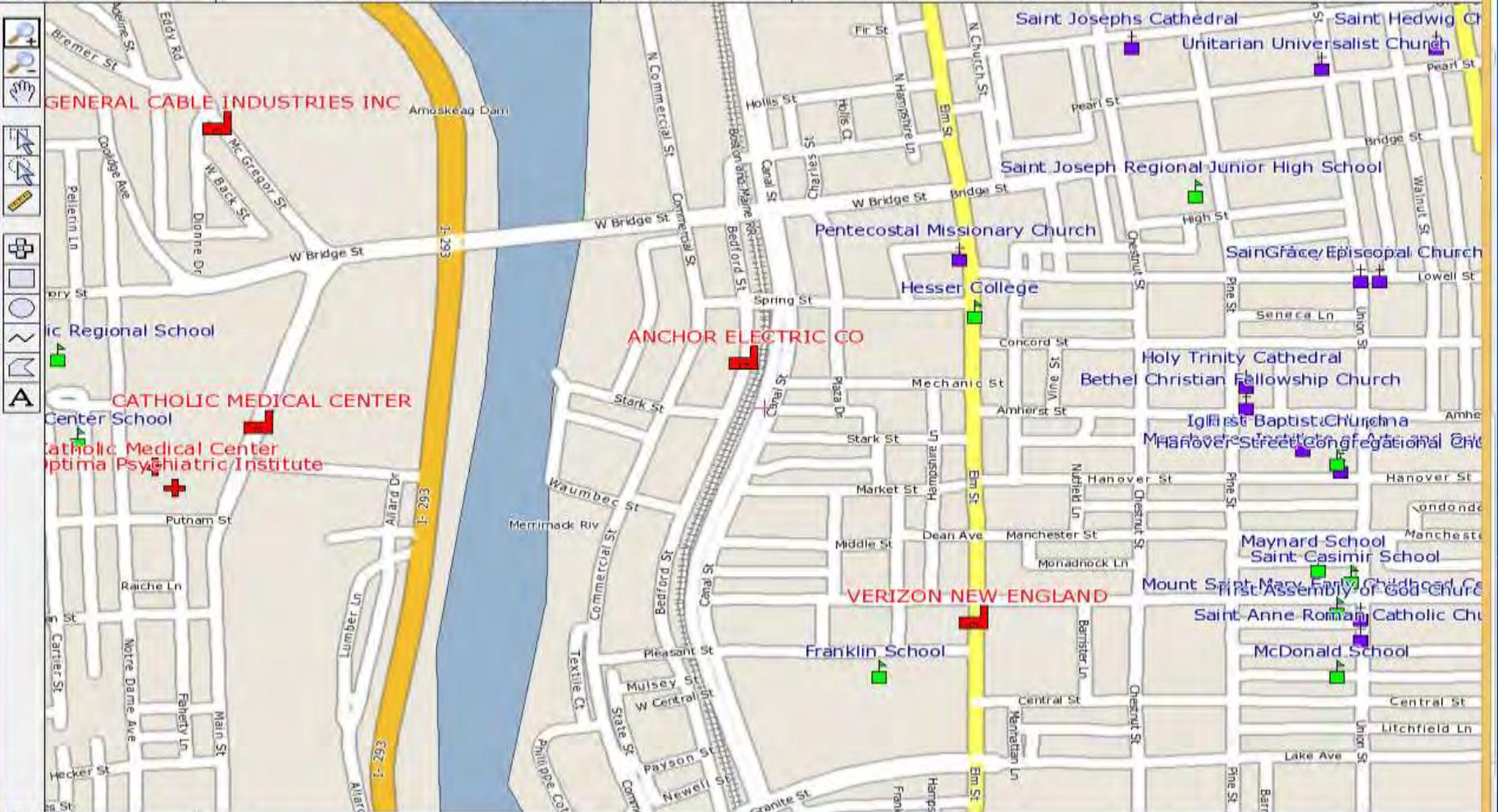
Updated 2001

NATIONAL RESPONSE TEAM

Plan Components

- LEPC shall evaluate the need for resources to develop, implement, and exercise the plan
- LEPC shall make recommendations with respect to additional resources that may be required and the means for providing such additional resources

- Each emergency plan shall include (but is not limited to) each of the following: **(1) Identification of facilities subject to the requirements of this subchapter that are within the emergency planning district, identification of routes likely to be used for the transportation of substances on the list of extremely hazardous substances referred to in section 11002(a) of this title, and identification of additional facilities contributing or subjected to additional risk due to their proximity to facilities subject to the requirements of this subchapter, such as hospitals or natural gas facilities.**



Click Point 42°59'31"N 71°27'58"W



HAZARDS ANALYSIS ON THE MOVE



Between 1987 and 1989, U.S. Department of Transportation (DOT) officials reported almost 60,000 transportation incidents that resulted in an unintentional release of hazardous materials. How can you assess the transportation risks facing your community? Is your community prepared to face these risks?

The purpose of this document is to help you as local planners (e.g., tribal and state LEPCs, and other planners) and responders, develop a method to determine what hazardous materials are being transported through your community and the priority areas of

SARA Title III (EPCRA) and Conducting a Commodity Flow Study

risk that warrant further analysis and study. By doing so, you can assess and improve existing strategies to minimize risk (both public and private) and the response capabilities within your jurisdiction.

In the Emergency Planning and Community Right-to-Know Act (EPCRA), Congress recognized the risk to communities posed by the transportation of hazardous materials and required that emergency response plans developed by LEPCs identify the "routes likely to be used for the transportation of substances on the list of extremely hazardous substances...."

One way to approach this requirement, and to address all of the hazardous materials being transported through your community, is to conduct a hazardous materials commodity flow study (CFS). A CFS is an assessment of the types and volumes of materials moving through your community. For some communities, especially those in rural areas, transportation may pose the only hazardous materials risk. In light of the number of accidents that occur (see chart at left), identifying and understanding transportation-related risks are critical components of emergency preparedness and prevention. The goal of the CFS is to use the information collected to increase your preparedness, prevention, and response capabilities.

(continued on next page)

**Number of Hazmat Accidents
by Transportation Mode (1981-1989)**

Mode of Transportation	Number of Incidents	Associated Deaths*	Associated Injuries*
 Highway	48,907	113	1,762
 Rail	8,620	0	611
 Air	1,177	0	127
 Other (includes freight forwarders and water transportation)	1,108	1	91
TOTAL	59,812	114	2,611

* Directly attributable to the presence of hazardous materials.

Source: U.S. DOT statistics on incidents reported as required by the Hazardous Materials Transportation Act of 1975

- (2) Methods and procedures to be followed by facility owners and operators and local emergency and medical personnel to respond to any release of such substances.

Hazard Communication Safety Data Sheets (SDS)

Section 4, First-aid measures includes important symptoms/ effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

[http://www.osha.gov/dsg/hazcom/g
hs.html](http://www.osha.gov/dsg/hazcom/g
hs.html)

- The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Figure 3.2

Physical Hazard

- Explosives
- Flammable Gases
- Flammable Aerosols
- Oxidizing Gases
- Gases Under Pressure
- Flammable Liquids
- Flammable Solids
- Self-Reactive Substances
- Pyrophoric Liquids
- Pyrophoric Solids
- Self-Heating Substances
- Substances which, in contact with water emit flammable gases
- Oxidizing Liquids
- Oxidizing Solids
- Organic Peroxides
- Corrosive to Metals

Figure 3.3

Health Hazard

- Acute Toxicity
- Skin Corrosion/Irritation
- Serious Eye Damage/Eye Irritation
- Respiratory or Skin Sensitization
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive Toxicology
- Target Organ Systemic Toxicity - Single Exposure
- Target Organ Systemic Toxicity - Repeated Exposure
- Aspiration Toxicity

Environmental Hazard

- Hazardous to the Aquatic Environment
 - Acute aquatic toxicity
 - Chronic aquatic toxicity
 - Bioaccumulation potential
 - Rapid degradability

Figure 4.9

GHS Pictograms and Hazard Classes

		
<ul style="list-style-type: none"> ■ Oxidizers 	<ul style="list-style-type: none"> ■ Flammables ■ Self Reactives ■ Pyrophorics ■ Self-Heating ■ Emits Flammable Gas ■ Organic Peroxides 	<ul style="list-style-type: none"> ■ Explosives ■ Self Reactives ■ Organic Peroxides
		
<ul style="list-style-type: none"> ■ Acute toxicity (severe) 	<ul style="list-style-type: none"> ■ Corrosives 	<ul style="list-style-type: none"> ■ Gases Under Pressure
		
<ul style="list-style-type: none"> ■ Carcinogen ■ Respiratory Sensitizer ■ Reproductive Toxicity ■ Target Organ Toxicity ■ Mutagenicity ■ Aspiration Toxicity 	<ul style="list-style-type: none"> ■ Environmental Toxicity 	<ul style="list-style-type: none"> ■ Irritant ■ Dermal Sensitizer ■ Acute toxicity (harmful) ■ Narcotic Effects ■ Respiratory Tract ■ Irritation

Figure 4.11

ACUTE ORAL TOXICITY - Annex 1

	Category 1	Category 2	Category 3	Category 4	Category 5
LD ₅₀	≤ 5 mg/kg	> 5 < 50 mg/kg	³ 50 < 300 mg/kg	³ 300 < 2000 mg/kg	³ 2000 < 5000 mg/kg
Pictogram					No symbol
Signal word	Danger	Danger	Danger	Warning	Warning
Hazard statement	Fatal if swallowed	Fatal if swallowed	Toxic if swallowed	Harmful if swallowed	May be harmful if swallowed

Table 3.3 Flammable Liquids

Category	Criteria
1	Flash point < 23°C and initial boiling point ≤ 35°C (95°F)
2	Flash point < 23°C and initial boiling point > 35°C (95°F)
3	Flash point ≥ 23°C and ≤ 60°C (140°F)
4	Flash point ≥ 60°C (140°F) and ≤ 93°C (200°F)

- •NFPA hazard ranking ◦Ranked 0- 4; 4 being HIGH hazard.
- •The new GHS hazard ranking ◦Categories ranking in order of 1 – 5; 5 being a LOW hazard.

The table below summarizes the phase-in dates required under the revised Hazard Communication Standard (HCS):

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format.	Employers
June 1, 2015 December 1, 2015	Compliance with all modified provisions of this final rule, except: The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label	Chemical manufacturers, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition Period to the effective completion dates noted above	May comply with either 29 CFR 1910.1200 (the final standard), or the current standard, or both	Chemical manufacturers, importers, distributors, and employers

- (3) Designation of a community emergency coordinator and facility emergency coordinators, who shall make determinations necessary to implement the plan.

TIER II INVENTORY FORM

- FACILITY EMERGENCY COORDINATOR
- Enter the name, title, email address, phone number and 24-hour phone number of the facility emergency coordinator.
- Note: This data element is only applicable to facilities subject to EPCRA section 302(c) emergency planning notification. Section 303(d)(1) of EPCRA requires facilities subject to the emergency planning notification requirement under Section 302(c) to designate a facility representative who will participate in the local emergency planning process as a facility emergency coordinator. This data element is also applicable to additional facilities designated by the Governor or the SERC under EPCRA section
- 302(b)(2)). EPA encourages facilities not subject to the emergency planning notification requirement also to provide this information, for effective emergency planning in your community.

- (4) Procedures providing reliable, effective, and timely notification by the facility emergency coordinators and the community emergency coordinator to persons designated in the emergency plan, and to the public, that a release has occurred (consistent with the emergency notification requirements of section 11004 of this title).

EPCRA Section 304

Emergency Release
Notification

Netscape File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Shop Stop

Bookmarks Netsite: <http://es.epa.gov/oeca/ore/enfalet/epcra.pdf> What's Related

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1 2 3 4

United States Environmental Protection Agency Office of Enforcement and Compliance Assurance (2248A) EPA 300-N-02-001

EPA Enforcement Alert

Volume 5, Number 1 Office of Regulatory Enforcement January 2002

EPCRA/CERCLA: Hazardous Chemical Releases Above Certain Quantities Must Be Reported to Authorities

13 Companies Recently Penalized for Not Complying

The Emergency Planning and Community Right-to-Know Act (EPCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) were enacted by Congress to provide citizens with information on chemicals, their uses and releases at facilities across the nation, and to provide the government with immediate notice to appropriately respond to releases. Most importantly, these laws are intended to ensure that federal, state and local emergency responders

EPA Takes Enforcement Actions Against Noncompliers

The U.S. Environmental Protection Agency (EPA) recently took enforcement actions against 13 companies (see box page 2) for EPCRA and CERCLA violations. Altogether, the

EPCRA, CERCLA are Based on the Principle that

[About Enforcement Alert](#)

1 of 4 8.5 x 11 in

LIST OF LISTS

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	SECTION 313	RCRA CODE	CAA 112(r) TQ
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Hydrofluoric acid	7664-39-3	100	100	100	X	U134	1,000
Ammonia (anhydrous)	7664-41-7	500	100	100	313		10,000
Sulfuric acid	7664-93-9	1,000	1,000	1,000			
Nitric acid	7697-37-2	1,000	1,000	1,000	313		
Phosphorus	7723-14-0	100	1	1			
Chlorine	7782-50-5	100	10	10	313		2,500

Accidental Chemical/Oil Release Notification Numbers:

- Local: 911
- State:
 - Connecticut 860-424-3338
 - Maine 800-452-4664
 - **Massachusetts 888-304-1133**
 - New Hampshire 800-852-3411
 - Rhode Island 401-222-3070 (24 hrs)
 - Vermont 800-641-5005
- National Response Center 800-424-8802
- ALL Three Calls are REQUIRED under Federal Law.

- (5) Methods for determining the occurrence of a release, and the area or population likely to be affected by such release.

ALOHA 5.4.4
MARPLOT

File Edit View Overlays Extras Sharing Help



Basemap ▾

Map Satellite Topo

Window Width ▾
2.73 miles

ALOHA ▾

CAMED ▾



Click Point ▾
42°58'42"N 71°27'55"W



- **(6) A description of emergency equipment and facilities in the community and at each facility in the community subject to the requirements of this subchapter, and an identification of the persons responsible for such equipment and facilities.**

- (7) Evacuation plans, including provisions for a precautionary evacuation and alternative traffic routes.

- (8) Training programs, including schedules for training of local emergency response and medical personnel.

- (9) Methods and schedules for exercising the emergency plan.

Providing of Information

- (1) EHS facility shall notify SERC/LEPC of a facility representative who will participate in the emergency planning process as a facility emergency coordinator

Providing of Information

- (2) The owner or operator of the facility shall promptly inform the emergency planning committee of any relevant changes occurring at such facility as such changes occur or are expected to occur.
- Within 30 days after the changes have occurred.

Providing of Information

- (3) Upon request from the emergency planning committee, the owner or operator of the facility shall promptly provide information to such committee necessary for developing and implementing the emergency plan.

“ONE PLAN”

- Integrated Contingency Plan (ICP)
- The “One Plan” is a highly functional document for use in varied emergency situations, and provides a mechanism for complying with multiple emergency planning requirements.

Wednesday
June 5, 1996

Part II

**Environmental Protection
Agency**

**Department of
Transportation**

Coast Guard

Research and Special Programs
Administration

Department of the Interior

Minerals Management Service

Department of Labor

Occupational Safety and Health
Administration

**The National Response Team's Integrated
Contingency Plan Guidance; Notice**

EMERGENCY MANAGEMENT GUIDE FOR BUSINESS & INDUSTRY

EMERGENCY MANAGEMENT GUIDE FOR BUSINESS & INDUSTRY

A STEP-BY-STEP APPROACH
TO EMERGENCY PLANNING,
RESPONSE AND RECOVERY
FOR COMPANIES OF ALL SIZES



*Sponsored by a Public-Partnership with
the Federal Emergency Management Agency*

EPCRA

Sections 311-312

Hazardous Chemical Inventory Reporting

EPCRA Sections 311-312

- Chemical inventory reporting
 - Section 311 - Material Safety Data Sheets (MSDSs)
 - Section 312 - Tier II forms

EPCRA Sections 311-312 (con't)

- Regulated facilities
 - Facilities subject to OSHA's HAZCOM (29 CFR 1910.1200)
 - **No specific list of hazardous chemicals**
 - HAZCOM applies to broad categories of chemicals, including any chemical that poses a physical or health hazard

EPCRA Sections 311-312 (con't)

- Submit Sections 311/312 information to:
 - SERC or TERC
 - LEPC
 - Local fire department

EPCRA, Section 311/312

Exemptions:

- 1) Any food, food additive, color additive, drug, or cosmetic regulated by the Food and Drug Administration;
- 2) Any substance present as a solid in any manufactured item to the extent exposure to the substance does not occur under normal conditions of use;
- 3) Any substance to the extent it is used for personal, family, or household purposes, or is present in the same form and concentration as a product packaged for distribution and use by the general public;
- 4) Any substance to the extent it is used in a research laboratory or a hospital or other medical facility under the direct supervision of a technically qualified individual; and
- 5) Any substance to the extent it is used in routine agricultural operations or is a fertilizer held for sale by a retailer to the ultimate customer.

A retail gas station means a retail facility engaged in selling gasoline and/or diesel fuel principally to the public for motor vehicle use on land

- For gasoline (all grades combined) at a retail gas station, the threshold level is 75,000 gallons (or approximately 283,900 liters), if the tank(s) was stored entirely underground and was in compliance at all times during the preceding calendar year with all applicable Underground Storage Tank (UST) requirements at 40 CFR part 280 or requirements of the State UST program approved by the Agency under 40 CFR part 281.
- For diesel fuel (all grades combined) at a retail gas station, the threshold level is 100,000 gallons (or approximately 378,500 liters), if the tank(s) was stored entirely underground and the tank(s) was in compliance at all times during the preceding calendar year with all applicable Underground Storage Tank (UST) requirements at 40 CFR part 280 or requirements of the State UST program approved by the Agency under 40 CFR part 281.

EPA's and OSHA's Hazard Categories:

- Fire Hazard
 - Flammable, Combustion Liquid, Pyrophoric, Oxidizer
- Sudden Release of Pressure
 - Explosive or Compressed Gas
- Reactive
 - Unstable Reactive, Organic Peroxide, Water Reactive
- Immediate (Acute) Health Hazards
 - Highly Toxic, Irritant, Sensitizer, Toxic, Corrosive & Other hazardous chemicals with an adverse effect with short term exposure
- Delayed (Chronic) Health Hazard
 - Carcinogens & Other hazardous chemicals with an adverse effect with long term exposure

OSHA PSM - EPA RMP

- The OSHA Process Safety Management (PSM) standard (29 CFR 1910.119) was promulgated in
 - 1992
- CLEAN AIR ACT SECTION 112(r): ACCIDENTAL RELEASE PREVENTION / RISK MANAGEMENT PLAN (RMP) RULE
 - 40 CFR part 68 (risk management program requirements)
 - June 21, 1999

OSHA PSM vs. EPA CAA 112(r) Thresholds

- CAA 112(r) has 27 chemicals not listed in PSM
- □ PSM has about 79 chemicals not listed in CAA 112(r)
- □ Thresholds
 - • Most CAA 112(r) threshold quantities (TQs) are higher than OSHA's, with some exceptions
 - • Methyl chloride: EPA—10,000 lbs.; OSHA—15,000 lbs.
 - EPA has lower concentrations (e.g., aqueous ammonia)

Risk Management Plan (RMP) Accident Release Prevention

- Clean Air Act, Section 112(r)
- 40 CFR Part 68
- 139 subject chemicals
- 77 acutely toxic/63 flammable
- Thresholds: 500-20,000 lbs
- Three Program Levels
- LEPC Coordination & Corporation

Comparable EPA & OSHA References

Program 3 Prevention Program	EPA RMP 40 CFR	OSHA PSM 29 CFR
Process Safety Information (PSI)	§ 68.65	§ 1910.119(d)
Process Hazard Analysis (PHA)	§ 68.67	§ 1910.119(e)
Operating Procedures	§ 68.69	§ 1910.119(f)
Training	§ 68.71	§ 1910.119(g)
Mechanical Integrity	§ 68.73	§ 1910.119(j)
Management of Change (MOC)	§ 68.75	§ 1910.119(l)
Pre-Startup Review	§ 68.77	§ 1910.119(i)
Compliance Audits	§ 68.79	§ 1910.119(o)
Incident Investigation	§ 68.81	§ 1910.119(m)
Employee Participation	§ 68.83	§ 1910.119(c)
Hot Work Permit	§ 68.85	§ 1910.119(k)
Contractors	§ 68.87	§ 1910.119(h)

LIST OF LISTS

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	SECTION 313	RCRA CODE	CAA 112(r) TQ
Hydrofluoric acid	7664-39-3	100	100	100	X	U134	1,000
Ammonia (anhydrous)	7664-41-7	500	100	100	313		10,000
Ammonia (conc 20% or greater)	7664-41-7			1,000	X		20,000
Nitric acid (conc 80% or greater)	7697-37-2	1,000	1,000	1,000	313		15,000
Chlorine	7782-50-5	100	10	10	313		2,500

General Duty Clause



GUIDANCE FOR IMPLEMENTATION OF THE GENERAL DUTY CLAUSE CLEAN AIR ACT SECTION 112(r)(1)



RMP SERIES

42 USC 7412(r)(1) requires

- **(r) Prevention of Accidental Releases**
- **(1) Purpose and General Duty - It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty, in the same manner and to the same extent as section 654, title 29 of the United States Code, to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.**

