Guides to Chemical Risk Management

EPA 550-B-99-012
May 1999

New Ways to Prevent Chemical Incidents

The Current Status of the Risk Management Program Rule

As of the publication date of this backgrounder, key elements of EPA's Risk Management Program Rule are still not final. Public access to the offsite consequence analysis data continues to be debated. EPA has not officially decided on how it will respond to Freedom of Information Act requests. The agency has said that while the offsite consequence analysis data will not be distributed to the public on the Internet, it will supply paper copies of the data upon request. Also, EPA intends to increase the reportable quantity of hydrocarbon fuels (i.e., propane). Concurrently, the U.S. Court of Appeals granted an interim stay of the Risk Management Program Rule as it applies to facilities using propane in a process. For the most current information, see http://www.epa.gov/ceppo.

For More Information

The National Safety Council is maintaining the Chemical Emergency Management Web site at www.nsc.org/xroads.htm as a resource supplement to this series of publications. The site is a directory of Risk Management Program-related links to organizations, regulations, chemicals, rules, and regulations involved in emergency management and the safe handling of chemicals. A selection of articles and papers written about the Risk Management Program Rule and local efforts to identify and analyze risk in the community is also included. The site will be constantly expanding as industry and communities develop new information required under the Risk Management Program Rule.

Other Publications in this Series

Other documents in the Guides to Environmental Risk Management Series are listed below:

- ❑ How Safe Am I? Helping Communities Evaluate Chemical Risks
- ❑ What Makes a Hazard Hazardous: Working with Chemical Information
- ❑ Evaluating Chemical Hazards in the Community: Using an RMP's Offsite Consequences Analysis
- ❑ Chemical Safety in Your Community: EPA's New Risk Management Program

These documents can be downloaded for free from the Chemical Emergency Management Web site at www.nsc.org/xroads.htm.

About this Document

The Environmental Health Center produced this guide under cooperative agreement CX 826604-01-0 with the U.S. Environmental Protection Agency. It is part of a series of publications on the Risk Management Program Rule and issues related to chemical emergency management.

May 1999

New Ways to Prevent Chemical Incidents

Dr. Paul L. Hill, chairman and chief executive officer of the Chemical Safety and Hazard Investigation Board (CSB), told Congress on February 24, 1999, "In 1996, chemical incidents claimed the lives of the equivalent of two fully loaded 737 passenger jets—256 people perished. And an average of 256 people died the year before. And the year before that."

From 1987 to 1996, the most recent year for which full data are available, about 605,000 potentially dangerous commercial chemical incidents were reported, according to the CSB's *600K Report: Commercial Chemical Incidents in the United States 1987–1996*. And according to the CSB, many incidents still go unreported. The 600K Report details some staggering statistics:

- An average of 60,000 incidents occur per year, totaling 605,000 over the 10-year period.
- These more than 600,000 incidents resulted in 2,565 deaths and 22,949 injuries during that time period. Of these, 333 deaths and 9,962 injuries occurred at fixed-site facilities.
- Forty-two percent of incidents reported between 1987 and 1996 occurred at fixed-site facilities; 43 percent of these incidents occurred in transit.
- General equipment failures and human error were key causes of incidents at facilities.

To help prevent accidents in the future, an estimated 66,000 facilities—chemical plants, oil refineries, propane retailers, fertilizer warehouses, ammonia users, and water treatment plants—must comply with the Risk Management Plan Rule (RMP Rule) by June 21, 1999. Facilities must file risk management plans (RMPs) if any process at the site contains more than specified amounts of 140 hazardous substances such as propane, ammonia or chlorine. RMPs detail information about hazards that can be caused by chemical releases and activities to prevent chemical accidents and prepare for emergencies. Much of this information will be available to the public.

The RMP Rule focuses on preventing accidental chemical releases, reducing risk to the community from exposure to hazardous chemicals, and minimizing the consequences of releases on the environment. The rule requires facilities to identify the hazardous chemicals they store and use, analyze the risks of these chemicals to the surrounding community, and develop emergency response plans. This information is summarized in the RMP. The RMPs must include the following:

- An offsite consequence analysis (OCA), which examines potential risk to the community
- A five-year accident history of releases and incidents
- Reports on incident investigations
- A summary of efforts to prevent accidents from occurring
- Plans for responding to potential spills and releases

Facilities will submit the RMP to the U.S. Environmental Protection Agency (EPA). EPA will distribute this new generation of right-to-know information about chemicals and potential community hazards to state and local emergency planning agencies and the public.

A New Era

The Clean Air Act (CAA) Amendments of 1990 ushered

The Impact of Right-to-Know

Just like EPCRA, the intent of the RMP is to reduce risks without command-and-control government regulations. The theory is that public knowledge will create public pressure, which will motivate companies to operate their plants more safely. Does this work? Toxics Release Inventory data, along with other regulatory and industry initiatives, suggest that right-to-know has been a key factor in reducing chemical emissions released by nearly 46 percent from 1988 through 1996 (Mason 1999).

The accident prevention information in RMPs will help local communities judge the risk from accidental chemical releases. The extent of accident prevention activity can provide an indication of how serious the facility management is about controlling hazards. The news media and other community members can explore whether facilities are doing what their RMPs indicate.

in a new era in preventing or reducing accidental releases of hazardous chemicals. Section 112(r) of the CAA makes three federal agencies chiefly responsible for preventing chemical catastrophes: EPA, CSB, and the Occupational Safety and Health Administration (OSHA).

Section 112(r) requires OSHA to establish regulations that protect workers from chemical spills and releases. These regulations were issued as the Process Safety Management of Highly Hazardous Chemicals Rule, also known as the PSM Standard (29 CFR 1910.119).

Under Section 112(r), EPA was required to establish regulations to protect the public from unintentional chemical release. These regulations are contained in the Accidental Release Prevention Requirements: Risk Management Program Rule, also known as the RMP Rule (40 CFR Part 68). Flammable and toxic chemicals capable of causing severe, acute health effects are covered under the rule; pyrotechnic and explosive chemicals are not.

Section 112(r) also created a new independent federal agency, the CSB. The agency does not have regulatory authority. Its chief responsibility is to investigate chemical incidents. CSB investigative reports are made public, which could help to deter or prevent future incidents and releases.

PSM Versus RMP

Although the accident prevention provisions of the RMP Rule closely parallel OSHA's PSM, there are several significant differences. For example, the PSM Standard affects about 30,000 industrial facilities. The RMP Rule affects nearly 66,000 facilities, including retail and government entities. Under the PSM Standard, employers must only provide chemical accident prevention information to employees, not to the public. The RMP, with the exception of confidential business information, is public information. Therefore the RMP serves as a community right-to-know vehicle for the PSM Standard since it includes a summary of the facility's accident prevention program.

Three Levels of Safety

Not all facilities are treated alike. The processes regulated by the RMP Rule are divided into three levels—Program 1, 2, and 3—based on the scope of hazards from the processes and the facility's accident history. Each level has different compliance requirements.

Program 1 processes represent the least public threat from an offsite chemical release. To qualify as Program 1, a facility—

- ❑ Must not have experienced an accidental release with an offsite consequence in the prior five years
- ❑ Must have a worst-case scenario release that could not affect the public

Because these programs pose less hazard to the community, they are subjected to limited hazard assessment, prevention, and emergency response requirements. Program 1 processes must coordinate emergency response plans with local responders.

Program 2 processes are not eligible for Program 1, yet are not as hazardous as Program 3 processes. Program 2 has been referred to as "PSM Lite." These processes must—

- ❑ Perform a hazard review of the process and regulated substances.
- ❑ Identify potential equipment malfunctions or human error.
- ❑ Take steps to monitor or detect releases.

Program 3 processes, the most hazardous, must perform a rigorous, step-by-step hazard analysis of processes, equipment, and procedures to identify each point at which an accidental release could occur.

See the table on page 5 for a comparison of the accident prevention requirements of the three programs and the PSM Standard.

Diagnosing Hazards

Accident prevention begins with analyzing operations to identify equipment and procedure failures that could lead to unplanned spills and releases. The RMP Rule requires Program 3 processes to conduct what is formally known as a process hazard analysis (PHA). Program 2 processes, which are generally less complex than Program 3, also must identify potential failures, but a formal PHA is not required. PHAs identify areas where improvements can be made in system design, operating procedures, training, and other accident prevention strategies. PHAs must be carefully scrutinized since many other aspects of risk management programs are based on the findings and recommendations of these analyses. Information from PHAs will likely be used as the basis for the alternate release scenarios developed as part of OCA. The OCA will then be used to develop facility and community emergency response plans.

Summary of Key Accident Prevention Compliance Requirements

Requirement	PSM Standard	RMP Program 3	RMP Program 2	RMP Program 1
Compile written process safety information	✓	✓	✓	
Establish employee participation in and access to process safety analysis and management	✓	✓	✓	
Analyze process hazards	✓	✓	✓	
Prepare written operating procedures	✓	✓	✓	
Conduct worker training	✓	✓	✓	
Conduct contractor training	✓	✓		
Conduct safety review before startup	✓	✓		
Ensure ongoing integrity of equipment	✓	✓	✓	
Manage process changes	✓	✓		
Conduct incident investigations	✓	✓	✓	
Conduct compliance audit	✓	✓	✓	
Coordinate emergency response plan with community	✓	✓	✓	✓

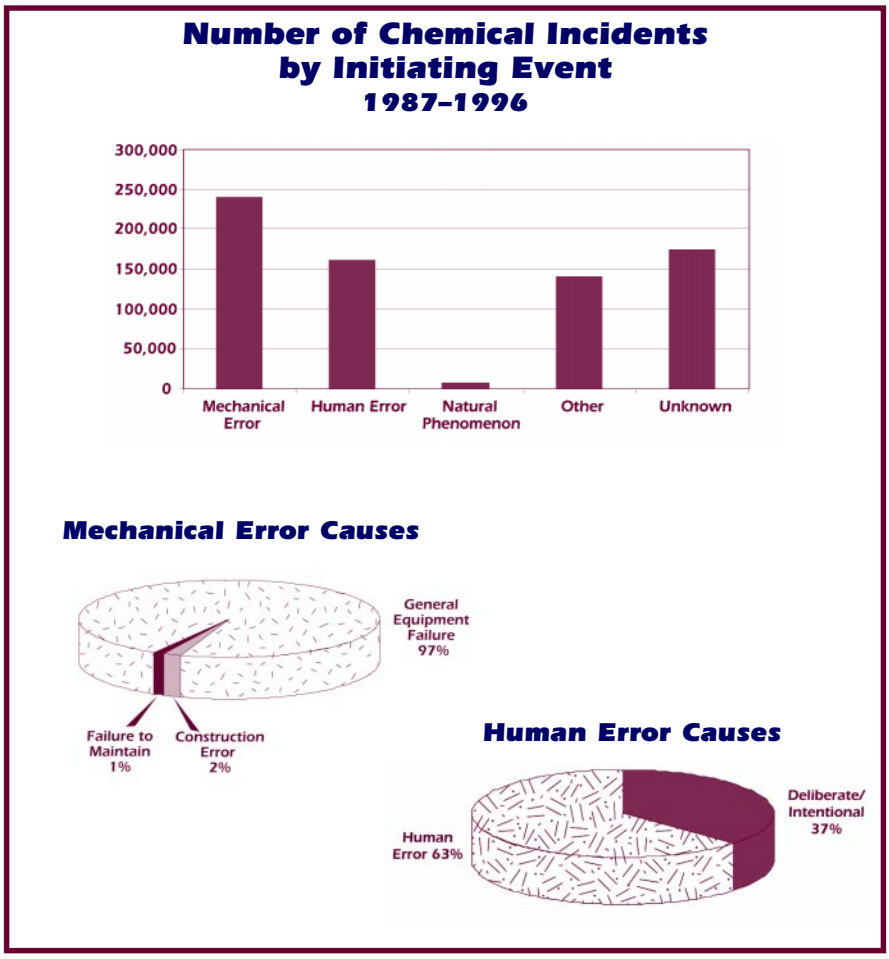
Known Safety Measures

Human and mechanical errors are the major causes of spills and releases (see chart below). Accident prevention programs should seek to identify problem areas and resolve them. Some examples of known safety measures follow.

Worker Training Prevents Accidents. Most incidents occur because of a combination of unsafe conditions and unsafe acts. Proper training of workers can minimize the number of accidents. The RMP Rule requires workers and contractors who are involved with the regulated processes to receive appropriate training. Worker refresher training must be given at least every three years. Facilities must document specifically who was trained and when and how they verified that the employees understood the training.

Maintaining Mechanical Integrity of Process Equipment Reduces Risk. Higher hazard facilities must prepare written preventative maintenance procedures to ensure the mechanical integrity of the process equipment and controls. The RMP Rule requires documentation of tests and inspections of equipment and controls. The frequency must be consistent with manufacturers' recommendations and good engineering practices.

Incident Investigations Prevent Future Accidents. Despite effective accident prevention efforts, accidents and "near-misses" will occur. Facilities with Program 2 and 3 processes are required to investigate and



Source: Chemical Safety and Hazard Investigation Board 1999

Verifying Compliance

Scarce resources may limit the ability of OSHA, EPA, and the states to audit RMPs. Although many facilities are operated safely, community scrutiny often will be key to ensuring that facilities complete reliable audits and respond to identified weaknesses. Some suggestions to help verify compliance follow:

- ❑ *Assess the scope and frequency of training and how trainees are evaluated to determine whether they have learned what they need to know.*
- ❑ *Verify whether equipment used in regulated processes is inspected and maintained as indicated in an RMP.*
- ❑ *Determine whether all incidents are investigated and reported as required by the RMP Rule.*
- ❑ *Examine a facility's five-year accident history of regulated processes that must be submitted as part of the RMP. The frequency of reported incidents and accidents may reveal potential weaknesses in a facility's accident prevention program.*
- ❑ *Evaluate whether facilities have the necessary federal and state permits for their releases of hazardous substances.*

report incidents that resulted in, or could have resulted in, a catastrophic release of a regulated chemical. Investigations are aimed at determining the cause or causes of incidents and recommending changes that can prevent recurrence. Facilities must document resolutions and corrective actions. Implementation of these corrective actions can play an important role in reducing future risk.

Auditing Keeps Programs Up-to-Date. Higher hazard facilities must evaluate their compliance with the RMP Rule's accident prevention requirements at least every three years. The facilities must report the findings of the audit to EPA and correct any deficiencies. The purpose of the audit is to verify that the procedures and practices developed under the standard are adequate and are being followed. The periodic audits also provide an opportunity to ensure that operating procedures, policies, and training programs have been modified to reflect changes in processes. An ongoing facility audit program is a positive sign of an active safety culture.

Reducing Hazards Improves Safety. Substituting less hazardous chemicals and reducing onsite inventories are effective ways to lower hazards. According to environmental activist Fred Millar, a member of the Washington, D.C., Local Emergency Planning Committee (LEPC), the city's Blue Plains wastewater treatment facility maintained a large enough quantity of chlorine to threaten Capitol Hill, nearby Bolling Air Force Base, and other Department of Defense buildings. The LEPC convinced Blue Plains to explore replacing chlorine with much less hazardous sodium hypochlorite (bleach).

Determining Reliability

One way to help determine the reliability of a particular facility's RMP information is to compare it with other reports the facility has completed. Regulated process operators will often have a variety of reporting obligations in addition to the RMP. For example, Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) requires reporting on the identities and quantities (but not the uses or process) of specific extremely hazardous substances. Sections 311–312 of EPCRA require many of the same facilities to submit chemical inventory and facility identification information to State Emergency Response Commissions (SERCs) and LEPCs. In addition, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund, requires that facilities notify the National Response Center, local EPA regional office, SERC, and LEPC of chemical releases. Determining whether all required information has been submitted to the appropriate entity, and the extent to which reported values agree, can provide an indication of the reliability of particular RMP information.

Terrorism and Facility Security

The chief of the FBI's Domestic Terrorism Section, Robert Burnham, testified before Congress on February 10, 1999, that the FBI believes chemical facilities are a terrorist target because they contain hazardous substances that can cause mass casualties and, consequently, are a security risk to the community. The Chemical Manufacturers Association agrees with this position.

Writing a Story: Questions to Think About

The following questions may help elicit more information about accident prevention programs at facilities regulated by the RMP Rule.

Questions for the plant manager or facility spokesperson:

- ❑ *What are the top three or four actions being taken in the next 12 to 18 months to protect the local community from accidental chemical releases?*
- ❑ *What steps are taken to promptly notify the local community of chemical releases from the facility?*
- ❑ *What steps or processes are in place for informing the local citizens of progress in preventing accidental chemical releases at the facility?*
- ❑ *What steps should local citizens follow to obtain more information about the dangers of the chemicals at the site, and what actions are taken to protect the local community?*

Questions for contractors who currently or recently worked in the facility:

- ❑ *What safety and accident prevention information and instructions were received before you began work at the site?*
- ❑ *What do you think of the effectiveness of the chemical safety and accident prevention programs at this facility?*
- ❑ *What concerns do you have about conditions that might lead to a chemical release that could harm workers and citizens?*
- ❑ *How does this facility's accident prevention and safety effort compare to those of other similar facilities where you have worked in the past?*

Questions for local officials such as the fire chief, fire marshal, or LEPC chairman or executive director:

- ❑ *What visits to the plant or facility have you made and what impressed you most about what you saw?*
- ❑ *What information has been exchanged between the facility manager and the local community? Does this information fully satisfy all of the facility's obligations to the local community?*
- ❑ *What steps can local citizens take to obtain information about the facility's chemical hazards and chemical release prevention efforts?*
- ❑ *What major community hazards are created by the facility and how are they being addressed or controlled?*

To reduce the risk of a terrorism, the online RMP*Info database of worst-case and alternate scenario data from RMPs will not be posted on the Internet. Nevertheless, the facility's physical plant remains a security risk, and reporters should ask about this vulnerability.

Gardner Bates of the Chlorine Institute noted that physical security has always been a significant concern and priority within the industry. Since security details are sensitive, he suggests that reporters arrange a facility tour to obtain more information. The LEPC might be helpful in gaining access.

Key questions to determine risk are—

- ❑ How effectively does the facility secure its perimeter? What are its access policies and controls?
- ❑ Can personnel be located and tracked within the facility?
- ❑ Does the facility and/or its parent company have a program in place to safeguard its databases and communications?
- ❑ Are there protective buffer zones between chemical operations and neighbors?
- ❑ Are hazardous operations fortified against bomb attacks?

Y2K Issues

Most people think of the Year 2000 problem, or Y2K, as affecting only computers and the data they contain plus the potential impact on financial institutions, personnel data, and Social Security checks.

But increasing attention is now being paid to the widespread Y2K problem on electronic devices with embedded chips used to regulate processes and safety equipment in chemical facilities. Embedded chips or embedded systems abound in the chemical industry. These include microprocessors and computer chips embedded in many chemical

Key Y2K Questions to Ask Facilities

- ❑ Have facilities examined and tested their systems?
- ❑ Do facilities have contingency plans in place?
- ❑ Have facilities accounted for potential power and communications failures?
- ❑ Are LEPCs and SERCs involved in Y2K planning issues?

process controls and sensor devices. Processes at chemical facilities are primarily computer controlled. Consequently, relief valves and other safety features may not operate correctly.

Dr. Gerald V. Poje, Board Member and Y2K project coordinator of the CSB, noted that "... chemical safety concerns include complete failure of safety-related systems, both for control and protection; malfunctions of embedded microprocessors and equipment; and potential failure to respond correctly to program instructions." Computer-related process failures have the potential to produce small to catastrophic consequences. In its *Year 2000 Issues: Technology Problems and Industrial Chemical Safety* report issued in March 1999, the CSB asserts that large chemical companies have the capability and resources to resolve their Y2K problems, assuming continuity of the powergrid. However, medium and small companies present a special concern because of lack of information and suggestions that much more work still needs to be done.

Annotated List of Accident Prevention References and Links

References and links to documents or Internet sites should not be construed as an endorsement of the views contained therein.

Federal Information

EPA's Chemical Emergency Preparedness and Prevention Office
http://www.epa.gov/ceppo

This EPA office maintains a comprehensive Web page that includes chemical accident prevention and risk management planning information. EPA will maintain an online database of all RMPs—in RMP*Info. However, RMP*Info will not contain the OCA data.

EPA's Resource Conservation and Recovery Act, Underground Storage Tank, Superfund, and EPCRA Hotline
http://www.epa.gov/epaoswer/hotline

This site provides information on how to contact the EPA-sponsored Hotline that addresses the Risk Management Program Rule. Other information resources are also provided. Many related documents, including those listed on the EPA site above, can be ordered by calling (800) 424-9346 or (703) 412-9810 in the Washington, D.C., area.

EPA's Emergency Response Notification System
http://www.epa.gov/ERNS/

The Emergency Response Notification System (ERNS) is a database used to store information on notifications of oil discharges and hazardous substances releases. The ERNS program is a cooperative data sharing effort among EPA, the Department of Transportation, and the National Response Center. ERNS provides the most comprehensive data compiled on notifications of oil discharges and hazardous substance releases in the United States.

National Response Center
http://www.nrc.uscg.mil

The National Response Center serves as the sole point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. Summary statistics on chemical accidents are available on the National Response Center's Web site.

OSHA's Process Safety Management Standard
http://www.osha-slc.gov/SLTC/processsafetymanagement

Information on the Process Safety Management Standard is available on OSHA's Web site.

Chemical Safety and Hazard Investigation Board (CSB)
http://www.chemsafety.gov

The Chemical Safety and Hazard Investigation Board Web site has information about incidents investigated by the board, as well as a library of chemical safety documents and information on the year 2000 issue.

Nonprofit Organizations

National Safety Council
http://www.nsc.org/xroads.htm

The Environmental Health Center's Crossroads Chemical Emergency Management page is designed to expand and strengthen the network of organizations involved in emergency planning and response, chemical safety, and hazardous chemical rules and regulations. This Web page will continually evolve to feature a comprehensive risk communication repository focusing on the Risk Management Program Rule. Additional useful resources not included in this document can be found at this Web site.

Center for Chemical Process Safety
http://www.aiche.org/docs/ccps/index.htm

Information on chemical process safety, engineering design, and related issues is available through the Center for Chemical Process Safety (CCPS) Web site or by phone at (212) 591-7319. CCPS is a nonprofit professional organization affiliated with the American Institute of Chemical Engineers.

Position Papers

Too Close To Home: A Report on Chemical Accident Risks in the United States
http://www.pirg.org/enviro/toxics/home98/

U.S. Public Interest Research Group (U.S. PIRG). 1998. *Too Close To Home: A Report on Chemical Accident Risks in the United States.* Using non-RMP right-to-know data, U.S. PIRG presents a national overview and ranking of U.S areas vulnerable to the effects of chemical disasters and recommends ways to significantly reduce chemical accidents and toxic pollution.

Responsible Care® Program
http://204.146.87.27/cmawebsite.nsf/pages/responsiblecare

This Chemical Manufacturers Association web page provides information about the association's Responsible Care® Program. Safety Street and other materials on the Kanawha Valley Demonstration Program may also be available by calling (703) 741-5000.

Regulations

Section 112(r) of Title III of the Clean Air Act Amendments of 1990
http://www.epa.gov/oar/caa/caa112.txt

RMP Rule (40 CFR Part 68)
http://www.epa.gov/ceppo/pubs/potw/98part68.pdf

PSM Standard (29 CFR 1910.119)
http://www.osha-slc.gov/OshStd_data/1910_0119.html

"In 1996, chemical incidents claimed the lives of the equivalent of two fully loaded 737 passenger jets—256 people perished. And an average of 256 people died the year before. And the year before that."

Dr. Paul L. Hill
February 24, 1999

Local Information Sources

Many facilities will be prepared to provide information that explains or supplements the RMP information they submit. Their information may include the results of OCAs, which EPA will not make available to the public over the Internet.

The RMP Rule requires facilities to coordinate their emergency response programs with the local emergency response community. Other local sources of information regarding hazardous chemicals and emergency preparedness include the LEPC and the local fire chief or fire marshal. The LEPC, local fire department, or local emergency management agency also may be able to provide current copies of material safety data sheets, which provide information about chemicals' physical and chemical characteristics, fire and explosion hazards, and health hazards.

Local hospital administrators or heads of emergency room units also may be able to provide information about their ability to appropriately treat workers or citizens who may be exposed to specific regulated chemicals.

Other Documents

Potential Effects of Electronic Dissemination of Chemical "Worst-Case Scenarios"
http://www.fbi.gov/congress/senlast.htm

Burnham, Robert M. 1999. Potential effects of electronic dissemination of chemical "worst-case scenarios," Data Statement for the Record of Robert M. Burnham Chief, Domestic Terrorism Section before the United States Senate Subcommittee on Clean Air, Wetlands, Private Property and Nuclear Safety. March 16, 1999.

Year 2000 Issues: Technology Problems and Industrial Chemical Safety
http://www.chemsafety.gov/1999/news/n9919.htm

Chemical Safety and Hazard Investigation Board. 1999. *Year 2000 Issues: Technology Problems and Industrial Chemical Safety.*

The 600K Report: Commercial Chemical Incidents in the United States, 1987–1996
http://www.csb.gov/1999/news/n9916.htm

Chemical Safety and Hazard Investigation Board. 1999. *The 600K Report: Commercial Chemical Incidents in the United States, 1987–1996.*

EPCRA: Is It Working?
http://www.nsc.org/xroads.htm

Mason, Steve. 1999. EPCRA: Is it working? *CAMEO Today* 9, no. 2 (March/April 1999). This article is a literature review and summary analysis of the effectiveness of public disclosure "information-based" environmental protections programs.

OSHA fact sheet (OSHA 93–45) summarizing the PSM Standard
http://www.osha-slc.gov/OshDoc/Fact_data/FSNO93-45.html

Organizational Contacts

Center for Y2K and Society
Contact: Fred Millar
Address: Center for Y2K and Society
1800 K Street, NW #924
Washington, DC 20006
Phone: (202) 775-3157
E-mail: fmillar@erols.com

Chemical Manufacturers Association
Contact: James Solyst, Team Leader, Information Management/Right-To-Know
Address: Chemical Manufacturers Association
1300 Wilson Boulevard
Arlington, VA 22209
Phone: (703) 741-5233
E-mail: jim_solyst@mail.cmahq.com

Chemical Safety and Hazard Investigation Board
Contact: Phillip Cogan, Special Assistant to External Relations
Address: Chemical Safety and Hazard Investigation Board
2175 K Street, NW, Suite 1400
Washington, DC, 20037
Phone: (202) 261-7600
E-mail: phil.cogan@csb.gov

The Chlorine Institute
Contact: Gardner Bates
Address: The Chlorine Institute
2001 L Street, NW, Suite 506
Washington, DC 20036
Phone: (202) 775-2790
Web Site:: http://www.cl2.com/
E-mail: gbates@cl2.com

Occupational Safety and Health Administration
Address: Department of Labor, Public Affairs Office,
200 Constitution Avenue, Room 3647
Washington, DC, 20210
Phone: (202) 693-1999
Web Site: www.osha.gov

U.S. Environmental Protection Agency
Contact: Carole Macko, Communications Team Leader, Chemical Emergency Preparedness and Prevention Office
Address: U.S. Environmental Protection Agency
401 M Street, SW 5104
Washington, DC 20461
Phone: (202) 260-7938
E-mail: macko.carole@epamail.epa.gov

Working Group on Community Right-to-Know
Contact: Paul Orum, Coordinator
Address: Working Group on Community Right-to-Know
218 D Street, SE
Washington, DC 20003
Phone: (202) 544-9586
Web site: www.rtk.net/wcs
E-mail: orum@rtk.net

The Environmental Health Center (EHC) is a division of the National Safety Council, an 85-year-old nonprofit, nongovernmental organization. The National Safety Council is a national leader on accident prevention and home, workplace, auto, and highway safety issues.

The National Safety Council established EHC in 1988 to undertake environmental communications activities aimed at helping society and citizens better understand and act knowledgeably and responsibly in the face of potential environmental health risks. Since that start, EHC has built a strong record of effective, nonpartisan communication on environmental health risks and challenges.

May 1999

ENVIRONMENTAL HEALTH CENTER
A Division of the National Safety Council
1025 Connecticut Avenue, NW • Suite 1200
Washington, DC 20036
www.nsc.org/ehc.htm
(202) 293-2270