Guides to Chemical Risk Management

EPA 550-B-99-010
May 1999

Chemical Safety in Your Community:

EPA's New Risk Management Program

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:

- ❑ New Ways to Prevent Chemical Accidents
- ❑ 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

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.

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Chemical Safety in Your Community:
EPA's New Risk Management Program

By June 21, 1999, an estimated 66,000 facilities—including chemical plants, oil refineries, propane retailers, fertilizer warehouses, ammonia users, and water treatment plants—must comply with the Risk Management Program Rule (RMP Rule). These facilities are required to identify their hazardous chemicals, analyze the potential risks of these chemicals to the surrounding community, develop an emergency response program, and submit a summary of their risk management program to the U.S. Environmental Protection Agency (EPA). EPA will then distribute this information, making public a new generation of right-to-know information about hazardous chemicals and community hazards.

Though the RMP Rule applies nationwide, the main effect will be at the local level. Using this powerful information, local authorities and communities will be able to identify chemical hazards and risks and improve public safety.

Journalists reporting on the publicly available risk management information will stimulate communities to learn more about the chemical hazards in the community. Related stories can help communities evaluate the potential for exposure to risk. And public dialogue with local industries can promote facility safety, encourage accident prevention initiatives, and improve emergency response plans.

Bhopal: The Trigger

Human error, equipment failure, and natural disasters can all cause chemical accidents. The danger to the public from an unplanned release of a toxic chemical is illustrated by the 1984 Bhopal, India, tragedy. There, a release of 40 tons of highly poisonous methyl isocyanate (MIC) killed more than 2,000 people and injured 170,000, leaving thousands more to die later. Another release involving the same chemical occurred months later in Institute, West Virginia, sending more than 100 residents to the hospital.

As a result of Bhopal and similar incidents, Congress enacted a law to help inform communities of chemical hazards and aid their emergency planning. The law, known as the Emergency Planning and Community Right-to-Know Act (EPCRA), was passed as part of the 1986 amendments to the Superfund hazardous waste cleanup program.

Setting The Stage: The Emergency Planning and Community Right-to-Know Act

EPCRA created State Emergency Response Commissions (SERCs) and Local Emergency Planning Committees (LEPCs) to implement the act. SERCs are appointed by the governor and consist of state emergency, environmental, and health agencies; public interest associations; and others with emergency management experience. LEPCs, whose makeup is specified by the law, typically consist of—

- Representatives of elected state and local officials
- Law enforcement officials, civil defense workers, and firefighters
- First aid, health, hospital, environmental, and transportation workers
- Representatives of community groups and the news media
- Owners and operators of industrial plants and other users of chemicals, such as hospitals, farms, and small businesses

Participation of the news media is specified by law. In practice, however, very few journalists actually sit on an LEPC, believing that such participation represents a conflict of interest. This same infrastructure will be leveraged to implement the Risk Management Program. (See Key Events Related to the Risk Management Program Rule.)

About 868,000 facilities that have more than 400 extremely hazardous substances listed by EPCRA report information about their chemical inventories to LEPCs, SERCs, and local fire departments. Under EPCRA, facilities are required to file reports if the quantities of the hazardous chemicals exceed specified thresholds. In 1987, EPCRA launched another important right-to-know program, called the Toxics Release Inventory, that reports emissions of hazardous substances into the environment.

EPCRA's reporting requirements and emergency planning and notification provisions established a coordinated effort among EPA, state governors, SERCs and LEPCs, owners and operators of regulated facilities, and local fire departments. LEPCs receive chemical inventory information, analyze the hazards, and

Key Events Related to the Risk Management Program Rule

1983 The OSHA Hazard Communication Standard (29 CFR 1910.1200) provides employees a right-to-know about the hazards of chemicals to which they are exposed.

1984 In Bhopal, India, a release of 40 tons of highly toxic methyl isocyanate kills more than 2,000 people; thousands more die later.

1985 In Institute, West Virginia, a release involving methyl isocyanate sends more than 100 people to the hospital.

1985 EPA creates its Chemical Emergency Preparedness Program and urges a voluntary program to develop plans that address potential hazardous chemical emergencies at facilities.

1986 Congress enacts EPCRA to provide the public with information about the amounts of hazardous chemicals present and discharged from fixed-site facilities. The law establishes the infrastructure of SERCs and LEPCs to develop emergency response plans for each community and fosters chemical emergency management dialogue between industry and local communities.

1990 Congress enacts the Clean Air Act Amendments. Section 112(r) includes requirements for establishing the Risk Management Program Rule to (1) prevent and prepare for accidental releases of chemicals that could cause immediate, serious harm to human health and the environment and (2) communicate hazard information to the public.

1992 The OSHA Process Safety Management Standard is released. This standard is designed to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or highly explosive hazardous chemicals from a process. It serves as a model for Risk Management Program Rule requirements.

1994 EPA publishes its List of Regulated Substances and Thresholds for Accidental Release Prevention, identifying the Risk Management Program's regulated substances and threshold quantities. Amendments were published in 1996, 1997, and 1998.

1996 EPA releases the Risk Management Program Rule requirements under section 112(r) of the Clean Air Act. Facilities are given three years to comply. This rule also establishes the obligation to create an independent Chemical Safety and Hazard Investigation Board to investigate the causes of major chemical accidents and provide industry with information about conditions that compromise safety.

1999 Under Clean Air Act section 112(r), RMPs must be submitted to EPA before June 21, 1999.

develop local emergency response plans. They are responsible for disseminating this information to the public and serving as a focus for community awareness and action.

EPCRA extended right-to-know beyond the workplace and into the community. This information has stimulated communication between industries and communities and encouraged industries to store smaller inventories of hazardous substances, discharge less, and substitute less-hazardous chemicals. In addition, the availability of public information about hazardous chemicals has encouraged investigative reporting and community activism, often combining chemical hazard issues with related issues, such as environmental justice and children's health.

Picking Up Where EPCRA Left Off: The Risk Management Program

In 1990, Congress took additional measures to protect communities from hazardous chemicals by including accident prevention and emergency preparedness measures in the Clean Air Act Amendments of 1990 (CAA). Section 112(r) of the CAA authorizes EPA to create regulations that prevent and prepare for accidental releases. On June 20, 1996, EPA issued the RMP Rule (40 CFR 68). Its primary goal is to protect communities from releases of toxic or flammable chemicals that are prone to cause immediate, serious harm to public and environmental health.

Like EPCRA, the RMP Rule contains important right-to-know provisions. The RMP Rule requires facilities to provide EPA with a summary of their risk management programs if more than a specified threshold amount can be released by an incident involving one process. A process is defined as manufacturing, sorting, distributing, handling, or using a regulated substance. Chemicals in transit, including pipelines, are excluded.

Summary of Key RMP Requirements

- ❑ Develop and implement a risk management program, consisting of the following:
  - ■ Hazard assessment program
    - ◆ identity of listed substances and quantities stored on site
    - ◆ five-year history of accidental releases
    - ◆ worst-case release scenario analysis with effect on the community
    - ◆ alternative release scenario analysis (only by some facilities)
  - ■ Accidental release prevention program
  - ■ Emergency response program
- ❑ Submit written RMP to EPA before June 21, 1999
- ❑ Revise RMP at least every 5 years

EPA will distribute a summary of each facility's risk management program, known as a risk management plan, or RMP, to state and local agencies involved with emergency planning and response. These programs will include an accident prevention program, a hazard assessment (which includes an offsite consequence analyses), and an emergency response program. The RMPs will provide state and local agencies with additional information about chemicals and facilities regulated by EPCRA. Since the RMP Rule regulates some chemicals not regulated by EPCRA, state and local agencies will have access to information about additional chemicals

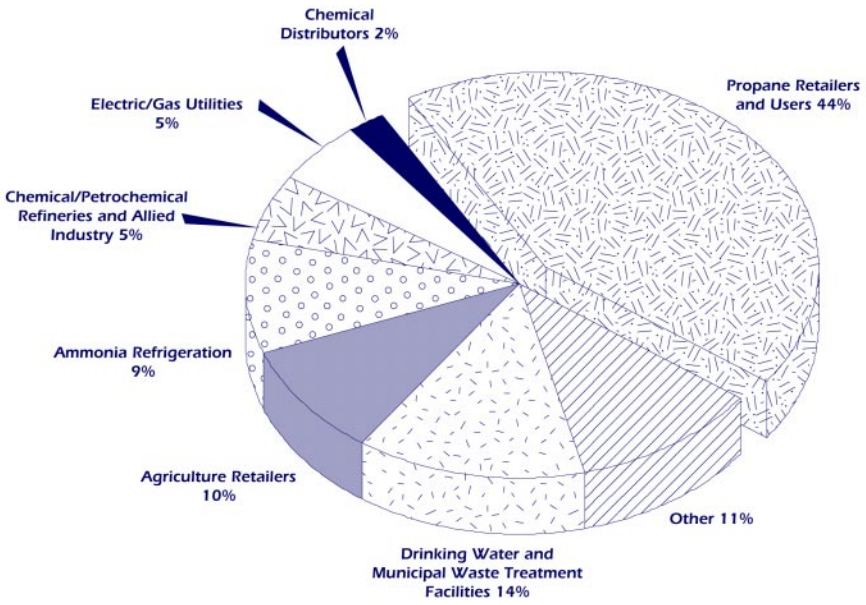
The general public will be given ready access to some—but not all—RMP information through the Internet and other means, including SERCs and LEPCs. Information made available to communities enables them to learn more about local chemical hazards and the extent to which risk of exposure to these hazards is reduced through a facility's risk management program.

Reducing Risk: Accident Prevention as the Key

The accident prevention requirements of the RMP Rule are based on the requirements of the Occupational Safety and Health Administration's (OSHA's) standard: Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119). This regulation, often referred to as the PSM Standard, was published in 1992. Although both regulations are designed to minimize the potential for and extent of accidental releases, there are differences in the chemicals and facilities they regulate. The RMP Rule will expand the number of facilities required to have an accident prevention program and will make information about those programs readily available to the community for the first time.

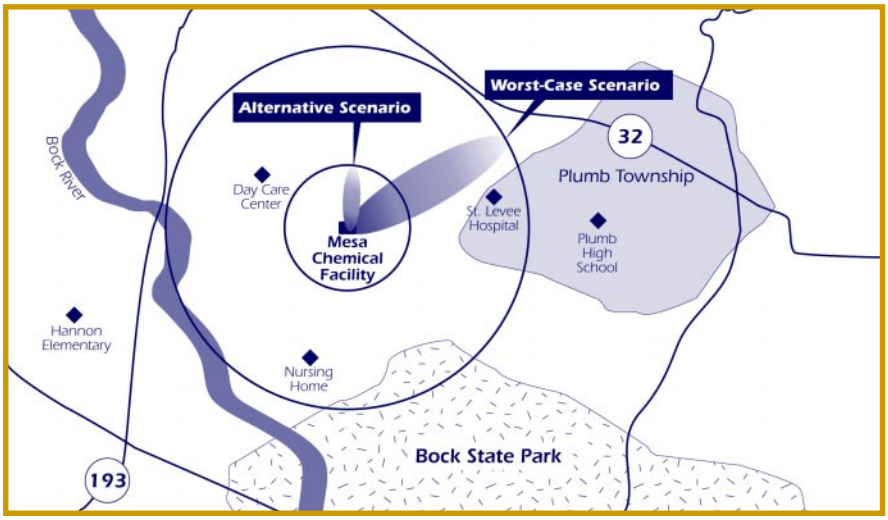
The accident prevention program of many RMPs contains information on the types of hazards that may be created, process controls that prevent or minimize releases, mitigation systems used to lessen the effect of releases, and monitoring

Types of Facilities Regulated by the Risk Management Program Rule



Facilities that have more than specified threshold quantities of any of 77 acutely toxic substances or 63 flammable substances must submit an RMP. All of the listed substances can form gas or vapor clouds that may travel offsite and have dangerous consequences if more than the threshold quantity is released. Not all of the covered substances are regulated by EPCRA. Initially, 44 percent of the 66,000 facilities affected by the Risk Management Program Rule were propane distributors and users. This number could change dramatically if proposed legislation to exempt propane from the RMP or an EPA proposal to raise the reporting threshold for hydrocarbon fuels become effective.

Areas at Risk Identified in Hypothetical Worst-Case and Alternative Scenarios



and detection systems. Worker training, process maintenance, compliance audits, and incident investigation information is reported also.

In addition, RMPs include a summary of the accident history for the past five years of process operation. Past behavior is a useful indicator of the facility's safety culture and commitment to accident prevention.

Identifying Hazards: The Offsite Consequence Analyses

The RMP must include an offsite consequence analysis (OCA) of potential chemical accidents. Two scenarios are required of most facilities: a worst-case and an alternative case scenario. The main purpose of the analysis is to identify vulnerable populations in residences, schools, businesses, and other facilities (public receptors) and vulnerable parks, wildlife preserves, and other natural areas (environmental receptors). Identifying the scope and needs of the vulnerable areas is key to planning community response to an incident (see map above).

The OCA simulates a release and estimates how far away from the release people or property could be harmed—a "distance to endpoint." The area that is vulnerable to damage from a release will often be represented by a circle with its center at the point of release and its radius equal to the distance to endpoint. Distances to endpoint estimations can be either calculated from acceptable air dispersion models or obtained from a lookup table prepared by EPA.

All facilities must prepare worst-case scenarios. Worst-case scenarios assume that the *total* quantity of the substance is quickly released, that atmospheric conditions will maximize the effect of the event, and that no mitigation or response actions are taken. Worst-case scenarios can predict spectacularly long distances—more than 25 miles in some cases. However, worst-case scenarios represent a *highly unlikely* chain of events. Although catastrophic releases have occurred, they are very rare. Combining these failures with worst-case weather conditions makes the overall scenario even less likely. But such events can and may indeed happen.

Many facilities must also prepare alternative release scenarios, which are based on more credible, realistic factors. For example, the scenario can assume that mitigation measures (e.g., dikes, shut-off valves, fire sprinklers) operate as designed and environmental conditions are typical, rather than the worst possible. The scenario may even be based on the facility's accident history. Alternative release scenarios represent more likely events, providing more practical information to emergency planners and the public.

Preparing for Accidents: Emergency Response Programs

Despite prevention measures, accidents do happen. Therefore, the RMP Rule requires facilities to have an emergency response program if their worst-case release scenario can have an offsite consequence.

The emergency response program must include a plan for informing the public and local emergency response agencies about accidental releases. The plan must be coordinated with the community emergency response plan. In addition, the emergency response program must also include procedures for the use, inspection, testing, and maintenance of emergency response equipment, as well as training for employees in relevant procedures.

Facilities whose employees will not respond to accidental releases do not need to develop an emergency response program if they take certain measures: Facilities must notify emergency responders when there is a need for response. Facilities with regulated flammable substances must coordinate response actions with the

local fire department. Facilities with regulated toxic substances must be included in the community emergency response plan.

The emergency response provisions of the RMP Rule build on EPCRA's emergency planning provisions, encouraging facilities to coordinate their plans with community emergency planners and responders.

Balancing Right-to-Know and Security: Risk Management Planning in the Information Age

The Clean Air Act mandated that EPA make RMP information readily available to the public. Through public disclosure, Congress intended to save lives, reduce accidents, limit pollution, and protect property.

Initially, EPA planned to post all of the data on the Internet—freely available to all. However, on November 5, 1998, EPA announced it would not include the OCA portion of the RMP data in the online database because this particular information could be used by terrorists to identify mass casualty targets.

The Chemical Manufacturers Association (CMA) took the lead role to prevent the distribution of OCA data on the Internet. CMA asserted that a database of chemical inventories and OCAs universally available on the Internet could make chemical facilities ready targets for terrorists. James Solyst, CMA Team Leader for Information Management/ Right-to-Know, remarked that while the CMA supports the RMP Rule, "… making the worst-case scenario data available via the Internet is a bad idea, given the times in which we live." Solyst continued that putting this data on the Internet "… will increase the risk of terrorist attacks." The Federal Bureau of Investigation supported CMA's position and helped persuade EPA to reverse its earlier policy of free Internet access.

In contrast, public interest groups argued that full disclosure remains the best option to safeguard the public. Paul Orum, Coordinator of the Working Group on Community Right-to-Know, asserted "… the need to reduce real hazards (chemicals) in the community cannot be accomplished by withholding data from the public. Broad distribution and public awareness of worst-case hazards through the Internet is the only effective way to motivate companies."

Obtaining OCA data will be a challenge. Public interest organizations that maintain right-to-know Web sites such as the Environmental Defense Fund (Chemical Scorecard) and the Unison Institute (RTKNET) have not indicated whether they will distribute the data themselves.

Having RMP data not only on the public record, but also easily accessible and searchable online, would have provided reporters an opportunity to develop local stories. Nevertheless, there are alternative sources for locating this essential hazard information. As of May 1999, all RMP data is still subject to the Freedom of Information Act (FOIA)—although congressional initiatives maybe underway to block this avenue. (For more information on the debate, see

Writing a Story: Questions to Think About

- How effectively has the LEPC or other emergency management organizations developed and tested emergency plans required under EPCRA?
- How will local chemical emergency planning and response organizations use RMP information to improve safety (e.g., through emergency response, hazard reduction, or zoning restrictions)?
- Who would be affected by a release? How would these vulnerable populations know that an emergency is occurring and how to respond?
- How will local officials and the public perceive the risk of accidental releases? What factors will they consider to determine risk from the chemical hazards reported on the RMP?
- Has the public's perception of the facility's safety and environmental record led them to trust the facility?
- Are local facilities with chemical inventories prepared for a major release? Have they developed emergency response plans? Are the plans current and have exercises been conducted to test them? Has the facility communicated with neighbors and developed working relationships with community response organizations?
- How many affected facilities are there in the community? What is their accident release history?
- Has the facility changed its operations to improve prevention and response as a result of the need to complete the RMP? Are they undertaking any hazard reduction actions to lower the quantity and number of chemicals? Has the facility improved accident prevention design and procedures? How does a facility's program compare with others in its industrial classification?

The National Safety Council Environmental Health Center's April 1999 issue of *Environment Writer* at the NSC EHC Web site) LEPCs or SERCs are another source. So are the regulated facilities; many, in fact, have already been communicating their RMPs in a variety of public forums. CMA is recommending that its members share RMP data with the community.

Informing the public about risks they face is something many reporters consider a key part of their job. They are often the translators through which technical information is compiled, interpreted, and relayed to a broader public. RMP data should provide local journalists with the raw material for many stories. Open information was a key to the strategy Congress and EPA envisioned for improving public safety.

Funding: The Perennial Problem

Although EPCRA established the infrastructure and mandate to conduct local emergency planning, the availability of resources to support these efforts sometimes limits a community's ability to prepare for emergency responses. Similarly, the RMP Rule gives emergency management groups information that better enables them to protect the public. However, the lack of direct federal funding to support these activities may hamper their ability to use the information.

Many state and local governments see EPCRA and the RMP Rule as positive additions to their public safety efforts and are incorporating them into their programs. Others just do not have the resources to implement another requirement in an already over-burdened agency. Some implementing agencies address the funding issue by charging facilities fees for EPCRA activities to offset the operational costs. Others rely on industry contributions.

Implementing the Rule: Variations from State to State

EPCRA gives states flexibility in the structure and operation of the SERCs and LEPCs. For example, California has 5 LEPCs, while New Jersey has 587. Just as structure and resources vary, so does effectiveness. Although some SERCs and LEPCs have established excellent working relationships with the facilities that report to them and the community they serve, others have had less success.

Many RMP Rule programs will actually be administered and enforced by state and local agencies. These agencies must request and be delegated from EPA the right to implement the Risk Management Program within their jurisdictions. Otherwise, EPA remains responsible for implementing the rule. As of April 1999, Florida, Georgia, Puerto Rico, and the Virgin Islands had been delegated responsibility for managing the Risk Management Program. Twelve other states and two counties are also seeking delegation to manage their own programs. Check EPA's Web site or the Right-to-Know Hotline for the most current information.

Both EPCRA and the RMP are "minimum rules." Implementing agencies have the option of adding reporting requirements, chemicals, and threshold quantities. California's Office of Emergency Services, for example, has already indicated that it intends to modify the RMP Rule to be consistent with its own requirements.

Evaluating Risk: It's Up to Local Communities

The RMP offers communities information on chemical hazards; the frequency and severity of previous chemical releases; and the measures taken to either prevent, minimize, or respond to an accidental release. It does not provide information on the risks these chemicals present to the community; that is, the probability of an accident occurring, its potential effect, and what the event would mean to the community.

EPA believes that identifying risk is best left to stakeholders in the community:

> Preventing accidental releases of hazardous chemicals is the shared responsibility of industry, government, and the public. The first steps toward accident prevention are identifying the hazards and assessing the risks. Once information about chemicals is openly shared, industry, government, and the community can work together toward reducing the risk to public health and the environment.

EPA, Risk Management Planning: Accidental Release Prevention—Final Rule: Clean Air Act Section 112(r), Office of Solid Waste and Emergency Response, 550-F-96-002, May 1996

Determining the likelihood of these scenarios is difficult because the data needed (e.g., rates for equipment failure and human error) are not usually available. Even when data are available, significant uncertainties remain in applying the data because each facility's situ-

ation is unique. The probability of an event occurring is only part of the risk equation. How right-to-know information is communicated will affect the community's perception of the risk posed by accidental chemical releases. The perception of risk will be shaped by the community's ability to understand the nature of potential hazards; facilities' ability to control, mitigate, and respond to those hazards; and, the community's ability to manage emergencies. A community's reaction to perceived risk is tempered by other factors, such as local industry's relationship with the community and socioeconomic factors that are important to the community.

In collaboration with LEPCs and SERCs, a number of industries are launching public risk communication and education programs to help explain RMP data and to initiate discussions about risk within the community. (See reference section pages 10–11 under Journalism, for more information on model programs conducted in Kanawha Valley, West Virginia, and Augusta, Georgia).

Journalists are a primary source of information that the community will rely on to determine risk. The story is not only about worst-case scenarios, but also about more probable outcomes. The story includes what facilities are doing (or failing to do) to prevent accidents and the capabilities of facilities and communities to respond to an incident. The probability of chemical accidents occurring compared to the probability of other catastrophic events (such as an earthquake) also puts the story into perspective.

Annotated List of RMP Links and Documents

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/swercepp/acc-pre.html

EPA's web page for Chemical Accident Prevention and Risk Management Planning provides very useful, comprehensive information. Examples of available information include fact sheets, questions and answers, newsletters, links to non-EPA sites, the Clean Air Act section 112(r) legislation, the List of Regulated Substances and Thresholds for Accidental Release Prevention, the Risk Management Program Rule regulations, technical guidance documents, and many other resources. 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, 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, including up-to-date information on several EPA programs, including the RMP Rule.. 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.

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.

RMP Background and Rule Summary Information
http://process-safety.tamu.edu/Symposiums/mkopsc-1998/Papers/Makris.htm

A history of the evolution of the Risk Management Program Rule is provided by Jim Makris, Director, EPA's Chemical Emergency Preparedness and Prevention Office in his presentation, "EPA Perspective on Advances in Process Safety." The presentation was made at the First Annual Symposium of the Mary Kay O'Connor Process Safety Center, "Beyond Regulatory Compliance, Making Safety Second Nature," on March 30–31, 1998. Access other presentations from the symposium and links provided by the host's home page.

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.

CMA, House Leaders Want Chemical Disaster Scenarios Offline
http://www.nsc.org/ehc/ew/issues/ew99apr.htm

Davis, Joseph A. CMA, house leaders want chemical disaster scenarios offline, *Environment Writer* 11, no. 1 (April 1999).

Journalism

The Augusta Chronicle
http://www.augustachronicle.com/

(Note: The *Augusta Chronicle's* web page provides a search function. Entering "worst-case scenario" provides links to many article summaries, some of which are listed below.)

Planning for the Worst
http://www.augustachronicle.com/stories/101097/met_risk.html

Gourley, Meghan. 1997. Planning for the worst, *Augusta Chronicle.* October 10, 1997. Ms. Gourley wrote several articles about a model effort to hold a public presentation of RMP information. This article includes a description of some scenarios and provides maps showing worst-case and alternative scenarios from each.

Richmond Industries to Develop Disaster Scenarios
http://www.augustachronicle.com/stories/081597/met_disaster.html

Pavey, Robert. 1997. Richmond industries to develop disaster scenarios, *Augusta Chronicle* (August 15, 1997).

Who Gets Polluted? The Movement for Environmental Justice
http://www.majbill.vt.edu/geog/3104/justice.htm

Rosen, Ruth. 1994. Who gets polluted? The movement for environmental justice. *Dissent (*Spring 1994), 223–230.

The Charleston Gazette

Ward, Ken, Jr. 1994. Many ounces of prevention noted. *The Charleston Gazette (*June 14, 1994), 4B. This article is a commentary on a trial "Safety Street" meeting in Kanawha Valley, West Virginia

Ward, Ken, Jr. 1994. Disaster possibilities follow set guidelines. *The Charleston Gazette* (June 6, 1994), 6A. Mr. Ward

reports on RMPs provided by 12 industries in Kanawha Valley, West Virginia. (Kanawha's hazard assessment project served as a national model for establishing the Risk Management Program Rule.) Ward's series, "In Harm's Way?," was based on RMPs and interviews with plant managers, engineers, and other chemical industry experts

Sources of Environmental Data

EPA's Envirofacts Warehouse
http://www.epa.gov/enviro/index_java.html

Information from completed RMPs will be made available to the public through the Envirofacts Warehouse database, a single point of access to selected EPA data.

Environmental Defense Fund
http://www.scorecard.org/

The Environmental Defense Fund's "Chemical Scorecard" can be used by the public to identify which chemical hazards are located in the community, their known or suspected effects, and actions the public can take.

Right-to-Know Network (RTK NET)
http://www.ombwatch.org/rtknet/

RTK NET provides access to numerous databases, text files, and conferences on the environment, environmental "toxics," housing, and sustainable development. LEPC information is also available. RTK NET provides information about specific LEPCs in its database at http://www.rtk.net/www/data/lepc.html and information about SERCs in its database at http://www.rtk.net/www/lepc/webpage/states.html. Be advised: not all servers are recognized by the host.

Organizational Contacts

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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.

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