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CHEMICAL SAFETY

Emergency Response Community Views on the Adequacy of Federally Required Chemical Information



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Abbreviations

EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986



United States General Accounting Office
Washington, DC 20548

July 31, 2002

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Chairman
The Honorable Robert C. Smith
Ranking Minority Member
Committee on Environment and Public Works
United States Senate

The Honorable W.J. "Billy" Tauzin
Chairman
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Ranking Minority Member
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In light of recent terrorist activity within our nation's borders, the United States has become increasingly aware of the need to be prepared to respond to emergencies, including those involving hazardous chemicals. To help protect communities from incidents involving hazardous chemicals, local emergency responders need information such as the types of chemicals used or stored at facilities in their communities. Two federal laws require chemical facilities to provide such information: the Emergency Planning and Community Right-to-Know Act of 1986¹ (EPCRA) and the Clean Air Act Amendments of 1990.² EPCRA, among other things, requires facilities to annually complete and submit chemical inventory forms to their state and local emergency response officials to help them prepare for and respond to chemical incidents. The Clean Air Act's risk management plan provisions, which focus on accident prevention and preparedness planning, require facilities that handle specified quantities of certain substances to develop and register risk management plans with the Environmental Protection Agency (EPA), at least every 5 years. The Clean Air Act also requires that these plans be submitted to state and local agencies responsible for preparing for or responding to accidental chemical releases. EPA oversees the implementation of both acts, but has delegated some authority for implementation of the Clean Air Act's risk management provisions to some state and local governments.

¹P.L. 99-499, Title III, 100 Stat. 1613 (1986).

²P.L. 101-549, 104 Stat. 2399, sec. 112(r) (1990) (codified at 42 U.S.C. 7412(r)).

In 1999, largely because of concerns that terrorists could easily access chemical facilities' information on the Internet, the Congress passed the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act³ primarily to limit the public availability of sensitive information under the Clean Air Act. This act also mandated that we report, within 3 years, on the adequacy of chemical information required to be submitted to local emergency response personnel to help them respond to chemical incidents, the adequacy of the delivery of that information, and the level of compliance with the requirement to submit the information. As agreed with your offices, this report addresses that mandate by (1) providing views of the emergency response community on the adequacy of the information in federally required chemical inventory forms and risk management plans and the manner in which that information is delivered and (2) describing EPA's actions to ensure compliance with the risk management plan provisions—specifically, whether facilities are registering risk management plans, the plans contain accurate information, and local responders are obtaining them—and EPA's sense of the extent of compliance.

To obtain the views of members of the emergency response community on the adequacy of chemical information and its delivery, we interviewed 51 local emergency responders (emergency planners and fire fighters) from 10 out of almost 8,000 communities that have at least one chemical facility that registered a risk management plan. While this work is not generalizable to all communities, it provides useful examples of the views of local communities. To obtain a national perspective, we interviewed representatives from 11 national organizations, including the Federal Emergency Management Agency. We chose these organizations because they represent responders, the chemical industry, or government officials who are concerned about emergency response or because officials from EPA's Chemical Emergency Preparedness and Prevention Office identified them as being knowledgeable of the issues. To describe EPA's actions to ensure compliance and EPA's sense of compliance with risk management plan provisions, we interviewed officials from EPA's Chemical Emergency Preparedness and Prevention Office and all 10 EPA regional offices, which are responsible for overseeing compliance. We performed our work between August 2001 and July 2002 in accordance with generally accepted government auditing standards. Appendix I provides further details about our scope and methodology.

³P.L. 106-40, 113 Stat. 207 (1999).

Results in Brief

The local emergency responders and representatives from national organizations we contacted have varied views on the adequacy of (1) information in chemical inventory forms and risk management plans and (2) the manner in which that information is delivered. Local responders in most of the communities we contacted believe this information generally meets their needs, but a few said that it was not adequate to help them respond to chemical incidents; representatives of the national organizations were divided in their opinions on the adequacy of the information as well. Both local responders and national organization representatives made suggestions that they believe would improve the usefulness of the information. For example, some suggested that

- for both the chemical inventory forms and the risk management plans, the specified quantities of hazardous chemicals that trigger reporting requirements should be lowered and the lists of chemicals should be expanded and
- the chemical inventory forms should require facilities to report on specific quantities of specified chemicals that they maintain rather than broad ranges of quantities.

Most members of the emergency response community believe that the manner of delivery of federally required information is generally adequate but that it could be improved. Although the Emergency Planning and Community Right-to-Know Act and the Clean Air Act do not specify a particular manner for delivering the information, most local responders we contacted receive the chemical information in hard copy. Some local responders said they prefer hard copy, and others said they would prefer to receive the information electronically. The national organizations that addressed the adequacy of delivery commented that electronic delivery would be more useful to responders.

EPA officials cited several agency efforts to ensure compliance with provisions of the Clean Air Act's risk management program. However, their sense of the extent of compliance varies across the three specific provisions that we reviewed; that is, the extent to which (1) facilities have registered risk management plans, (2) the plans contain accurate information, and (3) local responders are receiving the plans. More specifically:

- EPA officials said they have made significant efforts to identify facilities required to register plans—for example, by reviewing federal chemical databases for facilities that may need to register and notifying facilities of their potential responsibilities. As of August 30, 2001, about

15,000 facilities had registered plans. While agency officials have not determined the exact number of facilities required to register, they believe, on the basis of the outreach efforts and other steps taken by EPA regions, that most facilities have complied with the registration requirement.

- Because EPA has reviewed only a small portion of the risk management plans—about 15 percent as of September 30, 2001—and because these reviews ranged from simply reading the plans to carrying out detailed on-site inspections, the agency does not have a comprehensive picture of the accuracy of information in the plans. Recognizing the need to review more plans, but faced with resource constraints, EPA is considering allowing facilities to hire EPA-certified auditors to perform on-site inspections.
- While EPA has made some efforts to ensure local responders have access to plans, the agency does not know the extent to which this is occurring. Local responders from most of the communities we contacted said that they generally had obtained copies of the plans, but some national organizations raised concerns that not all local responders had obtained them.

Background

Under EPCRA, facilities that maintain specified quantities of certain hazardous chemicals are required to annually submit chemical inventory forms to state and local emergency response officials to help them prepare for and respond to chemical incidents. The information to be provided includes (1) an estimated range of the maximum amount of specified hazardous chemicals present at the facility at any time during the preceding calendar year, (2) an estimated range of the average amount of these chemicals present daily, and (3) the location in the facility of the specified chemicals. Inventory forms are required for approximately 500,000 materials. See appendix II for an example of a chemical inventory form.

Additionally, EPCRA requires the formation of local emergency planning committees whose members include, at a minimum, local police, fire, civil defense, public health, environmental, and transportation officials, as well as representatives of facilities subject to the emergency planning requirements, community groups, and the media. There are approximately 3,500 local emergency planning committees across the nation. Under the act, the committees are required to develop and periodically review emergency response plans for their communities that, among other things,

identify chemical facilities and outline procedures for response personnel to follow in the event of a chemical incident. The chemical facilities are required to supply emergency response information to the local emergency planning committee for incorporation into the emergency response plans. While this report does not specifically address them, EPCRA also has other provisions designed to provide local responders with information about chemical hazards. For example, facilities must notify local responders if there is a release of a specified quantity of certain hazardous substances, and facilities must submit to EPA a toxic chemical release inventory covering releases that occurred during the preceding calendar year.

Under the Clean Air Act, chemical facilities maintaining more than a specified amount of a regulated substance must register risk management plans with EPA headquarters at least every 5 years.⁴ Regulated substances include 77 toxic substances, such as ammonia and chlorine, and 63 flammable substances, such as butane and hydrogen. A risk management plan includes documentation that the facility has (1) completed a hazard assessment that incorporates a 5-year accident history, by substance by site, and an evaluation of potential consequences to surrounding communities of chemical releases that includes the worst-case scenario; (2) developed a prevention program that includes facility safety precautions and maintenance, monitoring, and employee training measures; and (3) developed a response program that outlines emergency health care procedures, employee training measures, and procedures for informing the public and local agencies responsible for responding to chemical releases. The act requires that risk management plans be submitted to local agencies or entities responsible for preparing for or responding to chemical releases. EPA's implementing regulations for risk management plans⁵ require chemical facilities to coordinate emergency response plans created under their emergency response programs with community emergency response plans.

⁴A facility must update its risk management plan when the quantity of a chemical exceeds the specified threshold level or the facility changes its operations in a manner that affects the threat to the surrounding community.

⁵40 C.F.R. 68.1, et seq.

Emergency Response Community Has Varied Views on the Adequacy of Federally Required Chemical Information and the Manner in Which It Is Delivered

The members of the emergency response community we contacted have varied views on the adequacy of the information reported in chemical inventory forms and risk management plans and on the manner in which that information is delivered. Most members of the community believe that information provided in chemical inventory forms and risk management plans is adequate to meet the needs of local responders, but some do not share this view. In addition, many members made suggestions to improve the usefulness of the information. Finally, some members of the community question the usefulness of the manner in which the federally required information is delivered.

Most Members of the Emergency Response Community We Contacted Believe the Federally Required Information Is Adequate

Local responders in most of the communities we contacted believe that the information in the chemical inventory forms and the risk management plans is generally adequate to help them prepare for and respond to chemical incidents. Responders from eight of the communities find the information in the inventory forms to be adequate and said they use it in different ways, such as to identify specific chemicals at facilities, determine the location of stored chemicals, and analyze the potential effects of a chemical release on the surrounding community. Responders from seven communities find the information in risk management plans adequate. Some responders said they use the information in the plans to develop community emergency response plans, one reported using it to develop a “quick action” plan to share with other responders, and others said they use it to conduct planning activities at facilities.

Representatives from five national organizations told us they believe the federally required information is generally adequate to help local responders prepare for chemical incidents. Representatives from the American Chemistry Council, the Federal Emergency Management Agency, the National Volunteer Fire Council, and the National Association of State Fire Marshals said that the information in the chemical inventory form is useful and critical in preparing for chemical incidents. They said that the chemical inventory form helps responders by identifying the extent of facilities’ emergency response capabilities. Regarding risk management plans, representatives from the American Chemistry Council and the National Volunteer Fire Council stated that the plans are useful in identifying small facilities that store and use dangerous chemicals, such as chlorine, that were not previously required to report federal information, and in identifying the resources responders would need to respond to chemical incidents.

Local responders from a few communities question the adequacy of the information. Local responders from three communities said they have particular concerns about the accuracy and currency of the chemical information they receive. For example, responders from two communities said that they do not know if the information in the risk management plans they receive is accurate and that there is no way to be sure. (As discussed in a subsequent section of this report, because EPA has performed limited verification of risk management plans, the agency does not have a complete picture of the accuracy of most of the plans.) Responders from the third community commented that the information in chemical inventory forms is outdated and that they have found errors in these forms. In addition, local responders from five communities commented that they receive such a large amount of information that it is difficult to manage. Responders from two of these communities stated that the risk management plan is too large to be taken to the scene of an incident and that responders have difficulty locating important information in the plan. As a result, most local responders said they prefer to use the chemical inventory form when responding to a chemical incident. An EPA official stated that the risk management plan was intended to serve many purposes, including providing a community with information to assist in development of an emergency response plan and providing responders with hazard information that might not be available from other sources. However, the agency did not design the risk management plan specifically to be used at the scene of an incident.

Regarding the national organizations, four representatives said that the information is not adequate to assist local responders for various reasons. One reason cited was that the information is not current and accurate. For example, the International Fire Marshals Association has concerns about the accuracy of facilities' analyses of community impacts contained in the risk management plans. Another reason is the large amount of information responders receive. For example, a representative from the National Emergency Management Association said that the risk management plan contains too much information, which makes it difficult for responders to know what information is necessary.

In light of the events of September 11, 2001, we asked members of the emergency response community about the adequacy of chemical information to assist them in responding to chemical incidents involving terrorists. The community has diverse opinions about this issue as well. Local responders from six communities believe the chemical information they receive would be adequate to assist them in the event of a chemical incident caused by terrorists. For example, some said that the chemical

information that responders need is the same whether an incident is caused accidentally or by a terrorist act. Responders from two communities said they would consider the information adequate if it had been reviewed and found accurate. Finally, responders from two communities said they did not have adequate chemical information to respond to a terrorist incident but did not provide suggestions to improve the information.

We also asked national organizations for their opinions on the adequacy of chemical information to help responders in the event of a terrorist incident, and three provided comments. The representative for the Chlorine Institute said that the information is sufficient. A representative from one organization, the National Association of Emergency Medical Technicians, said that the outcomes of accidental and terrorist-related chemical releases would be similar but that the latter may pose additional threats to the responders. A representative from the third organization, the National Emergency Management Association, stated that communication between federal law enforcement agencies and local emergency responders is more important in the event of a terrorist incident than the adequacy of federally required chemical information.

Most Members of the Emergency Response Community We Contacted Want More Specific Information on More Chemicals

Although most of the members of the emergency response community that we contacted said the federally required information was adequate, these members generally want more specific information on more chemicals. Their suggestions included (1) lowering or eliminating the thresholds of hazardous chemicals that trigger the requirement for facilities to report them and expanding the list of chemicals to be reported; (2) changing the focus of the risk management plan from worst-case scenario to probable-case scenario; and (3) requiring chemical facilities to report exact quantities of chemicals, rather than ranges, on the chemical inventory form. Members of the emergency response community also had suggestions, not relating specifically to the federally required chemical information they received, that they believe would improve their ability to respond to chemical incidents.

Lower or Eliminate Thresholds for Reporting and Expand List of Chemicals to Be Reported

Many members of the emergency response community made suggestions that they believe would improve the quality of the information reported. Local responders from six communities believe that the thresholds for chemical inventory forms and risk management plans are set too high and suggested that EPA revisit this issue for the most dangerous chemicals.

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- A responder from one community stated that all chemicals on the lists of hazardous substances are dangerous and that chemical facilities should report them if they have them in any quantity.
 - Local responders from another community believe that the threshold for petroleum products should be lowered because these products account for the majority of hazardous incidents in their community.
 - Local responders from three communities suggested expanding the list of chemicals required to be reported in chemical inventory forms and risk management plans. For example, responders from one community would like to see mining chemicals regulated.

Representatives from several national organizations shared the following concerns:

- Representatives from the International Association of Fire Fighters commented that the thresholds for reporting hazardous chemicals are set too high.
- Representatives from the National Volunteer Fire Council suggested that the thresholds should be reviewed on a regular basis.⁶
- Representatives from the American Chemistry Council, the International Association of Fire Fighters, the International Fire Marshals Association, and the National Volunteer Fire Council believe that propane should be included in risk management plans because it poses a greater hazard than other chemicals already included.⁷

⁶An EPA official noted that EPA has reviewed the lists and thresholds, as the Clean Air Act requires be done at least every 5 years, and has made changes. For example, the agency changed the threshold for hydrochloric acid and deleted certain explosives. EPA intends to continue to review the lists periodically.

⁷The Chemical Safety Information, Site Security and Fuels Regulatory Relief Act prohibited EPA from listing a flammable substance used as a fuel or held for sale as a fuel at a retail facility solely because of its explosive or flammable properties, unless a fire or explosion caused by the substance would result in acute adverse health effects to humans. As a result, EPA created a regulatory exclusion for propane when used as a fuel or held for sale at a retail facility; however, propane remains on the list when used for other purposes. For more information, see U.S. General Accounting Office, *Chemical Safety: Status of Changes to the National Fire Protection Association Code for Propane*, [GAO-01-709](#) (Washington, D.C.: July 6, 2001).

Focus Risk Management Plans on Probable-Case Scenarios

Some local responders and representatives of three national organizations expressed concern that EPA and others place too much emphasis on and devote too many resources to developing the worst-case scenario section of the risk management plan.

- Local responders from four communities believe that many chemical facilities are spending most of their efforts analyzing worst-case scenario data when it is highly unlikely that such a scenario will occur.
- A representative from the International Association of Fire Chiefs said that although the worst-case scenario information may be useful, the probable-case scenario is more useful and that fire fighters are interested in the most likely scenario.
- Representatives from the International Association of Fire Fighters stated that responders should not disregard the likely scenario because of focusing on the worst-case scenario.

Report Exact Quantities of Chemicals

Chemical facilities' inventory forms must document the estimated ranges of maximum and average daily amounts of specified chemicals that they handle. For example, one range on the form is from 100 pounds to 999 pounds; another is from 10,000 pounds to 99,999 pounds. Local responders from three communities stated that these ranges are not useful because they lack specificity. Representatives from the International Association of Fire Fighters and the International Fire Marshals Association commented that local responders want chemical information to be reported in exact quantities and not broad ranges.

Provide Other Information or Resources to Help Responders

Members of the emergency response community also noted other types of information and resources they believe would assist local responders when responding to chemical incidents in their communities.

- Local responders from seven communities expressed the following two concerns. They would like to have more information on the chemicals being transported through their communities by road or rail,⁸ and they would like to have additional funding for training and equipment so that they can be better prepared to respond to a chemical incident

⁸An EPA official noted that the transportation of chemicals is within the purview of the Department of Transportation, not EPA. We have other work currently ongoing that will address the safety of the transportation of chemicals.

when it occurs. Officials from the Federal Emergency Management Agency commented that they provide training for local responders to help them respond to chemical incidents. However, they noted that resources are limited and only a small percentage of local responders nationwide have attended their training.

- Representatives from the International Association of Fire Fighters, the International Fire Marshals Association, the National Association of State Fire Marshals, and the National Volunteer Fire Council emphasized that local responders should work with chemical facilities to obtain information through site visits of facilities and by conducting drills.
- Representatives from the International Association of Fire Chiefs, the International Fire Marshals Association, the National Emergency Management Association, and the National Volunteer Fire Council also agreed with the local responders' need for information on transportation of hazardous chemicals.

Some Members of the Emergency Response Community Question the Manner in Which the Federally Required Information Is Delivered

Although most of the local responders we contacted said that the way in which they receive chemical information—in hard copy—is adequate, some responders and representatives of national organizations question the adequacy of this manner of delivery. EPCRA and the Clean Air Act do not specify the form in which responders are to receive chemical inventory forms and risk management plans.

Local responders from eight communities said hard copy delivery of chemical inventory forms is adequate. Local responders from the eight communities that obtained risk management plans also believe hard copy delivery is adequate. Two communities noted that chemical inventory forms are easy to mark and distribute and easy to use in an emergency situation. Moreover, responders from three communities emphasized the importance of hard copy forms for local planners and responders who may not have access to computer terminals or necessary software.

While many responders find the delivery of federally required information adequate, local responders from four communities would prefer to receive chemical inventory forms electronically, and responders from two communities would prefer to receive risk management plans electronically. Although local responders from seven communities manage their chemical information entirely in hard copy, responders from three communities manage it electronically by entering it into a computer

database. In addition, four communities are designing or implementing programs to allow for electronic registering, management, and transmission of chemical information to responders. Local responders expressed interest in variations of electronic reporting.

- A responder from one community hopes to receive chemical information from facilities by E-mail.
- A responder from another community would like the information to be posted on a Web site from which responders could access it when needed. This responder believes that electronic access might allow facilities to more easily update data, thus allowing his response team to obtain current data more quickly.
- A responder from another community wants forms to be transmitted electronically to the response scene.
- Responders from two communities noted the need to secure information transmitted or posted on the Internet.

Finally, responders from two of the same communities that preferred an electronic or combination format for storing and sharing information noted they would likely continue to use hard copy for reviewing information.

Representatives of all eight national organizations that commented prefer electronic delivery, and representatives from several are concerned that local responders are not receiving chemical information electronically.

- A representative from the National Emergency Management Association believes that electronic data facilitates the movement of chemical information.
- Representatives from the National Volunteer Fire Council believe that forms need to be electronic to be useful. They consider hard copy reports extremely difficult for responders to manage given space limitations in the response vehicle and at the scene of an incident.
- A representative from the International Fire Marshals Association commented that he would prefer electronic reporting because data could be updated frequently to assist local responders.

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- A representative from the International Association of Fire Fighters believes that chemical information should be managed electronically in a secure environment.

EPA's Sense of Compliance with the Risk Management Plan Requirements Varies

EPA officials told us that the agency has undertaken several efforts to ensure compliance with the Clean Air Act's risk management program. Based on those efforts, EPA's sense of the extent of compliance varied across the three risk management program requirements that we reviewed. For example, while the agency has had difficulty in identifying the universe of facilities required to file risk management plans, on the basis of outreach activities it has undertaken, the agency believes compliance with the registration requirement to be high. In contrast, EPA's actions to verify the accuracy of the information contained in the registered risk management plans have been limited and, accordingly, the agency cannot be certain of the accuracy of most plans. Finally, EPA does not monitor the extent to which local responders have risk management plans, and therefore does not have a sense of the extent of compliance with this requirement.

EPA Believes Most Facilities Have Registered Risk Management Plans

EPA officials told us that as the risk management program was first being implemented, they took significant steps to identify and notify facilities across the country that were potentially subject to the registration requirement. For example, EPA held outreach meetings and workshops to educate chemical facility representatives about program requirements and conducted mass mailings to facilities citing the types of facilities that should register risk management plans. The work to determine the universe of facilities required to register varied by region, but according to regional officials, it generally included the following efforts.

- Comparing lists of facilities that had registered risk management plans with existing federal chemical information databases, most commonly those containing information about facilities that had registered under EPCRA.
- Consulting telephone directories, library sources, and trade journals and speaking to groups representing small businesses.
- Contacting facilities that might need to register to determine if they were required to do so.

According to the officials, these contacts identified few facilities that still needed to register risk management plans. Those that were identified usually submitted plans as a result of the contact or reduced their chemical inventories below the threshold to avoid having to register. An official in the Office of Enforcement and Compliance Assurance said that EPA had about 100 enforcement actions in process or completed as of September 30, 2001, most of which related to facilities failing to register risk management plans.

Despite its efforts, EPA is uncertain of the number of facilities that are required to register. Before the June 21, 1999, deadline for registering risk management plans, EPA had estimated that about 64,000 facilities would need to register. Subsequently, the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act exempted most facilities that handled propane from the requirement to register plans. With this exemption, EPA refined its estimate to 33,000 facilities. About 15,000 facilities registered by the deadline. According to an EPA official, two factors, other than noncompliance, likely contributed to the difference between EPA's estimate and the actual number of registrants. First, EPA may have overestimated the number of facilities subject to the regulation. Second, some facilities took actions to avoid being regulated under the program, such as reducing chemical inventory below the thresholds that trigger the reporting requirement, replacing a regulated chemical with one not covered by the requirement, or eliminating a particular regulated chemical.

An EPA headquarters official from the office responsible for chemical preparedness noted that registering a risk management plan in and of itself does not necessarily indicate that a facility has undertaken all necessary actions. According to the official, the "paper plan" submitted to EPA captures certain details, but it is the underlying program elements, properly implemented, that protect the public from accidental chemical releases. He stated that there may be facilities that have registered plans with EPA but still have deficiencies in their underlying program.

EPA Has Not Determined the Accuracy of Most Risk Management Plans

Although EPA had reviewed to varying degrees about 15 percent of the risk management plans registered as of the end of fiscal year 2001, the agency does not have a complete picture of the accuracy of most risk management plans. All risk management plans registered with EPA were electronically verified to check for completeness; if all data fields had entries, the plan was considered complete. After that check, EPA reviewed some of the plans for accuracy or internal consistency. As of September

30, 2001, EPA had reviewed about 2,200 of the approximately 15,000 registered plans for accuracy.⁹ These reviews consisted of about 1,500 desk audits of the plans and about 700 on-site inspections. According to an EPA official, the agency's ability to perform more comprehensive reviews has been constrained by resources.

Most regions performed some desk audits, which ranged from reviewing a few elements of the plans to reviewing the entire plan. Most EPA regional officials who performed desk audits said they used guidance issued by headquarters as a basis for their audits or as a supplement to their own procedures. Program auditors in most regions verified that data, such as reported chemical quantities and calculations, were accurate and also that facilities were coordinating with local responders. However, EPA regional officials approached verifying coordination with local responders in different ways. For example, some regional officials considered coordination to exist when a facility held public meetings to discuss its risk management plan with the community; others said that coordination had occurred only if the facility and the community participated in emergency exercises. These varying interpretations can lead to inconsistent compliance monitoring. While EPA has issued guidance to facilities on what constitutes coordination, it has not provided such guidance to the regions.

Officials from all EPA regional offices told us that they had performed some on-site inspections of facilities that have registered risk management plans; however, the number performed in each region varied from 2 to 145. For example, officials from one region responsible for 1,217 risk management plans conducted 30 inspections and found one facility in violation because of a poor quality analysis of the impact on the surrounding community. Officials from another region, where 1,006 facilities registered risk management plans, conducted 105 inspections, finding varying levels of compliance; some facilities needed to update their training, others were not performing scheduled maintenance on equipment, and still others were not implementing the safety procedures listed in their risk management plans. These regional officials told us that all facilities, except one, took action to comply, and EPA filed an enforcement action against the remaining facility.

⁹This figure does not include reviews by state and local governments to which EPA has delegated authority for management of the risk management provisions. Not all of the four EPA regions that have delegated authority to state and local governments had this information readily available.

To supplement its resources for carrying out compliance activities, EPA is considering using private sector EPA-certified auditors to assess the accuracy of risk management plan information. According to an EPA Chemical Emergency Preparedness and Prevention Office official, EPA recently studied the viability of this approach. This official said that the results of the study were promising but that the details of the proposal are not yet complete. Such a proposal would require certified auditors to perform reviews at facilities that had volunteered for this program. The facilities would incur the inspection cost, but they would receive regulatory incentives if they maintained certain safety records. Agency officials have not yet agreed on what the incentives would be. According to an EPA official, the agency's use of similar methods to meet other inspection requirements has improved safety at the facilities and limited the amount of EPA resources spent.

EPA has encouraged states, counties, and cities to apply for the authority to monitor compliance with the risk management program. EPA officials told us that they had originally envisioned that more states and localities would accept responsibility for implementing the program, which they said would have given the agency a better sense of compliance with registration and the accuracy of information reported. However, only 16 locations received delegated authority as of February 28, 2002.¹⁰

EPA Does Not Know the Extent to Which Local Responders Are Obtaining Risk Management Plans

While EPA has addressed facilities' compliance with the registration and accuracy of risk management plans, the agency does not monitor the extent to which local responders have obtained plans. The Clean Air Act requires that risk management plans be submitted to local agencies or entities with responsibility for planning for or responding to accidental chemical releases, but the act does not specify how this is to be accomplished.

¹⁰EPA Region 2 delegated authority to the state of New Jersey, the Commonwealth of Puerto Rico, and the territory of the Virgin Islands; EPA Region 3 delegated authority to the state of Delaware and the county of Allegheny, Pennsylvania; EPA Region 4 delegated authority to the states of Florida, Georgia, Kentucky, Mississippi, North Carolina, and South Carolina, as well as to the counties of Buncombe and Forsythe, North Carolina, the county of Jefferson, Kentucky, and the city of Asheville, North Carolina; and Region 5 delegated authority to the state of Ohio.

EPA issued guidance¹¹ in November 1999 that specified that local responders could obtain risk management plans—with the exception of certain sensitive data, such as specific information about the potential risks to a community—by visiting the agency Web site or by requesting the plans in their entirety from EPA. However, after the September 11, 2001, terrorist attacks, EPA removed the plans from its Web site. According to EPA officials, local responders are still able to request and obtain the plans from EPA, and the agency is currently deliberating whether to return the plans to the Web site. They also noted that both the general public and local responders have access to risk management plans through reading rooms managed by EPA and the Department of Justice and located in 55 major cities across the country and in U.S. territories and commonwealths.¹²

While EPA makes the plans available to local responders, it has taken no specific steps to ensure that local responders actually obtain them. EPA leaves the responsibility for obtaining plans to local responders.

- Responders from 8 of the 10 communities we contacted said that they have obtained the plans, or executive summaries of the plans, for almost all of the facilities in their communities directly from the facilities.¹³
- According to a national survey contracted by EPA and conducted by The George Washington University in 1999, 73 percent of local responders that replied to the survey reported that they intended to

¹¹Environmental Protection Agency. Chemical Emergency Preparedness and Prevention Office. *RMPs Are on the Way! How LEPCs and Other Local Agencies Can Include Information from Risk Management Plans in Their Ongoing Work*. November 1999.

¹²A bill (S. 2579) was introduced on June 5, 2002, that would limit the risk management plan information available to members of the public so that the identity or location of any facility would not be disclosed and could not be deduced.

¹³While our questions addressed risk management plans, we also note that local responders from five of the communities said that they doubt that they receive all required chemical inventory forms. However, the American Chemistry Council, the National Volunteer Fire Council, and the National Emergency Management Association said that, with a few exceptions, they believe most facilities are compliant with submitting the chemical inventory forms.

obtain risk management plans directly from facilities in their communities.¹⁴

- Local responders in two of the communities we contacted said they had not obtained the plans but knew where to get them if needed. Responders from one of these communities said that their state did not participate in the risk management program because it wanted to avoid legal liability if the plan's sensitive data were to fall into the wrong hands.
- A study conducted by the National Institute for Chemical Studies found that local responders from most of the 32 communities they contacted did not obtain or maintain copies of the plans,¹⁵ but an institute representative clarified that these local responders knew how to obtain plans if needed.

Representatives from national organizations expressed the following concerns about whether and how responders are obtaining plans.

- The representatives from the International Association of Fire Fighters and the National Association of Emergency Medical Technicians doubt that all local responders actually obtain the plans.
- The representative from the International Fire Marshals Association, who is also an emergency responder, noted that he has plans only because he has sought them from facilities.
- The representative from the International Fire Marshals Association and the National Association of State Fire Marshals expressed concern that the local responders have to do so much work to obtain the plans.
- Representatives from the International Fire Marshals Association, the National Association of State Fire Marshals, the International Association of Fire Fighters, and the National Volunteer Fire Council

¹⁴Mark Starik et al., "1999 Nationwide LEPC Survey," a report prepared at the request of EPA's Chemical Emergency Preparedness and Prevention Office by the Center for Environmental Policy and Sustainability Management at The George Washington University, May 2000.

¹⁵National Institute for Chemical Studies, "Local Emergency Planning Committees and Risk Management Plans: Encouraging Hazard Reduction," a report prepared at the request of EPA's Chemical Emergency Preparedness and Prevention Office, June 2001.

commented that facility visits by local responders are critical to their obtaining complete chemical information. They also said that local responders do not receive all the plans because either the facilities are not sending them or the plans are becoming caught up in the local bureaucracy and not reaching the local responders.

Agency Comments

We provided EPA with a draft of this report for review and comment. The Director of EPA's Chemical Emergency Preparedness and Prevention Office provided technical clarifications that we incorporated where appropriate. The Director also orally commented that the report fairly and accurately presented information about federally required chemical information and EPA's actions to ensure compliance with the Clean Air Act's risk management provisions.

We are sending copies of this report to the Administrator of the Environmental Protection Agency, appropriate congressional committees, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please call me at (202) 512-6111. Major contributors to this report are listed in appendix III.

David G. Wood

David G. Wood
Director, Natural Resources and Environment

Appendix I: Scope and Methodology

To provide the views of members of the emergency response community on the adequacy of (1) the information in federally required chemical inventory forms and risk management plans and (2) the manner in which that information is delivered, we interviewed 51 local emergency responders (emergency planners and fire fighters) from 10 out of almost 8,000 communities that have at least one chemical facility that registered a risk management plan. We chose the sample of communities to include a variety of concentrations of chemical facilities required to submit risk management plans in different parts of the country. We obtained a copy of the Environmental Protection Agency's (EPA) RMP*Review, which is a database of risk management plans submitted to EPA, as of August 30, 2001; sorted the plans by city; and grouped the cities according to the numbers of chemical facilities that had registered plans in each. The groups were cities with 1 facility; 2 to 5 facilities; 6 to 10 facilities; 11 to 29 facilities; and 30 to 75 facilities. We chose two cities from each group using a random number table. When the two cities we chose for a group were in the same or an adjoining state, we discarded one and chose another to ensure geographic dispersion.

This process resulted in the selection of the following 10 cities: Phoenix, Arizona; El Dorado, Arkansas; Shasta Lake, California; Orlando, Florida; Brownstown, Indiana; Holloman Air Force Base in Alamogordo, New Mexico; Buffalo, New York; Morrisville, Pennsylvania; Houston, Texas; and Wendover City, Utah. We contacted the local emergency planning committees that covered these cities, as well as local responders that the planning committees recommended.

To obtain a national perspective, we interviewed representatives from seven national emergency response organizations, two chemical industry organizations, a federal agency with an interest in chemical emergency response, and one other organization. We chose most of these organizations because they represent responders, the chemical industry, or government officials who are concerned about emergency response. We chose others on the basis of recommendations from officials from EPA's Chemical Emergency Preparedness and Prevention Office. The national organizations whose representatives provided opinions included the International Association of Fire Chiefs; the International Association of Fire Fighters; the International Fire Marshals Association; the National Association of Emergency Medical Technicians; the National Association of State Fire Marshals; the National Emergency Management Association; the National Volunteer Fire Council; the American Chemistry Council; The Chlorine Institute, Inc.; the Federal Emergency Management Agency; and the National Governors Association. Representatives from another five

organizations—the International Association of Emergency Managers, the International Institute of Ammonia Refrigeration, the National Association of Chemical Distributors, the National Association of SARA Title III Program Officials, and the Synthetic Organic Chemical Manufacturing Association—either did not have a national perspective on these issues or did not respond to our inquiries.

To describe EPA’s efforts to ensure compliance with risk management plan provisions and its sense of compliance, we contacted officials from EPA’s Chemical Emergency Preparedness and Prevention Office, which is responsible for the overall implementation of the risk management plan program. We also contacted all 10 EPA regional offices, which are responsible for overseeing compliance, to obtain information on the reviews these offices had performed at chemical facilities. We also met with EPA officials from the Office of Enforcement and Compliance Assurance to obtain enforcement action information and the Office of Solid Waste and Emergency Response to obtain the agency’s RMP*Review database. We did not contact officials from the state and local governments to whom EPA had delegated authority for management of the risk management program.

Appendix II: Sample Chemical Inventory Form

Page _____ of _____ pages
Form Approved OMB No. 2050-0072

Tier Two EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY <i>Specific Information by Chemical</i>	Facility Identification Name _____ Street _____ City _____ County _____ State _____ Zip _____ SIC Code _____ Dun & Brad Number _____		Owner/Operator Name Name _____ Phone () _____ Mail Address _____											
	FOR OFFICIAL USE ONLY		Emergency Contact Name _____ Title _____ Phone () _____ 24 Hr. Phone () _____ Name _____ Title _____ Phone () _____ 24 Hr. Phone () _____											
	ID # _____ Date Received _____													
Important: Read all instructions before completing form Reporting Period From January 1 to December 31, 19 ____ <input type="checkbox"/> Check if information below is identical to the information submitted last year.														
Chemical Description	Physical and Health Hazards <i>(check all that apply)</i>	Inventory	Container Type Pressure Temperature	Storage Codes and Locations (Non-Confidential) <i>Storage Locations</i>	Optional									
CAS _____ Trade Secret _____ Chem. Name _____ Check all that apply: Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/> EHS Name _____	<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)	Max. Daily Amount (code) _____ Avg. Daily Amount (code) _____ No. of Days On-site (days) _____	<table border="1" style="width:100%; height: 40px;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										_____ _____ _____ _____	<input type="checkbox"/>
CAS _____ Trade Secret _____ Chem. Name _____ Check all that apply: Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/> EHS Name _____	<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)	Max. Daily Amount (code) _____ Avg. Daily Amount (code) _____ No. of Days On-site (days) _____	<table border="1" style="width:100%; height: 40px;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										_____ _____ _____ _____	<input type="checkbox"/>
CAS _____ Trade Secret _____ Chem. Name _____ Check all that apply: Pure <input type="checkbox"/> Mix <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> EHS <input type="checkbox"/> EHS Name _____	<input type="checkbox"/> Fire <input type="checkbox"/> Sudden Release of Pressure <input type="checkbox"/> Reactivity <input type="checkbox"/> Immediate (acute) <input type="checkbox"/> Delayed (chronic)	Max. Daily Amount (code) _____ Avg. Daily Amount (code) _____ No. of Days On-site (days) _____	<table border="1" style="width:100%; height: 40px;"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>										_____ _____ _____ _____	<input type="checkbox"/>
Certification (Read and sign after completing all sections) I certify under penalty of law that I have personally examined and am familiar with the information submitted in pages one through _____, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.			Optional Attachments <input type="checkbox"/> I have attached a site plan <input type="checkbox"/> I have attached a list of site coordinate abbreviations <input type="checkbox"/> I have attached a description of dikes and other safeguards measures											
Name and official title of owner/operator OR owner/operator's authorized representative _____		Signature _____	Date signed _____											

Note: Chemical inventory forms are classified as either Tier I or Tier II forms. A Tier I form is the standard form that a facility is required to submit, but a facility may choose, or may be requested, to submit a Tier II form that supplies more specific information. Most of the local responders that we spoke with said that they received Tier II forms.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Linda Libician, (214) 777-5709

Acknowledgments

In addition to the name above, Jeanne Barger, Marwin Brown, Nancy Crothers, Paige Gilbreath, Luann Moy, Pauline Treviso, and Amy Webbink made key contributions to this report.

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