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ENVIRONMENTAL INFORMATION

Agencywide Policies and Procedures Are Needed for EPA's Information Dissemination



**Resources, Community, and
Economic Development Division**

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The Honorable Christopher S. Bond
ChairmanThe Honorable Barbara A. Mikulski
Ranking Minority Member
Subcommittee on VA, HUD,
and Independent Agencies
Committee on Appropriations
United States SenateThe Honorable Jerry Lewis
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U.S. industry uses hundreds of millions of pounds of toxic chemicals each year in producing the nation's goods and services. Release of these chemicals during their transport, storage, use, or disposal as waste can potentially harm human health and the environment. In 1984, a catastrophic chemical accident at a plant in Bhopal, India, killed thousands of residents, injured many others, and displaced many more from their homes and businesses. In the wake of this event, the Congress passed the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). Among other things, the act provides access by individuals and communities to information regarding hazardous materials in their localities. Section 313 of the act generally requires facilities that manufacture, process, or otherwise use toxic chemicals to report the amounts of various toxic chemicals that they release to the environment and requires the Environmental Protection Agency (EPA) to make this information available to the public, which EPA has done in a national database known as the Toxic Release Inventory (TRI). Under section 312 of the act, employers must provide an inventory of hazardous chemicals present at their facilities. This information must also be made available to the public through state and local agencies.

Over the past several years, EPA has expanded the number of reporting facilities and the number of chemicals for which data on their releases are

reported to the TRI. The agency is also considering expanding the type of information reported for the TRI to include detailed data on the use of these chemicals at these facilities. Reflecting concern that communities need data on the risks posed by local toxic releases and that EPCRA may already provide communities with sufficient data on the use of chemicals at these facilities, the conference report accompanying the VA, HUD, and Independent Agencies fiscal year 1997 appropriations bill¹ and subsequent discussions with your staff directed us to determine the status of EPA's efforts to (1) provide communities with risk information on toxic chemical releases in their areas; (2) make EPCRA's chemical inventory information publicly accessible; and (3) develop policies, procedures, and standards for disseminating environmental information to the public.

Results in Brief

EPA has three projects under way that would provide additional data to communities on releases of toxic chemicals from nearby manufacturing facilities. Although these projects are not being designed to comprehensively define an individual community's risks, collectively, they would substantially expand the information available to communities. In addition to the Toxic Release Inventory's quantities of chemical releases, this information is to include data on individual facilities' history of compliance with environmental laws, the relative toxicity of chemical releases, the dispersion of the releases to surrounding areas, and the estimated concentrations of the chemicals in the outdoor air from sources not covered by the Toxic Release Inventory, such as other facilities and motor vehicles. However, each of these initiatives has a different scope and time frame for completion, and it could be several years before the initiatives' full promise would be realized. In addition, the availability to the public of certain data in the first of these projects—the Sector Facility Indexing Project—was delayed because of concerns from state and industry officials about the data's accuracy and how the information may be interpreted by the public.

Although the data from the chemical inventory that is reported under section 312 of the Emergency Planning and Community Right-to-Know Act are potentially useful for such purposes as a citizen's finding out what chemicals are used at a nearby facility, public use has been limited. Much of the information has not been computerized to provide easy access and when it has, it is not available in regional or national databases that permit comparisons among industries or geographical areas. EPA estimates that 868,500 facilities provide local emergency planning committees, fire

¹House Report 104-812.

departments, and the states in which they are located with data on thousands of hazardous chemicals. Industry representatives have stated that the substantial costs of providing the information would be better justified if the public made more use of it. In recent years, EPA has taken some steps to assist local and state efforts to computerize the data, and two EPA regions have initiated efforts to consolidate computerized state databases. While EPA believes that such efforts might prove to be worthwhile, it has not provided funding for nor assessed the potential benefits and costs of developing a national computerized database for this information.

EPA has not developed policies, procedures, and standards to govern key aspects of its projects to disseminate information, such as the Sector Facility Indexing Project. For example, EPA does not have in place agencywide policies and procedures specifying standards and detailed guidance for analyzing whether the information to be disseminated meets users' needs and for obtaining stakeholders' involvement in designing the projects. EPA also has not developed standards to assess the data's accuracy and mechanisms to determine and correct errors. While EPA has several initiatives under way to improve its data management practices, it has no specific plans to provide its program offices with guidance for designing, developing, and implementing their information dissemination projects.

Background

Section 313 of EPCRA generally requires facilities at which toxic chemicals are manufactured, processed, or otherwise used to report annually to EPA and the states on, among other things, releases of these substances. The requirement applies to facilities with 10 or more full-time employees in specified industries that exceed the chemical reporting thresholds specified in the act. EPA makes the data in the TRI available and accessible to the public in various formats, including a computerized database on the Internet. The Pollution Prevention Act of 1990 expanded the information collected in the TRI to include data on the industries' efforts to reduce pollution at its source and on recycling. EPA has further expanded the TRI by, in November 1994, requiring reports on additional chemicals and, in May 1997, requiring reports by additional industrial groups. In October 1996, EPA also announced that it was considering an expansion that would require industries to report the amounts of toxic chemicals entering a facility, transferred into products and waste, and leaving the facility. This concept has been referred to as "materials accounting" or

“chemical use data.” EPA expects to propose a rule on this requirement in 1998.

The TRI currently contains data on the amounts of over 600 chemicals that have been emitted to the environment (the air, water, or land) and/or transferred off-site as waste. Although this information on a nearby facility’s releases provide some indication of potential risk to human health and the environment, local communities also need information on the chemicals’ toxicity—the degree of danger to animal or plant life—and the extent of their exposure to the releases to more fully understand the risks. Even the most toxic chemicals do not cause harm to an individual unless sufficient exposure occurs. More specifically, comprehensive risk information includes data on (1) what chemicals have been released, how, where, and in what amounts; (2) what toxicities are associated with exposure to each chemical and how toxic that chemical is; and (3) who has been exposed to the chemical and how often, to how much, and for how long. The TRI’s information on the amount of releases represents estimated aggregate amounts for a full reporting year. Additional details on the duration or timing of these releases would be needed to more fully understand the risks. For example, a chemical release may be more severe if the releases are concentrated over a short period, rather than occurring in smaller amounts over an entire reporting year.

Almost from the start of the TRI program in 1987, EPA has been asked by communities and other users to expand the inventory to provide them with more information on the risks posed by the chemical releases. More recently, in its April 1995 report on EPA, the National Academy of Public Administration (NAPA) recommended that the agency add risk factors to the TRI.² According to NAPA, the TRI is a useful, but incomplete, tool to inform the public and company officials about toxic releases. NAPA said that, by linking risk information to the inventory’s chemical reports, businesses would have an incentive to reduce the most hazardous emissions first.

Under section 312 of EPCRA, employers must annually submit a hazardous chemical inventory form to designated state and local emergency planning organizations, as well as local fire departments.³ The form generally contains information regarding the amount of hazardous chemicals

²Setting Priorities, Getting Results: A New Direction for EPA, NAPA (Apr. 1995).

³Under section 301 of EPCRA, the governor of each state appoints a state emergency response commission, which then designates local emergency planning districts and appoints a local emergency planning committee for each district.

present at a facility, by category, as well as their general location. The designated recipients of the inventory form may request more detailed information, such as specific chemical identities and exact locations, from individual facilities. The public may generally obtain information submitted under section 312, although the exact locations of chemicals must be withheld under certain circumstances. While section 313 of EPCRA requires TRI reporting on the emissions of over 600 chemicals by approximately 22,000 facilities, section 312 of EPCRA requires reporting on thousands of hazardous chemicals that are present at an estimated 868,500 manufacturing and nonmanufacturing facilities.

In September 1997, EPA announced, as one of its strategic goals, the expansion of the public's right to know about the environment. In addition, EPA announced, as a principle to guide senior management's decision-making and priority setting, that agency actions should maximize public participation and community right-to-know efforts. In making this announcement EPA stated its intent to empower state, local, and tribal governments and the American public by providing citizens with information to help them make informed decisions regarding environmental issues affecting their communities. To do this, EPA said that it would expand the content of its databases, improve the data's quality and usability, and make the data widely available through the Internet and other sources.

EPA's Efforts to Provide Communities With Information on the Risks Posed by Toxic Chemical Releases

Although EPA does not have any plans to expand the TRI to include information on the human health and environmental risks posed by toxic chemical releases, the agency has three projects under way that will provide communities with substantially more data on nearby facilities, the relative toxicity of their chemical releases, and the potential exposure to the releases. Two of these projects—the Relative Risk-Based Environmental Indicators Project and the Cumulative Exposure Project—are efforts by EPA to use toxic release data and other information to improve the agency's consideration of potential health and environmental risks in setting priorities and developing policies, primarily to identify specific chemicals, sources of chemical emissions, or geographic areas for priority action to reduce risks. The other project—the Sector Facility Indexing Project—provides information on the facilities and their environmental performance, including the amounts of their toxic releases and their history of compliance with environmental laws. EPA recognizes that these projects separately and collectively are not definitive assessments of risks to individual communities. Nonetheless, the projects

could expand the information available to the public on the facilities and toxic releases in their areas.

EPA's plans to make the earliest of these projects—the Sector Facility Indexing Project—publicly available generated considerable concern on the part of industry and some states over the accuracy and appropriateness of the data for public use. EPA made substantial efforts to identify and correct the data's inaccuracies and decided to delay including the information on the toxicity of chemical releases, which was controversial with industry and the states, before the project's data were made available on the Internet in May 1998. Unless addressed first, similar issues about stakeholders' involvement, the data's accuracy, and how the information may be interpreted by the public are likely as EPA makes the results of other projects available to the public. For example, the toxicity information that EPA was considering for the Indexing Project is a component of the Relative Risk-Based Environmental Indicators Project.

EPA Does Not Plan to Add Comprehensive Risk Information to the TRI

According to TRI program officials, EPA has no plans to expand the data in the TRI to incorporate toxicity and exposure information. The officials said that, when the Congress was considering the passage of EPCRA, the issue of whether the TRI should contain risk information was debated and it was decided that information on the amounts of toxic releases, which are referred to as hazard information, would be sufficient. The officials further stated that the TRI has worked well in encouraging industry to reduce toxic releases and that it is not practicable to develop and add the information that would be needed to provide the public with accurate assessments of the risks from TRI releases in specific communities.

In its annual summary reports of TRI releases, EPA has added discussions on the potential health and environmental effects of the covered chemicals and on the factors involved in assessing risks. General information on the use and the potential effects of chemicals is also available from various other sources within and outside EPA. For various toxic chemicals, the agency is preparing fact sheets that describe how they are generally used, how exposure to them might occur, what happens to them in the environment, and how they affect human health and the environment.

The information needed to assess risks is often not available. Data on the amounts, the durations, and the methods of individuals' exposure to chemicals is generally limited, and little is known about the toxic effects of many of the chemicals used in commerce. According to EPA, for 43 percent

of the chemicals produced in high volumes, no data from tests on their basic toxicity currently exist. In April 1998, Vice President Gore directed EPA to proceed with the Chemical Right-to-Know Initiative, which is to accelerate the collection and dissemination of information about widely used chemicals to which people, especially children, may be exposed. Major aspects of the initiative involve getting industries to provide more complete test data on chemicals that are produced in high volumes and to perform additional testing for chemicals that children are most likely to encounter as well as having EPA review persistent chemicals that accumulate in body tissues to determine whether these chemicals should be subject to TRI reporting or to lower thresholds for reporting.

The Sector Facility Indexing Project

The Sector Facility Indexing Project, which was initiated by EPA's Office of Enforcement and Compliance Assurance in 1995, provides extensive information through the Internet on over 600 facilities in five major industries: (1) auto assembly; (2) iron and steel production; (3) petroleum refining; (4) pulp manufacturing; and (5) primary smelting and refining of aluminum, copper, lead, and zinc. The project consolidates information that has been available to the public through different data systems, publications, and several places on the Internet. For each facility, the project provides information on its location, production or production capacity, surrounding populations, and permits held under major environmental programs; the number of inspections received; its record of compliance with federal regulations; and any chemical releases, spills, or transfers off-site. According to EPA, facilities can use this project to compare their data against those of similar facilities or simply to monitor their own regulatory performance. Government agencies can use the information as a planning tool, for example, to identify facilities for assistance in complying with regulations. Environmental and community groups will have easier access to information that they can use to learn about the environmental performance of facilities near them.

EPA plans to evaluate the project and may then expand it to include other industry sectors and more types of data. For example, the agency is examining ways to add data about chemicals that are reported under other statutes, such as the Clean Air Act, and data on the toxicity and relative risks of toxic releases—this information is being considered under the Relative Risk-Based Environmental Indicators Project. EPA had earlier proposed to include the toxicity information, but industry and states expressed concerns about the accuracy of the information and whether it would mislead the public about the risks posed by chemical releases.

According to a project official, the agency received comments from many stakeholders that the toxicity data did not go far enough in examining the potential risks and that the risk components should be factored into the project along with the toxicity information. The project official said that toxicity information allows users to examine where potential hazards might be without respect to whether the population might be affected, whereas relative risk-based analysis examines potential interactions between chemical releases, toxicity, weather patterns, chemical dispersion properties, and surrounding populations. The official stated that incorporating relative risk-based information into the project is a long-term goal.

The Relative Risk-Based Environmental Indicators Project

EPA's Office of Pollution Prevention and Toxics initiated the Relative Risk-Based Environmental Indicators Project to use TRI's release information as a measure of the impact of EPA's efforts to improve the environment. The project involves developing a computer model that assigns numeric values to individual risk elements, such as the amount of chemical releases, the chemical's toxicity, and estimates of exposure and exposed populations, so one chemical release can be compared to another. For example, a value is assigned for the toxicity of the chemical release from a weighting index that reflects the toxicity of the chemical relative to others. Similar values are calculated for the other elements and these can then be added together to arrive at a "risk-based" value for a particular release at a facility. In turn, the values for all of a facility's releases can be summed to be analyzed for trends over time or compared with those of other facilities.⁴

According to EPA, the project will enable potential users to analyze the relative risks of releases by medium (i.e., air, water, or land), chemical, geographic area, industry sector, specific facility, or a combination of these and other variables. As a result, users will be able to examine trends or to rank and prioritize the releases for strategic planning, risk-related targeting for enforcement and compliance, and community-based environmental protection purposes.

The model is being tested by EPA's regions, states, and tribal groups and may be made available to a wide audience of users later this year. The model, however, will only provide an indicator value for chronic human health effects through exposure via the air. It will not address acute

⁴The project's purpose is not to formally assess the risks from chemical releases in order to estimate the number of illnesses potentially resulting from a specific toxic release, for example.

human health or ecological effects or other pathways of exposure, such as water.⁵ The model is expected to eventually (1) provide for potential chronic and acute human health and ecological effects and other exposure pathways and (2) incorporate additional census data that will allow users to analyze the effects of chemical releases on exposed populations by such demographics as race, age, and income. According to EPA, the indicators model must often rely heavily on certain assumptions about individual sites because the information is generally not available. Because the model does not produce a formal risk assessment, it is to be used primarily as a risk-screening tool rather than an attempt to quantify the potential health risks to individuals at the community level.

The Cumulative Exposure Project

EPA's Office of Policy, Planning, and Evaluation is developing the Cumulative Exposure Project as a priority-setting and policy development tool. The project is intended to use existing data and methods to estimate a national distribution of cumulative exposures to environmental pollutants, including those reported under the TRI. Because people tend to be exposed through multiple ways to numerous pollutants originating from a variety of sources, EPA proposes to estimate cumulative exposures by combining measured and modeled concentrations of pollutants in the air, food, and drinking water with human activity and consumption patterns. (The TRI's data are used only for the project's air pollutants component.) The ultimate goal is to develop analyses of multiple exposures and multiple pollutants, thereby providing EPA with the ability to identify the potentially most significant environmental exposures (among those considered in the project) and the most affected communities or demographic groups. According to EPA, this information will enhance the consideration of cumulative exposures to pollutants in developing environmental policy.

The project's air pollutants component uses the TRI, other data from EPA on emissions, and a model from EPA on the dispersion of pollutants in the atmosphere to estimate the outdoor concentrations of 148 hazardous air pollutants (also referred to as air toxics) that are regulated under the Clean Air Act. In addition to enabling users to compare concentrations across regions, states, and census tracts, estimates can be developed for subpopulations and for the relative contributions to outdoor concentrations from broad sectors of the economy, such as transportation,

⁵Acute toxicity refers to any poisonous effect produced by a single short-term exposure that results in severe biological harm or death. Chronic toxicity is the capacity of a substance to cause long-term poisonous human health effects.

manufacturing, and waste management.⁶ The significance of the concentrations for a specific census tract can be determined by comparing them to a set of benchmark concentrations derived by EPA from available data for carcinogens (cancer-causing agents) and noncarcinogens.⁷

Officials from the Cumulative Exposure Project expect to complete the air toxics component and make the results publicly available through the Internet by the end of calendar year 1998. This component of the project will provide estimates of the concentrations in the outdoor air of the 148 hazardous air pollutants for 1990 only. EPA's Office of Air and Radiation plans to use the project's model to measure the success of its efforts to control air pollution in reducing exposure to hazardous air pollutants. Data for succeeding years will be needed to determine trends and progress, and the office is planning updating the data. According to project officials, the database is large and adding additional years will be labor-intensive. In addition, EPA's Science Advisory Board, which was established in the Office of the Administrator to provide advice on scientific matters, urged the agency to expand its efforts to measure concentrations of air toxics as part of its work to assess cumulative outdoor levels of air toxics. The Board concluded that the overall conceptual framework for the project was sound but noted that the project suffers or will be handicapped, at least in the near term, from limitations in available data based on actual measurements of concentrations of air toxics.

Opportunities Exist to Increase Accessibility of Chemical Inventory Data

Although the data reported under section 312 of EPCRA can be valuable to local emergency planning committees in their efforts to develop emergency plans and to reduce emergency personnel's exposure to harmful chemicals, the use of the data by the wider public has been limited. The data are compiled on a community and state basis and often are not computerized for easy access. Moreover, the lack of an integrated database makes it extremely difficult, if not impossible, to compare facilities within an industry or to perform regional or national studies or comparisons. During the past few years, two EPA regions have initiated projects to integrate state databases. One of these projects also was intended to assess the potential for a national chemical inventory database. This project was terminated due to other priorities and then resumed with its purpose solely to create a regional database. Although

⁶For census-taking purposes, the United States is divided into over 60,000 tracts.

⁷These previously defined benchmark concentrations for cancer and noncancer health effects are based on standard toxicological references and represent levels of air toxics above which health risks may occur.

EPA considers a national computerized database potentially worthwhile, the agency has no specific plans to assess the feasibility for such a database.

Chemical Inventory Data Can Be Valuable, but Their Use Is Limited

Local emergency planners can use the chemical inventory data to develop plans needed to respond to emergencies, such as spills of hazardous materials in factories. Fire departments and other emergency responders have access to the data to help develop response plans before they arrive at the scene of a chemical accident or at a fire at a facility using hazardous chemicals. People who are considering buying or renting housing nearby also can use the data to learn about the chemicals that are present in that community.

Individual citizens, as well as various local groups, can also use chemical inventory data to improve their ability to protect human health and the environment by engaging in dialogues with industry representatives about reducing chemical risks, preventing accidents, and limiting chemical exposure. According to local emergency planning officials, environmental consultants and attorneys also have requested this information to perform environmental site assessments in compliance with federal and state laws, and environmental groups have requested it to perform studies of chemical risks. The news media may also be interested in this information to inform the public about chemical releases that may have occurred during accidents.

Although chemical inventory data can be useful to local citizens, the information has not been used extensively. A 1994 nationwide study performed for EPA under a cooperative agreement found that most local emergency planning committees received few inquiries from local residents for the data. During the period from June 1993 through June 1994, about 80 percent of the local emergency planning committees that were considered to be functioning received six or fewer inquiries, and more than 40 percent received no inquiries. Eight of the 10 officials of state emergency planning commissions and 19 of the 20 officials of local emergency planning committees that we talked to said that demand for the data was low in their geographic areas.⁸

⁸For each of the 10 states having the highest emissions of chemicals according to EPA's 1995 report on the TRI, we interviewed an official of the state emergency response commission and officials of two local emergency planning committees. The planning committees selected were among those most notable for their efforts in conducting public outreach on the availability of chemical inventory data, according to the state emergency planning commissions.

Industry representatives have expressed concern about this low use, considering their costs to report the data. EPA has estimated that providing the data will cost industry \$247 million during the period from February 1997 through January 2000, and industry representatives have maintained that the costs would be better justified if EPA took actions to improve access to and use of the data. For example, a major oil refiner, concerned about the cost and limited use of the data, suggested that EPA take responsibility for ensuring that the data are computerized to improve access to them. Furthermore, a major industrial trade association said that EPA should make better use of the data before it seeks additional information from industry, such as through its plans to expand reporting requirements for the TRI.

Computerization Could Enhance the Data's Usefulness

While local emergency planning committees and state emergency response commissions are not required to computerize their data, computerization could make the chemical inventory data more useful to the public. For example, according to state and local officials, potential users can more easily aggregate and manipulate the data. EPA has supported efforts to computerize the chemical inventory data. For example, in 1996, EPA's Chemical Emergency Preparedness and Prevention Office provided \$822,000 in computer software to local emergency planning committees and state emergency response commissions to increase their capabilities to computerize their data. A 1997 nationwide study performed for EPA showed that 39 percent of the local emergency planning committees had computerized their data and an additional 42 percent planned to do so. Because of the lack of computerized data, copies of the individual completed reporting forms have to be located and reviewed.

The officials from the local emergency planning committees and from the state emergency response commissions that we interviewed generally believed that access to and use of the chemical inventory data would potentially improve if the data were made available through the Internet. Once available, the data could be used to present different environmental scenarios. For example, in early 1998, an environmental organization used the data to make available on the Internet an accident scenario that showed the number of people vulnerable to potential accidental releases at 10 facilities that were operated by a major chemical manufacturer. The same analysis also provided environmental data showing the percentage of minorities at risk near each of those facilities.

Although none of the local or state officials in our sample had placed chemical inventory data on the Internet, they generally said that they would consider doing so to potentially increase public use of the data. Some states not included in our sample are using or planning to use the Internet to provide such data. Recently, Idaho has used \$75,000 in grant funds from EPA's Chemical Emergency Preparedness and Prevention Office to computerize the state's chemical inventory data and put that information on the Internet. Oregon plans to make its chemical inventory data available on the Internet within the next year.

A June 1998 EPA-proposed rule on EPCRA discusses, among other things, the potential for streamlining facilities' reporting of the data by reducing the requirement for reporting to state emergency response commissions, local emergency planning committees, and fire departments to one central database that would be accessible to all three entities. EPA also suggests that a statewide database on the Internet would provide greatly expanded public access.

EPA's Efforts to Integrate Databases Could Improve the Usefulness of Chemical Inventory Data

Once chemical inventory data have been computerized, their usefulness can be enhanced by integrating the data from various local and state databases to obtain a fuller understanding of the chemicals being stored and used throughout the country. We noted that officials in EPA regions I and IV recently initiated projects designed to integrate chemical inventory data from state databases and to make the data available on the Internet.

In 1995, Region IV (Atlanta) initiated work to integrate data from eight states in the region and to make the integrated database available to users of the data in each of those states. According to a regional official, it is expected that the automated database will be available by the end of fiscal year 1999. While the Region IV project is designed to provide a regional database, another project started by EPA Region I (Boston) envisioned a national database of chemical inventory data. In January 1995, Region I initiated a feasibility study for the database and, in October 1996, awarded a contract for developing software needed to integrate the databases of the six New England states located within the region. Region I intended that the integrated database for the six states would be a prototype leading to a computer system for EPA, the states, environmental groups, and the public to use in accessing national chemical inventory data. With an integrated system, data formats would be the same throughout the country and this would enable users to make comparisons among individual facilities throughout the nation; would provide for local, state, and

regional comparisons of chemical inventories; and would enable users to discern national trends for the quantities of individual chemicals and groups of chemicals.

Although EPA's Chemical Emergency Preparedness and Prevention Office endorsed the Region I project, it did not provide any funding, and in June 1998, the region terminated the software development contract because of higher regional priorities. Subsequently, in July 1998, Region I's manager for that project told us that the region had resumed the project by using regional staff resources. According to the project manager, five of the six states in the region had information in the database and data from the sixth state will be added. At this time, it is uncertain whether EPA will use the regional database as a prototype for a national database.

An official from the Chemical Emergency Preparedness and Prevention Office told us that it is understandable that Region I had earlier terminated the project to focus on other priorities because no legislative mandate exists for EPA to develop either a regional or national database for this information. Nonetheless, the official said it would be regrettable if EPA did not have the opportunity to examine the effectiveness of such databases in making chemical inventory data more accessible and useful to current and potential users. According to the official, his office is concerned that, although EPCRA does not provide for EPA to receive the chemical inventory data and does not make the agency responsible for ensuring that they are accurate, states and industry may hold EPA accountable for the data's quality if the agency aggregates the data from state databases and makes the information available to the public in either regional or national databases. The official said that the data would have to be aggregated from states using varying formats and data elements for the information.

Agencywide Policies, Procedures, and Standards for Public Availability of Project Results Have Not Been Established

EPA's recent efforts to publicly communicate environmental information have brought objections from some state and industry stakeholders who provide and/or use the data. Such stakeholders have stated that, while they generally favor EPA's publicly disseminating data under the agency's "right-to-know" authorities, they are concerned about the manner in which EPA's data dissemination projects have been managed. For example, in questioning the accuracy of EPA's data, state representatives have stated that inaccurate or misleading information provided to the public would result in the unproductive use of federal and state resources in clarifying the data. Industrial stakeholders stated that EPA has not adequately involved them in its information dissemination initiatives and does not

have appropriate agencywide policies, procedures, and standards governing decisions about disseminating data, including mechanisms to identify and correct errors, such as outdated information on facilities in violation of the environmental terms of their operating permits.⁹ State and industrial stakeholders have discouraged EPA from publicly reporting environmental data without assessing their accuracy and effectively communicating to potential users the limitations that should be placed on using the data (e.g., communicating the limitations that apply to using the data as an indicator of risk to human health).

According to industrial stakeholders, EPA has not collaborated with them to identify and resolve concerns prior to disseminating environmental information. For example, industry stakeholders told us that the Sector Facility Indexing Project had been in existence for more than a year before they became aware of it and requested that EPA hold a public meeting to invite their input on the project. Comments from the public meeting, held in May 1997, raised concerns about inaccuracies in the data and a lack of clarifications accompanying the data to help users understand their potential uses and limitations. The stakeholders also maintained that, when they brought errors to EPA's attention, they found that the agency had not established procedures to identify such errors or to correct them after they are found and reported by others.

In response to stakeholders' concerns, EPA held meetings with state and industry representatives to discuss the accuracy of specific data and procedural problems and then incorporated changes based on these meetings, prior to releasing the data from the Sector Facility Indexing Project on the Internet in May 1998. The changes included correcting errors in the data, explaining limitations on how the data can be used, and establishing a feedback mechanism to report errors in the data. However, industry representatives told us that EPA still lacks agencywide policies, procedures, and standards necessary to govern future data dissemination activities, including a clear set of ground rules for stakeholders' participation in data administration. They believe that individual EPA offices currently are given too much authority in determining the value of their projects to potential users and in deciding procedural issues, such as the requirements for the data's accuracy and the extent of stakeholders' involvement in the projects' design and development.

⁹During our review, we interviewed representatives of four industry sectors included in the Sector Facility Indexing Project and representatives of the Coalition for Effective Environmental Information. The coalition represents a variety of industry segments, including petroleum refining, plastics, electronics, forest products, chemicals, and consumer products.

To discuss the concerns about the data's accuracy and procedures that had been raised by state, industry, and other stakeholders, we met with EPA officials responsible for each of the three projects. Although EPA had not established agencywide policies, procedures, and standards for guiding the design of the projects and the release of the information to the public, the officials maintained that, in carrying out the projects, they have made efforts to consider the users' needs, to obtain outside review, and to respond to concerns over accuracy and other issues as they arose. For example, an official of the Sector Facility Indexing Project said that EPA worked for 3 years to identify the facilities to be included in the project and to collect and verify the data. According to the official, each of the facilities received a copy of its compliance and enforcement data for review to help ensure that any problems were identified before the information was distributed, and before the facilities' review, EPA had asked the states to review the data and make appropriate changes. According to the official, facilities commented on the accuracy of 4 percent of the 38,000 major data elements they received for review and about half of their comments were accepted for changes. The official told us that this high rate of accuracy indicates that industry was objecting to the project because of how the information may be interpreted rather than its inaccuracy.

EPA has taken several agencywide actions to address concerns that stakeholders have raised about EPA's information dissemination processes. For example, in April 1998, EPA's Deputy Administrator announced that the agency's Chief Information Officer will lead an effort to develop a strategic plan to implement an agencywide approach to improve the quality of EPA's data. He said that the plan should address the specific roles and responsibilities of program offices and stakeholders and that one of the principal components of the plan should be a strategy to help ensure that "our error correction process is well-defined, efficient, and transparent to our partners, the public, and the regulated community." Initially, the plan was targeted for completion by September 30, 1998, but the Chief Information Officer told us that EPA now plans to have a draft completed by that date and to submit it for review by EPA's Common Sense Initiative Council during its October 1998 meeting.¹⁰ The Chief Information Officer and other EPA officials responsible for the plan's development told us that the plan is a high priority within the agency and that it is being closely coordinated with the Office of Reinvention and the agency's newly

¹⁰The Common Sense Initiative Council was established by EPA in October 1994 as the agency's national advisory committee for formulating recommendations and advice on the nation's pollution control and prevention programs that relate to industrial sectors and was directed by EPA to operate by consensus decision-making.

established Center for Environmental Information and Statistics, which also plays a key role in addressing stakeholders' concerns.

In a February 1997 announcement of plans to establish the agency's Center for Environmental Information and Statistics, the EPA Administrator noted that the Center was being created to improve the agency's collection and management of information and to provide for better public access to "quality-assured" environmental statistics and information. The Center's principal responsibilities include enhancing access to EPA's databases, integrating information across agency programs, boosting stakeholders' participation in EPA's information policy, and helping communities better understand environmental information.

An important function of the Center is to review the degree to which EPA's existing databases can meet the varying demands of a wide range of information users, including community groups, nongovernmental organizations, and state and federal agencies. The Center currently is leading EPA's efforts to assess the overall quality and applicability of 31 of EPA's major national databases. These reviews include assessments of the data's accuracy and limitations. The assessments for accuracy will include quality checks performed by EPA's program offices as well as statistical reviews performed by the Center. Limitation assessments being performed by the Center will focus on identifying databases' constraints with respect to their primary purposes as well as their suitability for alternate uses.

EPA's Chief Information Officer told us that his office has provided program offices with general guidance on issues relating to information resources management. For example, chapter 21 of EPA's Information Resources Management Policy Manual establishes the agency's policy on the public's access to EPA's information. This policy statement establishes the general principles to govern the public's access to and dissemination of information gathered and maintained by EPA and defines the information resources management responsibilities of the agency's various offices. One of the principles set forth is that new and enhanced data systems, data collections, and databases are to be designed with consideration of the need to permit and promote the public's access. However, policies and procedures for program offices to follow in designing, developing, and implementing information dissemination projects have not been issued.

In the absence of such policies and procedures, as noted by a January 1998 EPA advisory council study,¹¹ information management has been administered largely through EPA's program offices by using a decentralized organization and management structure and has typically been shaped by the program offices' policies and procedures to meet the needs of their various internal and external users. The study concluded that inconsistencies have arisen among the programs regarding procedures to determine the data's accuracy, communicate the limitations of their use, and involve stakeholders in information management decisions.

The Deputy Director of the Center for Environmental Information and Statistics and the Chief Information Officer told us that the Center's role and EPA's strategy for improving data's quality are evolving and, in the future, could involve developing guidance for program offices to follow in their information dissemination activities. The Deputy Director told us that such guidance could include policies, procedures, and standards for (1) setting priorities and performing cost-benefit analyses to determine which information projects should receive agency resources, (2) developing standards for the accuracy of data and mechanisms to determine and correct errors, (3) obtaining stakeholders' involvement and analyzing users' needs and (4) establishing other protocols that program offices should follow in designing information dissemination projects. He told us, however, that the Center has no specific plans to develop such policies, procedures, and standards.

Conclusions

EPA is making progress in its efforts to provide communities with more information on releases of toxic chemicals in their areas. The data on hazardous chemicals that facilities must provide under section 312 of EPCRA could be another substantial source of information for communities, if access to the data could be improved through greater computerization. Furthermore, the value of the data could also be increased if they were contained in an integrated regional or national database that allows for comparing nearby facilities with others within an industry or in other geographic locations. Although EPA's Chemical Emergency Preparedness and Prevention Office believes that such databases could have substantial benefits, the agency has not assessed the potential costs and benefits of developing them.

¹¹Managing Information as a Strategic Resource: Final Report and Recommendations of the Information Impacts Committee, The National Advisory Council for Environmental Policy and Technology (NACEPT), EPA (EPA 100-R-98-002, Jan. 1998).

While state and industrial stakeholders have expressed support for EPA's efforts to make more environmental information publicly available, some stakeholders are concerned about how it is being done. Principally, they are concerned about the data's accuracy, the appropriateness of some of the information for the public's use, and how they have been involved in the design and implementation of the projects. Industry representatives have also expressed concern that the data required by EPCRA section 312 are costly to report but used little by the public. EPA has issued a policy statement on public access to the agency's information that provides general principles for its offices to follow and has recently initiated steps to develop a strategic plan to improve its information management. However, it currently has no plans to develop implementing policies, procedures, and standards to help ensure that its offices' information dissemination activities are carried out in accordance with the policy statement.

Recommendations

To help ensure that EPA provides the public with data that are accurate, complete, and relevant to its needs, we recommend that the EPA Administrator supplement the agency's existing policies on information resources management by developing agencywide policies and procedures that specify guidance and standards for program offices involved in designing, developing, and implementing information dissemination projects. Such guidance and standards should address obtaining stakeholders' involvement in the projects' design and development, testing for and correcting errors in the data, and communicating contextual information on the data's uses and limitations.

Given the potential usefulness of EPCRA section 312 data to the public, we recommend that the EPA Administrator evaluate options to make the data more accessible and implement the most cost-effective option that provides availability on a regional and national basis. In implementing the project, EPA should use the policies and standards for dissemination projects that we have recommended.

Agency Comments

We provided copies of a draft of this report to EPA for its review and comment. Representatives of EPA's offices responsible for the activities discussed in the report, including the Chief Information Officer and the Acting Assistant Administrator for Solid Waste and Emergency Response, said that the report, in general, accurately describes the agency's efforts to make information on risks from releases of toxic chemicals available to

local communities, to provide the public with chemical inventory information, and to develop policies for publicly disseminating environmental information. The officials concurred with our recommendation that the EPA Administrator supplement EPA's existing information resources management policy by developing agencywide policies and procedures that specify guidance and standards for program offices involved in designing, developing, and implementing information dissemination projects. However, the Acting Assistant Administrator for Solid Waste and Emergency Response disagreed with our recommendation that the EPA Administrator evaluate options for making the data collected under EPCRA section 312 more accessible and implement the most cost-effective option to make that information available on a regional and national basis.

The Acting Assistant Administrator said that there is no legislative mandate for requiring industry to submit EPCRA 312 data to EPA or for using that data to develop a national database. He also said that it would be difficult to aggregate the data from all the states, many of which have different reporting formats and many of which do not currently computerize the data. In addition, the Acting Assistant Administrator said that the Chemical Emergency Preparedness and Prevention Office does not currently have the resources to develop and maintain such a database. He said that the office's current focus is on implementing section 112(r) of the Clean Air Act, which includes developing a national database of risk management plans that contain a wealth of information on the chemical risks at various facilities. Furthermore, the Acting Assistant Administrator said that any effort to develop a regional and national EPCRA section 312 database should include the involvement of the public and that it is possible, if not probable, that the public would like to know some information not included in the section 312 database and would not be interested in certain data that are included.

Nonetheless, we have retained the recommendation in the report and note that, by calling for EPA to "evaluate options" and "implement the most cost-effective option," the recommendation gives EPA considerable flexibility to overcome the obstacles that the agency described. We recognize that EPA does not have a specific legislative mandate to create a regional or national database of EPCRA section 312 data. However, one of EPA's 10 strategic goals is "expansion of Americans' right to know about their environment," and the agency has been and is currently involved in various activities across its programs to make more environmental information available to the public. Not all of these activities are

specifically directed by legislative mandates. We further recognize that EPCRA does not require industry to submit section 312 reports to EPA. However, as agency officials noted, EPA can request the data from the states.

We are aware that the Chemical Emergency Preparedness and Prevention Office has limited resources and is currently working to implement section 112(r) of the Clean Air Act. Given the potential usefulness to the public, we believe that making EPCRA section 312 data more accessible should be considered in the context of agencywide right-to-know priorities and resources rather than those of the Chemical Emergency Preparedness and Prevention Office. Although certain options, such as EPA's creating and maintaining a unique national database of EPCRA section 312 information, could be costly, the efforts of regions I and IV in integrating the various databases of the states in the regions indicate that low-cost options could be available. Although not all states have computerized databases, EPA, in recent years, has provided grant funds to assist the states in computerizing their data, and about two-thirds of the states have done so.

We agree that stakeholders should be involved in any effort to make EPCRA section 312 data more accessible. In addition to the public, these stakeholders would include emergency planning and response personnel, who need to use the data, and industry, which must report the data. Making more or less of this information available to meet the public's needs would be options to be considered in carrying out our recommendation. In calling for EPA to adopt the most cost-effective option, we recognize that the public's desire for additional information would need to be weighed against the costs of reporting, compiling, and maintaining it.

EPA also provided some technical comments on our draft report. We have revised our report, as appropriate, in response to these comments.

We performed our review from November 1997 through August 1998 in accordance with generally accepted government auditing standards. (See app. I for a detailed description of our scope and methodology.) We are providing copies of this report to other appropriate congressional committees; the Director, Office of Management and Budget; and the Administrator, EPA. We will also make copies available to others on request.

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

A handwritten signature in black ink, appearing to read "P. F. Guerrero". The signature is stylized with a large, looped initial "P" and a long, sweeping horizontal stroke at the end.

Peter F. Guerrero
Director, Environmental
Protection Issues

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Abbreviations

EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-know Act
NAPA	National Academy of Public Administration
TRI	Toxic Release Inventory

Scope and Methodology

To identify the Environmental Protection Agency's (EPA) initiatives to provide additional information on the risks posed by toxic chemical releases to local communities, we held discussions with EPA's Chief Information Officer and officials of EPA's Office of Pollution Prevention and Toxics, which has responsibility for the Toxic Release Inventory (TRI) program; Office of Policy, Planning, and Evaluation; Center for Environmental Information and Statistics; and Reinvention Office. To determine the status of these initiatives, we interviewed officials responsible for implementing the projects and reviewed documents obtained from them. We also reviewed reports and written comments on the projects by EPA's Science Advisory Board, state officials, and industry representatives.

We discussed the projects and EPA's overall efforts to provide environmental information to the public with the Coalition for Effective Environmental Information, which was formed by various industry firms and groups to monitor and provide input on EPA's public information efforts and representatives of various firms and associations, such as those in the mining, petroleum, and chemical industries. In addition, we attended a September 1997 conference of TRI users and held discussions with representatives of the Unison Institute and OMB Watch, who support and are involved in making environmental information available to the public.¹ To determine EPA's policies and standards for providing information to the public, we interviewed the Chief Information Officer and the Deputy Director of the Center for Environmental Information and Statistics.

We discussed how data collected under EPCRA section 312 are made available to the public, the public's requests for access to the data, and ongoing and planned efforts to improve access with selected State Emergency Response Commissions and Local Emergency Planning Committees. Because state-by-state data on the number of facilities reporting under section 312 are not available, we selected the State Emergency Response Commissions of the 10 states that had the largest amounts of TRI chemical releases. For each of these states, we selected two Local Emergency Planning Committees that representatives of their respective commissions indicated were the most active in improving public access to the data. We also contacted state emergency response commissions in two other states that were undertaking initiatives to improve public access.

¹Building for the Future: Toxic Release Inventory and Right-to-Know Conference, organized by the Unison Institute in cooperation with EPA, Sept. 8-10, 1997, Washington, D.C.

Appendix I
Scope and Methodology

We discussed EPA's efforts to improve access to section 312 data with officials of the agency's Office of Chemical Emergency Preparedness and Prevention, as well as EPA Regions I and IV, which at the time of our review had their own projects under way. We also discussed the public's access to and the potential use of the data with various people knowledgeable about that data at EPA as well as in academia, industry, and public interest groups.

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