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Briefing Report to the Chairman
Subcommittee on Oversight and
Investigations, Committee on Energy
and Commerce
House of Representatives

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CHEMICAL EMERGENCIES

Preparedness for and Response to Accidental Chemical Air Releases

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UNITED STATES GENERAL ACCOUNTING OFFICE
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RESOURCES COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

B-222808

June 3, 1986

The Honorable John D. Dingell
Chairman, Subcommittee on Oversight and
Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

In response to your request and subsequent discussions with your office, this briefing report provides information on the efforts of the federal government, state and local governments in three states--Louisiana, Michigan, and New Jersey--and the chemical industry to prepare for and respond to chemical plant[1] emergencies. On March 24, 1986, we briefed your office on the results of our work and as requested have prepared this report, summarizing the information discussed during the briefing.

Our objective was to provide information on efforts to improve local community preparedness and response capabilities for accidental chemical releases into the air. We focused our efforts on the actions taken since the December 1984 accident in Bhopal, India, in which approximately 2,000 people were killed by a hazardous chemical release. To obtain this information, we interviewed officials and reviewed program documents of key federal agencies involved in emergency response activities such as the Environmental Protection Agency (EPA), the Federal Emergency Management Administration (FEMA), three states with large numbers of chemical plants (Louisiana, Michigan, and New Jersey), six local communities and eight chemical manufacturing plants within those three states, and the Chemical Manufacturers Association. A more detailed discussion of our objectives, scope, and methodology is found on page 9.

FEMA allocates financial grants to the states to develop state emergency response plans, and the states further allocate funds to the local communities for development of their emergency response plans. These plans are used for all types of emergencies, including accidental chemical plant releases. Because of the short-term nature of accidental releases from

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[1]For purposes of this report, a chemical plant is defined as a fixed-facility that manufactures, uses, or stores hazardous chemicals.

chemical plants, these plans generally call for local community officials (usually local fire and police personnel) to be the first responders to such an accident. Therefore, aside from providing funding, the federal government's role is primarily to help ensure that local government personnel are prepared and trained to deal with such accidents. To carry out its role the federal government (1) disseminates information on the health effects and hazards of highly toxic chemicals, (2) provides guidance to state and local officials on how emergency response plans should be formulated, (3) establishes review criteria and reviews state and local plans, and (4) provides training to emergency response and preparedness personnel.

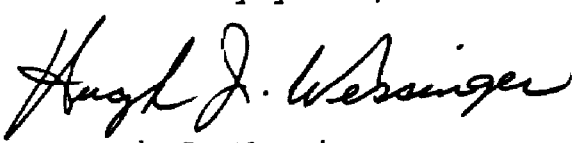
EPA, other federal agencies, states, and private industry have initiated several programs or tried to improve ongoing programs to enhance local community preparedness and response capabilities. In November 1985 EPA initiated its Chemical Emergency Preparedness Program, a voluntary, nonregulatory program whose primary focus is to encourage emergency planning and response capabilities at the local level. As part of this program, EPA published in December 1985 a list of 402 acutely toxic chemicals so that local communities could target their preparedness and response efforts toward facilities that manufacture, store, or use these chemicals. EPA is also working with other agencies through the National Response Team (NRT), a multiagency federal policy coordinating body, to initiate efforts to better coordinate federal emergency response training and to improve local community preparedness efforts. The NRT, for example, is planning to identify problems, gaps, and duplicative activities in federal emergency response training for state and local officials and recommend policy alternatives.

In summary, the role of the federal government is primarily to help ensure that local government personnel are prepared to respond to chemical plant accidents. Many of the federal initiatives have only recently been implemented and it is too early to evaluate their impact on improving local community preparedness and response capabilities. Further, the federal role could change. Although there is no federal legislation requiring emergency preparedness for communities with chemical plants, proposals to reauthorize the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund) contain provisions which would require local governments to prepare response plans and the governors of the states to review such plans. However, in the interim, it appears that to the extent that local communities participate in EPA's voluntary Chemical Emergency Preparedness Program, their ability to respond to an accidental chemical release into the air should be improved. Also, the NRT's initiatives, if implemented, should help improve local communities' preparedness.

We discussed the emergency response activities with EPA and FEMA program officials and have included their comments where appropriate. However, in accordance with your request, we did not obtain official agency comments on a draft of this briefing report.

As arranged with your office, unless you publicly release its contents earlier, we plan no further distribution until 30 days from the date of this letter. At that time copies of the report will be sent to appropriate congressional committees, the Administrator of the Environmental Protection Agency, and the Directors of the Federal Emergency Management Administration and the Office of Management and Budget. If you have any questions, I can be contacted at (202) 275-5489.

Sincerely yours,



Hugh J. Wessinger
Senior Associate Director

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ABBREVIATIONS

AIChE	American Institute of Chemical Engineers
CAER	Community Awareness and Emergency Response Program
CMA	Chemical Manufacturers Association
CEPP	Chemical Emergency Preparedness Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHEMTREC	Chemical Transportation Emergency Center
DOT	Department of Transportation
EPA	Environmental Protection Agency
ERT	Environmental Response Team
FEMA	Federal Emergency Management Agency
GAO	General Accounting Office
NCRIC	National Chemical Response Information Center
NRT	National Response Team
OSHA	Occupational Safety and Health Administration

RCED	Resources, Community, and Economic Development Division (GAO)
RRT	Regional Response Team

U.S. General Accounting Office

BRIEFING REPORT ON FEDERAL, STATE AND LOCAL GOVERNMENT, AND INDUSTRY EFFORTS TO PREPARE AND RESPOND TO CHEMICAL PLANT EMERGENCIES

For the

Subcommittee on Oversight and Investigations
Committee on Energy and Commerce
House of Representatives

OBJECTIVES, SCOPE, AND METHODOLOGY

The Chairman asked us to provide information on the efforts to improve local community preparedness and response capabilities to accidental chemical releases into the air since the December 1984 Bhopal accident.

We conducted interviews with and collected program documents from officials of the following organizations:

--Federal agencies

- Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), Occupational Safety and Health Administration (OSHA), Department of Transportation (DOT), and the Coast Guard
- National Response Team (NRT) - A 12-member federal agency group

--States

- Louisiana, Michigan, and New Jersey
- Six counties or parishes within the three states

--Industry

- Chemical Manufacturers Association (CMA)
- American Institute of Chemical Engineers (AIChE)
- Eight chemical plants

SECTION I

OBJECTIVES, SCOPE, AND METHODOLOGY

At the request of the Chairman, Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, and subsequent discussions with your office, we reviewed the activities of federal, state and local agencies, and industry groups to determine what actions have been taken to improve local community emergency preparedness and response capabilities since the December 1984 Bhopal accident. We focused this review on communities that may experience an accidental chemical release into the air from a chemical plant (which we define as a fixed-facility that manufactures, uses, or stores hazardous chemicals).

To accomplish this objective, we gathered information through discussions with officials of federal, state, and local agencies and chemical industry officials involved in emergency preparedness and response and obtained appropriate documentation. Specifically, we discussed

--legislation pertaining to hazardous chemical spills/releases and legislation concerning emergency preparedness and response,

--guidance for developing emergency response plans,

--the review procedures for such plans,

--the types and the level of funding provided to emergency management officials,

--the designation of responsibilities for responding to accidental chemical spills/releases,

--the level of coordination carried out by the responsible agencies, and

--schedules and descriptions of management and technical training courses available.

We performed our review between November 1985 and March 1986. At federal headquarters offices in Washington, D.C., we contacted officials responsible for chemical emergency preparedness and response activities at the following agencies: the Environmental Protection Agency (EPA); the Federal Emergency Management Agency (FEMA); the Occupational Safety and Health Administration (OSHA); the Department of Transportation (DOT); and the Coast Guard. These officials included EPA and Coast Guard representatives to the National Response Team (NRT), which is a 12-member federal agency group organized to carry out national planning and response coordination. We identified these agencies as being lead actors and heavily involved in emergency

preparedness and response activities through our initial discussions with EPA officials.

To identify the federal regional office roles in providing funds, guidance on developing and reviewing plans, and training, we visited three EPA and FEMA regional offices--New York (Region II), Chicago (Region V), and Dallas (Region VI)--which had states within their region with several chemical plants. Those states we identified as having several chemical plants were New Jersey, Michigan, and Louisiana. We examined each state's legislation pertaining to chemical spills/releases and obtained information from officials of each state's lead agency or agencies on their various emergency preparedness and response activities. We also spoke to emergency management officials in six counties or parishes within the three states to determine their involvement in these activities and their opinions of federal emergency preparedness and response initiatives. Because we focused on only three states with large numbers of chemical plants and six communities within those states, we did not try to make nationwide generalizations based on our state and local information.

To identify private industry's involvement in emergency preparedness and response, we obtained information and documents on the various programs that they sponsor. Specifically, we spoke with officials of the Chemical Manufacturers Association (CMA) whose membership includes 178 chemical manufacturers, which CMA estimates as accounting for over 90 percent of all chemical manufacturing in the United States. We obtained information on CMA's National Chemical Response and Information Center, which was established to provide the public with information about chemicals and to help during emergencies; and the Community Awareness and Emergency Response Program, which was designed to help the chemical industry and local communities prepare for an industrial accident. We also held discussions with an official of the American Institute of Chemical Engineers, a professional society representing the chemical engineering profession, to gain an understanding of their emergency preparedness and response activities.

We also talked to emergency planning and response officials at eight chemical plants located within the three states to obtain information about emergency preparedness and response activities and the extent of their coordination with federal, state, and local agencies.

We discussed emergency planning and response efforts with EPA and FEMA program officials and have included their comments where appropriate. However, in accordance with the requestor's wishes, we did not ask for official agency comments on a draft of this briefing report.

FEDERAL, STATE, LOCAL, AND PRIVATE SECTOR INVOLVEMENT IN EMERGENCY PREPAREDNESS FOR AND RESPONSE TO ACCIDENTAL CHEMICAL AIR RELEASES

--Our review focused on the emergency preparedness of communities to respond to accidental releases from chemical plants.

--There is no federal legislation requiring emergency response plans for communities with chemical plants.

--EPA, FEMA, and other federal agencies have programs related to emergency preparedness and response to accidental chemical releases.

--States, local governments, and the private sector have initiated efforts to improve communities' emergency preparedness and response capabilities.

SECTION II

FEDERAL, STATE, LOCAL, AND PRIVATE SECTOR INVOLVEMENT IN EMERGENCY PREPAREDNESS FOR AND RESPONSE TO ACCIDENTAL CHEMICAL AIR RELEASES

There is no federal legislation requiring emergency response plans for communities near chemical plants. However, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (Public Law 96-510) provides a mechanism for bringing together and coordinating federal agencies' activities in emergency response situations.

For many years several federal agencies have operated programs related to emergency preparedness and response that are intended to reduce risks associated with exposure to hazardous materials. These include EPA, FEMA, the Coast Guard, DOT, and OSHA.

The three states and six local communities that we visited are in various stages of activity in addressing accidental chemical releases. We also found that chemical associations and chemical companies in the communities we visited have undertaken various emergency preparedness and response initiatives.

The following sections will address the federal coordination mechanism outlined in CERCLA; the National Response Team's emergency preparedness initiatives; the roles of key federal agencies; the emergency preparedness programs in the states we visited; and private sector initiatives in these areas.

CERCLA ESTABLISHES A COORDINATING MECHANISM FOR EMERGENCY PREPAREDNESS

--CERCLA requires a National Contingency Plan for coordinating federal agency activity related to emergency preparedness and response.

--National Contingency Plan creates national and regional response teams.

--National Contingency Plan requires EPA and Coast Guard on-scene coordinators.

--Proposed reauthorizations of CERCLA contain provisions that may impact on emergency preparedness for accidental chemical releases.

SECTION III

CERCLA ESTABLISHES A COORDINATING MECHANISM FOR EMERGENCY PREPAREDNESS

Section 105 of CERCLA requires the President to revise and republish the National Contingency Plan for the removal of oil and hazardous substances. The plan is to coordinate federal activity in responding to accidental releases of hazardous materials. The plan was originally published in the 1970's to deal with oil spills in response to Section 311 of the Federal Water Pollution Control Act. EPA issued a proposed revision to the plan on February 12, 1985, and issued the final revision on November 20, 1985.

Under the National Contingency Plan, a National Response Team (NRT) carries out national planning and response coordination and serves as the focal point of a 12-agency, federal emergency response network. The members include the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Interior, Justice, Labor, Transportation, and State; as well as FEMA and EPA. EPA serves as the NRT Chairman, and the Coast Guard (a part of the DOT) is the Vice Chairman. The NRT meets about 12 times per year. It has subcommittees on training and emergency preparedness that also meet periodically.

The National Contingency Plan requires that EPA and the Coast Guard designate on-scene coordinators in federal regional offices and Coast Guard districts across the country. These on-scene coordinators direct and coordinate response actions, bringing in appropriate expertise and resources from other federal agencies when necessary. One of these sources of expertise is EPA's Environmental Response Team located in Edison, New Jersey, which is staffed by specially trained scientists and engineers. The Coast Guard has 49 on-scene coordinators, or one per each of the 49 Coast Guard districts, and EPA has 78, or about 8 per each of the 10 federal regions.

For each of the 10 federal regions, there are Regional Response Teams (RRTs) comprised of representatives from the NRT agencies, as well as state and local governments. According to the National Contingency Plan, the RRTs should, among other things, (1) develop and revise, as necessary, regional response plans outlining the emergency response roles of federal agencies in each region, (2) review regional and local responses to accidental releases, (3) recommend revisions to the national contingency plan, and (4) review actions of the on-scene coordinators to ensure that federally developed regional and local contingency plans are satisfactory.

As of February 1986, there was no federal legislation requiring state or local communities to develop emergency preparedness plans for accidental air releases from chemical plants. However, the Congress has been working to reauthorize CERCLA and the proposed reauthorizations contain several provisions which could impact on emergency preparedness. These include requirements for local communities to prepare emergency response plans and for the state governors to review those plans.

THE NRT HAS INITIATED EFFORTS TO ADDRESS EMERGENCY PREPAREDNESS ISSUES

--The NRT has established a committee to coordinate federal agency emergency preparedness activities and provide guidance to state and local governments on enhancing preparedness.

--The NRT has also established a committee to coordinate emergency preparedness and response training.

SECTION IV

THE NRT HAS INITIATED EFFORTS TO ADDRESS EMERGENCY PREPAREDNESS ISSUES

In 1984 the NRT established a Preparedness Committee to review federal authorities and responsibilities, identify needs, and recommend alternatives to provide maximum federal coordination in enhancing state and local emergency preparedness for all types of hazardous material accidents. As a result of this effort, the NRT developed a position paper in the summer of 1985 outlining a NRT and RRT program for assisting state and local governments with emergency preparedness. The NRT began implementing the initiative in fiscal year 1985, and the RRTs are scheduled to begin implementation in fiscal year 1986. Implementation, however, is contingent upon the NRT and RRTs receiving adequate funding from member agencies.

The goal of the NRT emergency preparedness initiative is to provide active assistance and guidance to the states and local governments and active encouragement to private industry in developing response plans. To carry out the initiative, the NRT will undertake a stronger management and guidance role with the RRTs. For example, the NRT intends to provide the RRTs with annual targets for preparedness activities and will review the RRTs' progress.

Specific activities the NRT and RRTs plan to undertake include the following:

--Planning - The NRT plans to develop criteria and guidance for response plans. RRTs plan to actively assist states, local governments, and private industry in the development and review of their response plans.

--Information sharing - The NRT and RRTs plan to develop a regular program for sharing such information as risk assessments, lessons learned from response incidents, and research and development results.

--Designation of priority areas - RRTs plan to develop a program to identify areas within each region with a high potential for oil or hazardous substance incidents. For example, in September 1985 the Region VI RRT has already identified Baton Rouge and Houston as designated priority areas. In these areas, the RRT will focus on local preparedness assistance.

--Technical assistance - The RRTs plan to identify technical assistance needs and to develop a program to coordinate technical assistance to states and local governments.

During the summer of 1985, the NRT established a training committee. The EPA representative chairs the committee, with the Coast Guard representative serving as co-chair. According to the committee's charge, its purpose is to identify existing authorities, responsibilities, and programs of the NRT agencies that relate to hazardous materials emergency preparedness and response training. The committee is concerned about gaps and duplication in federal training activities. As of February 1986 the training committee was planning to issue a draft strategy paper by late March 1986, which would address many emergency preparedness and response training issues, including coordination of federal training programs, identification of the target audience for training courses, and resources needed to conduct training.

ROLE OF THE ENVIRONMENTAL PROTECTION AGENCY

--EPA has emergency response and planning responsibilities under CERCLA.

--EPA has initiated the Chemical Emergency Preparedness Program, a voluntary initiative addressing emergency preparedness for local communities with acutely toxic chemicals. The primary focus of the program is to

- Develop a list of acutely toxic chemicals and guidance to help state and local governments focus their preparedness efforts.
- Disseminate the list and guidance to state and local communities.
- Provide training and technical assistance to local communities in emergency planning and response.
- Review the program's effectiveness and revise the list of chemicals and guidance, if necessary.

SECTION V

ROLE OF THE ENVIRONMENTAL PROTECTION AGENCY

EPA has taken a lead role among federal agencies in emergency preparedness and response to accidental chemical releases. EPA's authority to participate in emergency response and training stems primarily from CERCLA. As discussed previously, EPA acts as NRT Chairman and co-chairman of the RRTs and provides on-scene coordinators to help respond to emergency releases.

EPA's Environmental Response Team (ERT) provides technical assistance concerning hazardous waste cleanup to EPA regional offices. ERT provides air monitoring, follow-up surveys to accidents, and plant inspection. Of the responses to emergencies, about 15 to 20 a year are responses to chemical plant air releases. In addition to technical assistance, the ERT provides emergency preparedness and response training, primarily to federal, state, and local government employees.

In June 1985 EPA issued a document entitled A Strategy to Reduce Risks to Public Health from Air Toxics, which was the result of its 18-month study addressing both routine and sudden, accidental releases of toxic air pollutants. The strategy outlined EPA's plans to expand its program for emergency preparedness and response to accidental air releases. EPA's plans addressed several issues, some of which evolved into the Chemical Emergency Preparedness Program (CEPP), a voluntary, nonregulatory program whose primary focus is improving emergency planning and response capabilities at the local level. According to an October 1985 CEPP Action Plan Update, the program does not rely on any explicit statutory authority but on EPA's general mandate to protect human health and the environment.

CEPP has four phases. The first phase was accomplished in December 1985 when EPA developed a list of 402 acutely toxic chemicals and associated guidance. The list includes acutely toxic chemicals that EPA believes will be of concern to local communities if an accidental air release occurs. The guidance is intended to help local communities understand the implications of the list and how they might better prepare themselves for such an emergency. EPA requested that comments on the interim guidance be submitted by March 17, 1986. The other three phases of the CEPP are to disseminate the list and guidance to state and local governments; provide training and technical assistance to local communities in contingency planning and developing emergency response capabilities; and gauge the program's effectiveness and revise the acutely toxic chemicals list and the accompanying guidance, as necessary.

Because CEPP is a voluntary program, there is no requirement that state and local governments participate. EPA officials told us that they implemented the program on a voluntary basis because emergency preparedness and response are state and local responsibilities and that CEPP was the best available way to provide federal assistance to the effort. Furthermore, EPA did not believe it had legal authority to require a mandatory program. EPA officials said that EPA did not have the authority to (1) require industry to provide information on chemicals to local governments or (2) require state and local governments to develop emergency response plans. However, they stated that, depending on the version of CERCLA that is reauthorized, EPA's legal authority on these issues may change.

On November 18, 1985, EPA sponsored a nationwide teleconference introducing the CEPP to state and local officials. The teleconference brought in officials from EPA, FEMA, the Coast Guard, DOT, industry, and labor unions to discuss their various roles in emergency preparedness and response and introduced EPA's CEPP interim guidance and the proposed acutely toxic chemicals list. In February and March 1986 EPA also co-sponsored with five other federal agencies a series of hazardous material emergency management conferences to explain federal roles and initiatives, including the CEPP, to state and local officials across the country.

In January 1986 EPA was initiating efforts to work with FEMA in developing an emergency preparedness training program for local communities. The training program is intended to teach state and local officials how to develop response plans for areas where hazardous materials are used, stored, or manufactured.

In March 1986 EPA established a task force to look into the issue of preventing accidental air releases from chemical plants. According to the head of the task force, it will spend a year looking into various issues that impact on prevention, including legal liability of chemical companies.

ROLE OF THE FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION

--FEMA has a broad role in federal emergency preparedness and response activities.

--FEMA allocates funds to states and states, in turn, allocate a portion to local governments for emergency preparedness planning.

--FEMA provides state and local governments with guidance and technical assistance on emergency preparedness.

--FEMA provides emergency response training to state and local officials.

SECTION VI

ROLE OF THE FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION

Under Executive Order 12148, the Director of FEMA is given a broad role in federal activities concerning civil emergency planning, management, mitigation, and assistance. In carrying out this order, FEMA participates actively in the NRT/RRT structure for environmental response. Also, the Disaster Relief Act of 1974 (Public Law 93-288) authorizes FEMA to perform federal response activities if the President declares an emergency or a major disaster as a result of certain events. These include natural disasters and "fire, explosion, or other catastrophe."

Through various programs FEMA provides funding to states and local governments to help with emergency management and planning. For example, FEMA's Emergency Management Assistance Program provides funding for staff salaries and support costs of state and local emergency management operations. In addition, through its Population Protection Planning Program, FEMA allocates grants to the states for the development of state emergency operations plans. The states will, in turn, further allocate the grants to localities for the development of local emergency operations plans. The grants are used to develop emergency operations plans for all types of emergencies, including accidental chemical releases.

FEMA has developed two guidance documents for assisting state and local governments prepare emergency operations plans. The Guide for Development of State and Local Emergency Operations Plans, first issued in April 1982 and later revised in October 1985, describes a recommended form, content, and development process for state and local emergency operations plans. The guide emphasizes that emergency planning should provide for all possible hazards. FEMA's Planning Guide and Checklist for Hazardous Materials Contingency Plans (known as FEMA-10), issued July 1981, is a guide to help local governments prepare a plan to respond to releases of dangerous substances. The document outlines plan development and content and gives guidance for plan review and approval. As of January 1986, FEMA-10 was being revised by FEMA with assistance from EPA and other federal agencies.

In October 1985 FEMA published its Guide for the Review of State and Local Emergency Operations Plans. This document is intended to provide FEMA and state officials with a standard, comprehensive, and practical review instrument to use in determining the consistency and completeness of draft plans.

FEMA provides various emergency response training courses to state and local officials, including training in responding to emergencies involving releases of hazardous chemicals, at its National Emergency Training Center in Emmitsburg, Maryland.

ROLE OF OTHER FEDERAL AGENCIES

--The Coast Guard is active on the NRT, provides emergency response training, and maintains the National Response Center.

--The Department of Transportation issues regulations to protect the public against transporting hazardous materials and provides information, guidance, and training to state and local officials.

--OSHA sets standards, conducts inspections at chemical plants to help prevent worker exposure to accidental air releases of chemicals, and provides worker safety training.

SECTION VII

ROLE OF OTHER FEDERAL AGENCIES

COAST GUARD

Similar to EPA's emergency response authorities for inland incidents, the Coast Guard has been delegated the President's CERCLA response authorities for releases from vessels and facilities in the coastal areas of the United States, the Great Lakes, and in certain ports and river harbors. As discussed previously, the Coast Guard provides the Vice Chairman of the NRT, the co-chairman of the 10 RRTs, and on-scene coordinators in each Coast Guard district.

The Coast Guard has 49 on-scene coordinators who also serve as captains of the Port in each of the designated Coast Guard districts. Each Coast Guard on-scene coordinator develops a federal-local contingency plan that covers emergency planning for various potential accidents in the 49 areas. The plans do not overlap with the areas under the authority of the EPA on-scene coordinator. If an accident occurs within a Coast Guard district, the Coast Guard on-scene coordinator is responsible for directing the federal response. Because of the geographical location of the Coast Guard districts, most of the accidents in Coast Guard areas are transportation-related spills.

To assist the on-scene coordinator in emergencies, the Coast Guard maintains Atlantic, Pacific, and Gulf strike teams that, among other things, help in pollution response emergencies and provide response training for the on-scene coordinators. The Coast Guard also operates a school in Yorktown, Virginia, to provide emergency response training, primarily to Coast Guard staff. Since 1979, the on-scene coordinators and various RRTs have conducted training exercises in which a chemical accident is simulated; these are generally transportation-related and are conducted about six times a year.

The Coast Guard maintains the National Response Center, which acts as the nationwide focal point for information concerning releases of hazardous substances. CERCLA requires any person in charge of a vessel, or an offshore or an onshore facility to report releases of hazardous substances to the Center, which is responsible for notifying other government agencies or states. The Center also provides information regarding the properties of materials and assists with initial emergency response efforts. The Coast Guard has linked its system with the Chemical Manufacturers Association's Chemical Transportation Emergency Center (discussed in detail on p. 37).

DEPARTMENT OF TRANSPORTATION

The Hazardous Materials Transportation Act of 1975 (Public Law 93-633) gives DOT the authority to issue regulations that govern any safety aspect of the transportation of hazardous materials in commerce. Under this authority DOT has issued and is responsible for enforcing regulations pertaining to such areas as packaging, shipping papers, labels, marking, and prohibitions of shipping certain materials in various transportation modes. These regulations are designed to promote safety and provide information (e.g., placards) so that emergency responders may deal more effectively with an accident.

DOT's program is also relevant to chemical plant accidents. For example, DOT provides information and guidance to those planning for or responding to hazardous materials accidents. The most widely distributed publication is the Emergency Response Guidebook which provides information on the potential health, fire, and explosive hazards of various chemicals and recommends initial responses to releases of such chemicals. DOT has also sponsored various demonstration projects in planning and managing hazardous materials emergency preparedness programs. In addition, DOT offers training through the Transportation Safety Institute located in Oklahoma City, Oklahoma. The classes offered are primarily related to enforcement of DOT regulations, rather than response-related training, with about 80 to 90 percent of the students being law enforcement personnel.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The Occupational Safety and Health Act of 1970 (Public Law 91-596) empowers OSHA to set standards to protect the safety of workers, including those working with hazardous chemicals. The act also allows OSHA to issue a "temporary emergency standard" if employees are exposed to "grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards."

OSHA officials estimate that they conduct between 1,000 and 1,500 inspections per year at chemical plants to ensure that its standards are being met. In 1984 OSHA conducted 1,241 inspections, and states conducted 907 OSHA-related inspections in the chemical industry. Because of the large number of chemical plants (OSHA officials estimate about 10,000) in the United States, OSHA officials told us that they focus their inspections on those chemical plants with high injury or illness rates.

In January 1986 OSHA initiated in eight OSHA area offices a pilot inspection program that targets chemical plants producing highly toxic chemicals. In these areas OSHA inspectors will conduct inspections that are more thorough than the typical OSHA chemical plant inspection. OSHA plans to conduct 80 such inspections in fiscal year 1986. OSHA officials told us that they

initially planned to use the acutely toxic chemicals list developed by EPA to determine which chemicals to target. However, because EPA has not ranked these chemicals, OSHA may use another list developed by the International Labor Organization.

On November 25, 1983, OSHA published its Hazard Communication Standard, requiring chemical manufacturers to provide information on chemical hazards to employees. The standard specifies that chemical manufacturers and importers develop labels and material safety data sheets to apprise employees about chemical hazards in the workplace. This aspect of the standard was implemented on November 25, 1985. The standard also requires that by May 25, 1986, chemical manufacturers and importers provide training to ensure that employees working with chemical substances know what the hazards are and what precautions should be taken when handling the chemicals. On November 27, 1985, OSHA requested public comments on a proposal to expand the Hazard Communication Standard to industries other than manufacturers, importers, or distributors. The public comment period closed on February 25, 1986, and as of March 1986, OSHA was evaluating those comments.

STATE EMERGENCY PREPAREDNESS AND RESPONSE PROGRAMS

--All three states (Louisiana, Michigan, and New Jersey) have emergency response plans and have identified lead agencies for emergency preparedness and response.

--All three states have community right-to-know laws to help them obtain information on chemicals in their states.

--Each state requires the chemical facility experiencing the accident to promptly notify local and state emergency response offices.

--Local and state government officials (police or fire personnel), along with chemical company personnel, are the first responders to toxic chemical accidents.

--State policies have different requirements for local community development of emergency response plans.

--Some states provide emergency response training to local governments.

SECTION VIII

STATE EMERGENCY PREPAREDNESS AND RESPONSE PROGRAMS

Our review included three states--Louisiana, Michigan, and New Jersey. In these states, we discussed emergency preparedness and response policies with officials of the state agencies and local agencies (1 parish in Louisiana, 3 counties in Michigan, and 2 counties in New Jersey). The emergency preparedness and response activities of these three states are summarized below.

Existence of state plan: Each of the three states has an emergency response plan. However, Michigan's and New Jersey's plans did not, as of January 1986, specifically address technological disasters such as chemical plant releases. According to Michigan officials, this portion of the plan will be developed during fiscal year 1986. New Jersey also plans to eventually develop a section of the plan addressing chemical spills and releases.

Lead agencies: In Louisiana, the Department of Public Safety and Corrections is the state lead agency for hazardous material emergencies. Within the Department, responsibility is divided between the state police and the Office of Emergency Planning. In Michigan the state police is the lead agency with responsibility divided between its offices of the State Fire Marshall and Emergency Management. In New Jersey, the lead agency responsibility is shared by the State Police's Office of Emergency Management and the Department of Environmental Protection.

Community right-to-know legislation: Community right-to-know provisions generally require industry to provide information to state or local authorities and/or the public about the hazardous materials they use or produce. Each of the three states has a right-to-know law. New Jersey's community right-to-know law was signed in August 1983. It requires companies producing any of approximately 1,000 chemicals to provide this information to the local communities. Louisiana's community right-to-know law was signed in July 1985. As of February 1986, the state police were writing regulations for implementing the law; the regulations are scheduled to go into effect on May 20, 1986. Michigan's Governor signed community right-to-know legislation on April 7, 1986.

Notification: Each of the three states we visited requires a chemical facility experiencing certain releases to promptly notify local and state emergency response offices. For example, a 1985 New Jersey law requires that anyone causing a release that jeopardizes the public must report it to the State Department of Environmental Protection. Michigan state law requires that "immediately following a fire, explosion, spill, leak, accident, or related occurrence which involves the transportation, storage, handling, sale, use, or processing of hazardous materials by a

State Fire Marshall and local fire department. An October 1985 report by the Governor's Chemical Safety Task Force stated that this provision had not been enforced because of, among other things, the lack of clear definition of a hazardous material incident. In Louisiana, various state laws require chemical companies to report hazardous releases to the state officials. A state police official told us that the state laws have not been too successful to date in getting people to report accidents but that the state's new community right-to-know law should help in this regard.

First responders: Federal, state, and local officials we interviewed generally agreed that, aside from plant personnel, local and state government officials are the first responders to accidental air releases from chemical plants. These officials told us that the nature of these releases is usually such that--like the disaster in Bhopal, India--the duration is not extensive. As a result, it is the responsibility of the first responders to deal with these accidents. These first responders will generally be local police or firefighters though in some cases it could be state officials, such as the state police.

Local plan requirements: In Louisiana, each parish is required to prepare a multihazard emergency response plan which should address chemical emergencies, if applicable to the parish. The parish we visited has an emergency response plan that addresses chemical releases. In New Jersey, state law requires each county to maintain a multihazard plan and stipulates that local governments (towns and townships) "should" prepare plans. These plans may not specifically address chemical accidents, but the two counties we visited have emergency response plans that address accidents involving hazardous materials. Since only 150 of the 567 local government entities have plans consistent with FEMA guidance, the state is considering requiring local plans. Michigan does not require emergency response plans from its counties, although the three counties we visited have general plans that can be adopted to any kind of emergency. One of these counties also has site specific plans for responding to chemical emergencies at various chemical plants.

State training: Both Louisiana and Michigan provide emergency response training for local emergency response personnel. For example, Louisiana's Environmental Response Fund provides about $100,000 per year to fund a hazardous materials emergency response course for management and response personnel. In fiscal year 1985, Michigan provided 202 firefighter training programs, which included the handling of hazardous materials emergencies. New Jersey relies on the counties to provide such training but will assist the county training coordinators upon request.

CHEMICAL COMPANY ASSOCIATIONS HAVE INITIATED SEVERAL PROGRAMS TO ADDRESS EMERGENCY PREPAREDNESS AND RESPONSE

--The Chemical Manufacturers Association established a National Chemical Response Information Center.

--The Chemical Manufacturers Association implemented a Community Awareness and Emergency Response Program.

--The American Institute of Chemical Engineers is working with EPA to implement EPA's guidance for developing community preparedness programs.

SECTION IX

CHEMICAL COMPANY ASSOCIATIONS HAVE INITIATED SEVERAL PROGRAMS TO ADDRESS EMERGENCY PREPAREDNESS AND RESPONSE

In response to the Bhopal incident, the Chemical Manufacturers Association (CMA) is implementing new programs and upgrading and expanding several existing programs. CMA has about 178 members which, according to its own estimates, account for more than 90 percent of the production of industrial chemicals in the United States.

CMA established the National Chemical Response and Information Center (NCRIC) in March 1985. The center was established to provide the public with information dealing with chemicals during emergencies and operates through four programs.

--The Chemical Transportation Emergency Center (CHEMTREC) was established in 1971 to provide information and/or assistance to those involved in responding to chemical transportation accidents. In May 1985 CMA expanded CHEMTREC to include nontransportation emergencies and, as of January 1986, plans to increase its capabilities to provide medical advice to physicians treating those exposed to chemicals (by establishing a direct contact with chemical company medical personnel). CHEMTREC operates 24 hours a day, 7 days a week, and has a toll free 800 number.

--CMA established CHEMNET, a mutual aid chemical network between chemical shippers and four contractors (as of January 1986) located in four areas of the country that provide assistance at the scene of chemical accidents. CHEMNET is available to all chemical shippers that have signed an agreement with CMA. As of January 1986, 61 chemical shippers had done so.

--CMA has developed a 3-prong emergency response training program. First, in 1978 CMA began holding emergency response team workshops to help prepare these teams to handle hazardous incidents. Through April 1985, CMA sponsored 27 of these workshops and its future plans call for holding 3 workshops a year. Second, in September 1985, CMA developed a library of audio-visual training programs on how to handle hazardous incidents. By January 1986 the library contained 15 training programs and CMA estimated that about 18,000 persons had viewed a program. Third, in December 1985, CMA developed a videotape for first responders (who are generally firefighters, policemen, and emergency medical personnel), demonstrating the proper ways to handle a hazardous chemical incident. As of January 1986, CMA estimated that it sent out about

400 copies of the videotape to government and industry emergency response officials.

--CMA instituted a Chemical Referral Center in December 1985 to help users of chemicals, transportation workers, and the general public obtain safety and health information about chemicals. Unlike CHEMTREC which is to be used in emergencies, this is a nonemergency service that is reached through a toll free number that operates between 8:00 a.m. and 9:00 p.m. Eastern Standard Time. In January 1986 CMA estimated it received about 30 calls per day.

CMA also implemented a Community Awareness and Emergency Response (CAER) Program in 1985. The program is designed to help the chemical industry and local communities prepare for an industrial accident. CAER encourages local chemical facilities to reexamine their emergency response plans to determine how they fit with other community plans. The specific objectives of the programs are to (1) provide information to the public on hazardous chemicals; (2) review, renew, or establish emergency response plans; (3) expand the chemical industry's involvement in community response planning and emergency networks; (4) integrate chemical plant emergency response plans with other community emergency response plans to form an overall plan for handling emergencies; and (5) involve members of the local community in developing and implementing emergency response planning.

CMA has conducted regional workshops to aid plant managers in understanding and implementing CAER. According to CMA officials, as of January 1986, 174 companies (including 4 or 5 non-CMA members) are participating in the CAER program at about 1,200 plant sites. In May 1985 CMA distributed the CAER handbook to plant managers and then conducted about 10 training sessions on emergency response training. CMA officials hope to have draft plans reviewed and approved by local officials and conduct a test of each plan by December 1986.

In addition to CMA, the American Institute of Chemical Engineers (AIChE), a professional society representing the chemical engineering profession, has also been active in chemical accident-related activities. In January 1985 AIChE established the Center for Chemical Process Safety. The purpose of the center is to conduct research and provide objective technical information on issues related to the prevention of accidents in the manufacturing, handling, and storage of toxic and/or reactive materials. The center has budgeted 1 million dollars for these efforts per year and plans to supplement AIChE funding with grants from both private industry and the government.

As of January 1986, the center's efforts consisted of four projects:

--Development of a document entitled Guidelines for Hazard Evaluation Procedures. Written by Battelle Corporation, under contract with the center, the document describes the

hazard evaluation procedures that many companies are currently using to reduce the risk of chemical process accidents.

--A safety training program that probably will include developing self study materials to sell to chemical processors. The center also plans to integrate safety issues into college level classes.

--Research in safety procedures for bulk storage and handling.

--Research on vapor cloud dispersion models. First, the project will examine what models are currently available. Then, the researchers may evaluate existing models and design new monitoring devices.

The AIChE is also working with EPA to implement its guidance for developing community preparedness programs. Since much of the guidance is highly technical, EPA has requested that AIChE provide personnel to help local communities develop response plans. As a result, AIChE is implementing a pilot program for a limited number of areas. As a part of the pilot program, AIChE members living in these areas, many of whom are retired chemical engineers, will volunteer to assist the local communities in their planning efforts.

CHEMICAL COMPANIES WE VISITED HAVE INITIATED EMERGENCY PREPAREDNESS AND RESPONSE PROGRAMS

--GAO visited eight chemical plants in three states.

--Each of the chemical companies have emergency response plans and most undertake practice drills.

--Five of the eight chemical companies have participated in CMA programs.

SECTION X

CHEMICAL COMPANIES WE VISITED HAVE INITIATED EMERGENCY PREPAREDNESS AND RESPONSE PROGRAMS

Table 1 lists the eight chemical plants in the three states we visited:

Table 1: Chemical Companies Visited

Company	Location	Approximate employment
Ethyl Corp.	Sayreville, NJ	30
Exxon Chemical Americas	Baton Rouge, LA	1,300
NOR-AM Chemical Co.	North Muskegon, MI	50
Occidental Chemical Corp.	Burlington, NJ	450
Realex Corp.	Baton Rouge, LA	45
Rhone-Poulenc Inc.	New Brunswick, NJ	60
Stauffer Chemical Co.	Baton Rouge, LA	150
Sybron Chemicals Inc.	Birmingham, NJ	225

All eight companies we visited have emergency preparedness plans for accidental chemical releases into the air that outline the notification and response procedures of plant and community personnel. According to company officials, these plans are reviewed periodically. Table 2 contains information we obtained from company officials on emergency preparedness drills and actual implementation of plans at the companies' facilities:

Table 2: Chemical Plant Response Drills

Chemical plant	Nature of emergency response drills	Number of releases for which plans have been implemented
Ethyl	Annual exercises with local police and fire departments participating	1
Exxon	In-house drills; calls to local agencies are sometimes simulated	unknown
NOR-AM	Annual exercise with plant and local authorities	0
Occidental	Twice annually with local fire officials involved once a year	1
Realex	No drills held	0
Rhone-Poulenc	Two drills per year with local fire department	0[a]
Stauffer	In-house drills held	about 2 times per year
Sybron	Two in-house drills per year (four drills planned for 1986, two of which will include local authorities)	0

[a]Several releases reported for internal notification.

Officials from five of the companies we visited are actively participating in CMA's CAER Program workshops. One safety official from Sybron in Birmingham, New Jersey, attended a CAER workshop, but his plant has decided not to participate in the CAER program at this time. Two companies we visited are not participating in any emergency preparedness-related CMA initiatives.

STEPS TAKEN TO COORDINATE THE FEDERAL ROLE IN EMERGENCY PREPAREDNESS AND RESPONSE ACTIVITIES

Federal coordination activities generally occur in four areas:

--providing scientific information on chemicals of concern to local communities;

--providing guidance on developing emergency preparedness plans to state and local governments;

--reviewing local community emergency preparedness plans; and

--providing training in emergency preparedness and response for state and local officials.

SECTION XI

STEPS TAKEN TO COORDINATE THE FEDERAL ROLE IN EMERGENCY PREPAREDNESS AND RESPONSE ACTIVITIES

Federal, state, local, and private industry officials basically agree that local officials will generally be responsible for responding when a chemical is accidentally released into the air from a chemical plant (like that which occurred in Bhopal, India). The nature of these releases is often such that they are into nearby communities and dispersed by the wind before federal or sometimes even state officials can be notified.

As a result, aside from the funding provided by FEMA, the federal role in helping communities prepare for such accidental releases generally consists of (1) providing scientific information on chemicals of concern to local communities, (2) providing guidance on developing emergency preparedness plans to state and local governments, (3) establishing review criteria and reviewing state and local community emergency preparedness plans, and (4) providing training in emergency preparedness and response for state and local officials.

We discuss each of the four federal efforts on the following pages.

EPA IDENTIFICATION OF 402 ACUTELY TOXIC CHEMICALS

--EPA identified acutely toxic chemicals as part of its Chemical Emergency Preparedness Program.

--EPA's Science Advisory Board reviewed criteria used in developing the acutely toxic chemicals list.

--EPA expects states and local communities to determine where these chemicals are manufactured, used, or stored.

--EPA has no plans to rank the chemicals on the acutely toxic chemicals list.

--State and local officials have different plans for using the list of acutely toxic chemicals.

SECTION XII

EPA IDENTIFICATION OF 402

ACUTELY TOXIC CHEMICALS

A major component of EPA's Chemical Emergency Preparedness Program (CEPP) is to identify acutely toxic chemicals so that local communities can target their preparedness and response efforts on these chemicals. On December 17, 1985, EPA published a list of 402 acutely toxic chemicals. EPA believes that these chemicals, if released in sufficient quantities, could produce immediate adverse health effects to nearby populations unless appropriate emergency response action is taken. EPA also published guidance for states and local communities to use in determining the presence of chemicals in their communities and in developing or improving local emergency response plans if an accidental release of any acutely toxic chemical occurs.

The list is comprised of what EPA terms as 379 acutely toxic chemicals and 23 "other chemicals" that may be of concern because of their high production capacity and identification by international organizations as toxic substances. EPA's CEPP Interim Guidance states that many of these 23 other chemicals are widely used in commerce with little danger of serious accidents resulting in acute toxic effects. The guidance notes, however, that an accidental release of a large concentrated volume of one of these other chemicals would be of concern.

EPA also issued a chemical profile for each of the 402 chemicals. The profile is a summary of information on the chemicals, including discussions on reactivity, health hazards, and fire and explosion hazards.

REVIEW OF LIST

EPA's Office of Toxic Substances was the lead office in developing the list and CEPP guidance. EPA began developing the criteria for determining whether a chemical should be considered as acutely toxic in early summer 1985. In August 1985 EPA presented its draft criteria for developing the list to the Acute Toxics Subcommittee of the Science Advisory Board. These criteria included health (such as acute lethality and reproductive effects) and exposure (such as boiling point, flammability, and reactivity) factors. On September 23, 1985, the Board's Acute Toxics Subcommittee sent a letter to EPA summarizing its opinions of the document, concluding that EPA had made a reasonable beginning but noting that the criteria had some problems. The Subcommittee stated that the documentation needed considerable expansion and refinement from the draft that the Science Advisory Board was given to review. The Subcommittee also indicated that EPA should stress the criteria rather than the list. Because of the large number of chemicals in use, the diverse toxicities of the chemicals, and their different characteristics affecting human

exposure, the Subcommittee stated that it was not appropriate to expect the list alone to provide more than a rough screen to identify hazardous chemicals.

According to officials in EPA's Office of Toxic Substances, EPA fully incorporated the Subcommittee's suggestions into the final criteria and list. They have requested that the Science Advisory Board review the list in early 1986 but, as of January 1986, no review date had been established.

The list was developed by using several sources of acutely toxic chemicals, including the National Institute of Occupational Safety and Health's Registry of Toxic Effects of Chemical Substances, EPA's 1977 Toxic Substances Control Act inventory, and EPA's list of active pesticide ingredients. Because EPA's toxic substance inventory information is out of date, EPA officials believe that about 140 of the 402 chemicals on the list are not currently being produced. EPA officials who developed the list also emphasize that the list is not inclusive and that many harmful chemicals may be omitted. They believe that the list is a starting point for further investigation by communities.

EPA EXPECTS STATES AND LOCAL COMMUNITIES TO LOCATE CHEMICALS

EPA officials told us that they do not know where or in what quantities the various acutely toxic chemicals are manufactured, used, or stored. They explained that they expect the various states and local governments to identify whether any of the chemicals on the EPA list are being used, manufactured, or stored in their respective communities. The CEPP interim guidance included a chapter for local government officials to use in gathering information on the location of acutely toxic chemicals and whether they pose potentially significant risks to public health and safety. EPA expects state and community emergency response personnel to work with local industries in determining the locations of these chemicals in the communities and then to assess the adequacy of local emergency response plans.

According to an October 1985 National Governor's Association Paper, about 20 states have community right-to-know provisions that should facilitate their ability to determine whether the chemicals on the acutely toxic list are located in their jurisdictions. Several other states have worker right-to-know laws. As previously discussed, each of the three states we visited has a community right-to-know law. Officials from those states believe that the laws will help local communities determine whether facilities within their jurisdictions have any of the EPA-identified chemicals.

CHEMICALS NOT PRIORITIZED

EPA has no plans to rank the chemicals on the list. OSHA officials told us that they had hoped that EPA would rank the

chemicals on the list so that OSHA could use the list to help them prioritize OSHA plant inspections.

The Science Advisory Board advised against EPA's ranking the chemicals because the test data are not sufficient to rank the chemicals by toxicity. Additionally, the potential risk of a given chemical depends on numerous site-specific factors, such as the quantity produced and the distance from potentially exposed populations.

STATE AND LOCAL GOVERNMENT OPINIONS ON THE CEPP AND LIST OF 402 CHEMICALS

Because the CEPP has only recently been implemented, it is difficult to gauge the effectiveness of the program or the usefulness of the acutely toxic chemicals list. According to a November 13, 1985, internal FEMA memorandum concerning the CEPP, some states have not made a strong commitment to implement the CEPP and lack of funding will be a strong consideration in determining their level of participation. According to the memorandum, some states question their ability to identify the acutely toxic chemicals in those local jurisdictions that do not have the capacity to do so.

The Executive Secretary of the State and Territorial Air Pollution Program Administrators told us in February 1986 that some state air pollution control officials were concerned that the CEPP was a voluntary program and that EPA was not providing any funding to accompany participation in the program. He noted that the program does have some positive aspects, including the fact that it has helped raise public awareness about the need for preparedness and that additional training may be provided in the future.

As of February 1986, officials in the three states we visited had received the list of acutely toxic chemicals and were forwarding it to their local communities. Of the six communities we visited in the three states, one had not yet received the list; the other five were using it in different ways. An official in one Michigan County told us that he had forwarded the list to the county health department to use in locating plants that use or store 5 gallons or more of any of the substances. A Louisiana local official said that he plans to use the list in training courses to make first responders aware of the dangers of the substances on the list. A New Jersey county official told us that the EPA list will be helpful because it narrows the universe of those chemicals for which his office will focus its preparedness and response activities.

FEDERAL GUIDANCE TO STATE AND LOCAL AGENCIES FOR USE IN PREPARING EMERGENCY RESPONSE PLANS

--Both FEMA and EPA provide guidance to state and local agencies for use in preparing emergency plans.

--Overlap in federal guidance may cause confusion at state and local agencies.

- Different federal guidance documents may cause confusion by appearing to call for separate plans.

- States included in our review are clarifying how the CEPP interim guidance is to be used by local agencies.

SECTION XIII

FEDERAL GUIDANCE TO STATE AND LOCAL AGENCIES FOR USE IN PREPARING EMERGENCY RESPONSE PLANS

As previously discussed, FEMA has two guidance documents that can be used to help state and local officials develop emergency preparedness plans for chemical accidents. One of these guidance documents addresses planning for multiple hazards, including chemical accidents, while the other is designed for chemical releases only.

FEMA's Civil Preparedness Guide (CPG 1-8) entitled Guide for Development of State and Local Emergency Operations Plans, first issued in April 1982 as Local Government Emergency Planning and revised in October 1985, gives state and local officials guidance on the form, content, and development process for state and local emergency response plans. These plans should address all types of disasters, such as natural disasters, nuclear attack, nuclear disasters, and technological disasters (including accidental chemical releases).

In July 1981 FEMA issued its Planning Guide and Checklist for Hazardous Materials Contingency Plans (known as FEMA-10), a guide for state and local officials in developing a plan for responding to hazardous chemicals spills, including vapor clouds. According to FEMA's Director, Emergency Management Program Office, FEMA-10 is intended as a supplement to CPG 1-8 for those developing multihazard emergency response plans, and/or a guide for those developing distinct hazardous materials response plans. FEMA-10 provides guidance on the (1) planning process, (2) duties and responsibilities of planners, (3) plan development and content, and (4) plan appraisal and updating. FEMA, with the assistance of EPA and other federal agencies, is currently revising FEMA-10. The revision is due in 1986, after public comments are received in March 1986 on EPA's Chemical Emergency Preparedness Program (CEPP) Interim Guidance discussed below.

CEPP is intended to enhance both community awareness of acutely toxic chemicals in their area and preparedness and response capability for acutely toxic chemical releases into the air. EPA's CEPP interim guidance, issued with its list of acutely toxic chemicals, provides information on (1) organizing the community, (2) gathering and analyzing site-specific information, (3) developing a response plan, and (4) updating and appraising the response plan. Like FEMA-10, it can be used as a supplement to CPG 1-8, or as a guide for those developing distinct response plans for acutely toxic chemical releases. According to EPA and FEMA officials, portions of FEMA-10, once revised, will replace the response plan development and content, and response plan appraisal and updating sections of the CEPP interim guidance.

Two of the three states we visited (Louisiana and New Jersey) used CPG 1-8 in developing their emergency response plans. Officials in these states informed us that they used CPG 1-8 because it was required by FEMA and/or it provided guidance on developing a multihazard plan that FEMA requires of state and local agencies in order to qualify for FEMA funding. Although Michigan officials did not specify that they used CPG 1-8, they indicated that they are confident that their plan is consistent with CPG 1-8.

State and local agencies we visited have made limited use of FEMA-10. Michigan used FEMA-10 once as an "idea book" in helping prepare a county site-specific plan. One county in Michigan that we visited also used FEMA-10 in developing an early version of its hazardous materials response plan (a forerunner to its emergency response plan). According to a New Jersey Office of Emergency Management official, New Jersey had used FEMA-10 only as a form of a checklist in developing its plan, but local planners in New Jersey told us that they have not used it at all. Neither Louisiana state officials nor the local planners in the parish that we visited have used FEMA-10 in developing their hazardous materials emergency response plans prior to fiscal year 1986. Louisiana used FEMA-10 as a checklist in its 1986 update of the state plan.

Michigan's emergency planning director said that FEMA-10 appears to call for a separate "hazardous materials" plan, while current state and local emergency response plans--based on CPG 1-8--call for an integrated, "multihazard" approach to planning. If local planners devise emergency response plans specific to chemical accidents in addition to multihazard plans, the ensuing confusion could be great, according to this state official. FEMA officials acknowledged that FEMA-10 could be interpreted as calling for a separate plan. They explained that they have been trying to clarify this possible confusion through discussions with state and local officials and plan to further clarify it in the revised document replacing FEMA-10.

Michigan and Louisiana state emergency preparedness officials are distributing the CEPP interim guidance to local emergency management directors. Michigan and Louisiana state officials are suggesting that local directors refer to the CEPP interim guidance when developing the hazardous materials response sections of their emergency response plans, (consistent with CPG 1-8) rather than use it to create a separate plan addressing toxic chemical releases (consistent with FEMA-10). A New Jersey official informed us that the state and local communities will eventually be adding a chemical hazard annex to their plans as a result of the CEPP interim guidance. FEMA and EPA officials conducted workshops in February and March 1986 to clarify for state and local officials the connection between the CEPP and FEMA-10 guidance documents.

As of February 1986, emergency preparedness officials in the six communities we visited were making different use of the CEPP interim guidance. An official in one Michigan county told us that he plans to use the guidance as a checklist to help develop the technical hazard portion of his county's multihazard plan. Officials in four local communities told us that they already had good hazardous material plans and that they probably would not make much use of the CEPP guidance. One local community official had not yet received the CEPP guidance.

REVIEW OF EMERGENCY RESPONSE PLANS

--FEMA published specific standards for use in reviewing plans in October 1985.

--Two of the three FEMA regional offices have been reviewing plans, and the third will begin such reviews in fiscal year 1986.

--The three EPA regions that we visited have also reviewed some plans.

--The NRT expects to establish criteria for developing plans that RRTs will use in reviewing state and some local emergency response plans.

SECTION XIV

REVIEW OF EMERGENCY RESPONSE PLANS

To receive FEMA funding, the states are required to develop state emergency response plans based on guidance documents provided by FEMA. FEMA headquarters informed us that the FEMA regional offices are responsible for reviewing each of the state plans. In two of the three states we visited--Louisiana and New Jersey--counties and other local municipalities are not eligible for FEMA funding until after the state has reviewed and approved their emergency response plans. Officials in these states told us that these plans are not approved until they are consistent with FEMA guidance. Michigan does not require that a local municipality have a plan consistent with FEMA guidance before initially obtaining FEMA funds. However, after receiving FEMA funds local municipalities are required to bring their plans into conformance with state regulations which are consistent with FEMA guidance. None of the three states requires or conducts reviews of emergency response plans prepared by chemical plants.

In October 1985 FEMA published specific guidance--Guide for Review of State and Local Emergency Operations Plans (CPG 1-8A)--to be used by states and FEMA in reviewing plans. According to the document, the guide will provide a standard, comprehensive, and practical review instrument to use in determining the consistency and completeness of draft plans. In reviewing plans prior to October 1985, a Region VI FEMA official stated that his office used the draft CPG 1-8A review guide as the standard for reviewing plans. Similarly, a Region II FEMA official stated that in past years, region-prepared "checklist" guidance like the CPG 1-8A was used in reviewing plans. A FEMA Region V official stated that his office has not been reviewing plans but will begin to do so in fiscal year 1986.

The three EPA regions we visited have also conducted some reviews of states and/or local plans. EPA region II had not been reviewing state or local plans but intends to begin reviewing some local plans during fiscal year 1986. Region V does not review state or local plans unless requested to do so. Region VI on a limited basis reviewed and commented on state plans during fiscal year 1985.

Under the proposed NRT Emergency Preparedness Initiative, the NRT expects to establish criteria for developing plans that will be used when RRTs review state and some local emergency response plans. In addition, the RRTs plan to encourage the chemical industry to provide copies of their plans and to review them for compatibility with state and local plans.

EMERGENCY PREPAREDNESS AND RESPONSE TRAINING

--FEMA, EPA, OSHA, DOT, state and local governments, and private industry provide some form of emergency preparedness and response training.

--NRT has established a training committee to determine how the various training programs can be improved and coordinated.

--EPA and FEMA are developing a joint training program for emergency preparedness and response.

SECTION XV

EMERGENCY PREPAREDNESS AND RESPONSE TRAINING

EPA, FEMA, and other federal agencies provide emergency preparedness and response training. This training does not always focus specifically on air releases from chemical plants but usually relates to all kinds of hazardous materials accidents. Because of the number of entities involved, the number of the training courses, and the need for those responding to a chemical emergency be properly prepared, the NRT has established a training committee to review the various training programs and identify where improvements can be made to them. EPA and FEMA are also undertaking efforts to coordinate their emergency preparedness training efforts.

TRAINING AVAILABLE

The emergency preparedness and response training programs of the key federal agencies involved in chemical release emergency preparedness and response are discussed below.

FEMA

FEMA's Emergency Management Institute has developed courses in such areas as national emergency preparedness, radiological protection, natural hazards, and hazardous materials. Its training curriculum also includes two technical courses on hazardous materials for emergency management personnel. The training is primarily conducted by state emergency management agencies under cooperative agreements with FEMA. Financial assistance to conduct this training for state and local emergency planning and response personnel is provided by FEMA's Emergency Management Training program. The financial assistance has generally increased each year since fiscal year 1983.

EPA

EPA's Environmental Response Team developed and offers seven courses in safety and technical operations related to hazardous material preparedness and response. Six of these courses are offered nationwide through EPA's regional offices, and one course (Hazardous Materials Incident Response Operations) involving classroom, laboratory, and outdoor exercises, is offered at Edison, New Jersey; Cincinnati, Ohio; and San Luis Obispo, California. These courses are available to response personnel from federal, state, and local agencies at no charge. Private industry representatives may attend on a space available basis but must pay tuition. During fiscal year 1985, the ERT gave about 90 course presentations to about 2,500 participants.

Regarding the training policies followed by the three EPA offices included in our review, we noted that Region VI offered a hazardous materials first responders course in December 1985 in which 78 students from various federal, state, city, and county emergency/environmental agencies and private industry attended. Three additional first-responder courses are planned during fiscal year 1986. Region V developed nine hazardous materials emergency preparedness and response training courses, each of which is offered once a year. The training is targeted for federal, state, and local government emergency planners/responders and industry personnel. According to EPA Region II officials, they also provide some first responder type training, mostly in the form of lectures given by EPA officials to county and local health and fire departments.

Other federal agencies

OSHA, DOT, and the Coast Guard each provide training courses on chemical accident-related matters. The OSHA Training Institute provides basic and advanced training and education in safety and health. Some of its course topics are chemical-related but focus more on safety and health hazard recognition and control than emergency response. DOT's Transportation Safety Institute offers several courses concerning hazardous materials; these primarily relate to transportation safety enforcement. The Coast Guard provides emergency response training at its Yorktown, Virginia, facility. The courses include transportation-related chemical accident simulations and are available on a limited basis to state and local government officials.

EFFORTS TO IDENTIFY DUPLICATION AND GAPS IN FEDERAL TRAINING

Federal agencies are beginning to address problems of duplications and gaps in emergency preparedness and response training. We noted some duplication in federal training efforts. For example, EPA and the Coast Guard each have courses which teach response techniques for simulated chemical accidents. Furthermore, it is sometimes difficult to determine course content based on course descriptions. EPA and FEMA officials responsible for emergency preparedness and response agreed that federal training in this area should be better coordinated. An EPA official told us that there are gaps and overlaps in the available training and that the public may be confused as to where they should go to obtain certain training. He noted that a soon-to-be-published DOT/FEMA study should be helpful because it will summarize all available federal training related to emergency response issues. He also stated that NRT and EPA/FEMA training initiatives are underway to address potential training problems.

NRT training initiative

To obtain an understanding of how the various emergency preparedness and response training programs relate to one another, the NRT established a training committee in the summer of 1985. The committee intends to identify existing authorities, responsibilities, and programs of the NRT agencies that relate to hazardous materials emergency preparedness and response training. The committee is currently developing a strategy paper to identify problems, gaps, and duplicative activities, and recommend training programs and policy alternatives to the NRT. The initial draft of the paper is planned by late March 1986 with a final version targeted for July 1986. According to the EPA representative to the NRT Training Committee, the strategy paper will address several training problems, including coordination among federal agencies and among federal, state, and local agencies; identification of those requiring training; identification and development of the types of courses needed; and the resources needed to conduct the courses.

Joint EPA and FEMA training initiative

Independently from their participation in the NRT initiatives, EPA and FEMA are working together to coordinate their emergency preparedness and response training efforts. EPA and FEMA officials told us that they were concerned about training gaps and duplication and that, as of February 1986, these concerns were being address through joint efforts to coordinate their respective training curricula. EPA and FEMA have developed a joint course on emergency preparedness planning and have held pilots of this course at EPA and FEMA training centers. The two agencies were planning to fine tune the course and, by the last quarter of fiscal year 1986, begin teaching the course to state instructors who will, in turn, teach the course to state and local community planning officials. EPA and FEMA plan to expand this "instruct the instructor" concept to include courses on emergency response and management, as well as additional preparedness courses.

GAO SUMMARY

--Aside from plant personnel, local officials are generally the first responders to accidental releases of chemicals into the air.

--Other than funding, the federal government can support local officials by (1)providing information on chemicals, (2) providing guidance for developing plans, (3) reviewing state and local plans, and (4) providing training.

--Some confusion and overlap exist in federal efforts to help local governments be prepared for accidental chemical releases into the air.

--EPA and other federal agencies are attempting to address these concerns through such efforts as the Chemical Emergency Preparedness Program and NRT initiatives.

--It is too early to assess the federal initiatives but it appears that, to the extent that local communities participate in EPA's voluntary Chemical Emergency Preparedness Program, their ability to respond to accidental releases into the air should be improved.

SECTION XVI

GAO SUMMARY

Because of the short-term exposure nature of accidental releases from chemical plants, plant personnel and local fire and police personnel will generally be the first responders to such an accident. The role of the federal government is primarily to help ensure that local government responders are prepared and trained to deal with such accidents, should they occur. The federal government can (1) disseminate information on the health effects, hazards, and locations of highly toxic chemicals, (2) provide guidance to state and local officials on how emergency response plans should be formulated, (3) establish review criteria and review state and local plans, and (4) provide training to emergency preparedness and response personnel.

Because of the scarce resources available for community preparedness and response, the federal government needs to coordinate its efforts to minimize unnecessary confusion and overlap. For example, overlap of various federal guidance documents may cause confusion for local governments developing a chemical preparedness plan. Also, EPA and FEMA officials agree that emergency response and preparedness training efforts may contain gaps and duplication.

Since the Bhopal, India, accident in December 1984, EPA, other federal agencies, states, and the private sector have initiated several programs or attempted to improve ongoing programs to enhance local community preparedness and response capabilities. A major initiative is EPA's Chemical Emergency Preparedness Program, a voluntary, nonregulatory program whose primary focus is to encourage emergency planning and response capabilities at the local level. As part of this program, EPA published in December 1985 a list of 402 acutely toxic chemicals so that local communities could target their preparedness and response efforts toward facilities manufacturing, storing, or using these chemicals. EPA also published emergency preparedness guidance to help communities organize their preparedness activities, gather and analyze data on these chemicals, and develop response plans. EPA is also working with other agencies, through the NRT, to initiate efforts to better coordinate federal emergency response training and to improve local community preparedness efforts. The NRT, for example, is planning to identify problems, gaps, and duplicative activities in federal emergency response training for state and local officials and recommend policy alternatives.

The states and local communities that we visited had only recently received the list of acutely toxic chemicals and preparedness guidance associated with EPA's Chemical Emergency Preparedness Program. One local community had not yet seen the documents and the other five were planning to make differing uses of the list and guidance. Because EPA's Program has only recently

been implemented, it is too early to determine how successful it will be. However, it appears that to the extent that local communities participate in EPA's voluntary Chemical Emergency Preparedness Program, their ability to respond to accidental chemical releases into the air should be improved. Furthermore, the NRT initiatives, if implemented, should also help contribute to an improvement in communities' preparedness.

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