United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on Workforce Protections, Committee on Education and the Workforce, House of Representatives

October 2000

WORKER PROTECTION

Better Coordination Can Improve Safety at Hazardous Material Facilities

Accountability * Integrity * Reliability

GAO-01-62

Contents

Letter 3

Appendixes

Appendix I: Relevant Statutes and Regulations 38
Appendix II: Incident Investigation Procedures and Regulatory Requirements 42
Appendix III: Comments From the Department of Labor 45
Appendix IV: Comments From the Environmental Protection Agency 47
Appendix V: Comments From the Department of the Treasury 51
Appendix VI: Comments From the Chemical Safety and Hazard Investigation Board 56
Appendix VII: GAO Contacts and Staff Acknowledgments 60

Tables

Table 1: Agencies' Roles and Activities 8
Table 2: Examples of CERCLA Hazardous Materials Regulated by or Otherwise Under the Auspices of Other Agencies 12
Table 3: Examples of Requirements Placed on Facilities for Limiting Exposure to Selected Hazardous Materials 15
Table 4: Hazardous Material MOUs 26
Table 5: Statutes and Regulations Affecting Work Place Safety and Health at Hazardous Material Facilities 38
Table 6: Comparison of Incident Investigation Procedures 42
Table 7: Requirements Placed on Hazardous Material Facilities by Statute and Regulation 43

Abbreviations

ATF	Bureau of Alcohol, Tobacco and Firearms
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSB	Chemical Safety and Hazard Investigation Board
EPA	Environmental Protection Agency
GPRA	Government Performance and Results Act
HAZWOPER	Hazardous Waste Operations and Emergency Response
MOU	Memorandum of Understanding
NIOSH	National Institute for Occupational Safety and Health
NRC	National Response Center
NRT	National Response Team
OSHA	Occupational Safety and Health Administration
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
TSCA	Toxic Substances Control Act
USCG	United States Coast Guard

GAO
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, D.C. 20548

October 26, 2000

The Honorable Cass Ballenger
Chairman, Subcommittee on Workforce
Protections
Committee on Education and the
Workforce
House of Representatives

Dear Mr. Chairman:

Work places that produce, use, store, or dispose of hazardous materials are often considered to be among the nation's most dangerous.[1] Workers at such facilities face the potential for injury, chronic illness, or death, which can be caused not only by the machinery and processes used to handle these materials, but also by exposure to the materials themselves. According to one recent study, between 1994 and 1999, hazardous material facilities in the United States experienced almost 2,000 major chemical release accidents, causing 33 worker deaths and more than 1,800 worker injuries.[2] Several agencies, each with its own mission, method of operation, regulatory requirements, and organizational structure, play a role in protecting workplace safety and health. Having multiple agencies play some role for protecting workers who are exposed to hazardous materials may help to ensure that all workers are adequately protected. However, if not coordinated properly, the need to comply with multiple authorities may also cause employers an unnecessary burden and result in confusion that might actually endanger worker safety. Concerns have also been raised that there still may be regulatory gaps that leave some workers inadequately protected.

[1]According to EPA, hazardous materials include chemicals, oil and petroleum-based products, and radioactive materials. Hazardous waste is any waste material with properties that make it dangerous or capable of having a harmful effect on human health or the environment, especially if it is improperly stored, treated, transported, disposed of, or otherwise managed. For ease of understanding, we refer to all such substances in this report as "hazardous materials," even though agencies may refer to them by other terms, such as "hazardous substance" or "hazardous chemical," in relevant regulations and guidance.

[2]P. Kleindorfer, H. Feldman, and R. Lowe, *Accident Epidemiology and the U.S. Chemical Industry: Preliminary Results from RMP Information*, Center for Risk Management and Decision Processes, The Wharton School, University of Pennsylvania (Philadelphia, Pa.: 1999).

At your request, we reviewed coordination among the federal agencies engaged in protecting safety and health at hazardous material work places. Specifically, we assessed (1) the extent to which agencies have overlapping statutory authority or procedures,[3] (2) employers' and workers' experiences with multiagency efforts to protect work place safety and health at hazardous material facilities, and (3) the extent to which agencies coordinate their enforcement efforts and communicate to employers the nature and extent of their coordinated activities.

We identified eight statutes affecting work place safety and health for workers at facilities that produce, use, store, or dispose of hazardous materials (see table 5 in app. I).[4] These eight statutes give four agencies—and their state partners, when appropriate—various responsibilities affecting work place safety and health at hazardous material facilities. These agencies are the Department of Labor's Occupational Safety and Health Administration (OSHA); the Environmental Protection Agency (EPA); the Department of the Treasury's Bureau of Alcohol, Tobacco and Firearms (ATF); and the Chemical Safety and Hazard Investigation Board (CSB).[5] We interviewed headquarters and regional office officials; reviewed statutory requirements, inspection procedures, databases, and coordination mechanisms; and reviewed prior GAO reports and other documents that dealt with multiagency coordination of regulatory authorities. To determine the impact of multiagency safety and health regulations at selected hazardous material facilities, we contacted 40 such facilities in nine states. Of these facilities, 31 had been subject to (1) inspections by both EPA and OSHA during fiscal years 1998 and 1999, or (2) an investigation by CSB and at least one other agency in our review in response to an incident involving the accidental leak of hazardous materials. We contacted the remaining nine because trade associations identified employers' health, safety, and environmental managers as being knowledgeable regarding the issues addressed in this review. We also

[3]For purposes of this review, overlap exists when agencies regulate the same materials, place similar requirements on employers, or use similar procedures to ensure employer compliance.

[4]Our review does not include hazardous materials that are in transport, nor did we include facilities in the mining or nuclear industries.

[5]OSHA, EPA, and ATF are regulatory agencies. CSB determines the root causes of serious chemical-related accidents and recommends ways to reduce their occurrence and severity. EPA and CSB are both independent agencies. OSHA and ATF are component agencies in larger Cabinet departments.

contacted trade associations and labor unions representing a number of industries that use hazardous materials. Where possible, we corroborated information obtained at the facilities with agency officials. We performed our work from February to August 2000 in accordance with generally accepted government auditing standards.

Results in Brief

OSHA, EPA, ATF, and CSB play distinct roles in federal efforts to protect the safety and health of workers at hazardous materials work places, which can range from chemical and oil processing plants to food distribution facilities. However, these agencies' functions partially overlap in a number of areas. We found that this overlap causes them to place duplicative requirements on employers. The three regulatory agencies—OSHA, EPA, and ATF—regulate many of the same materials. For example, we found that approximately 29 percent of the hazardous materials covered by one EPA statute are also covered by OSHA and/or ATF under other statutes. All four agencies use similar procedures for investigating accidents involving these materials. OSHA and EPA also place similar requirements on employers for training workers and developing plans for responding to emergencies. Because these agencies can address worker protection from different perspectives, their overlapping requirements may help to ensure coverage of most types of dangers posed by hazardous materials, thereby extending worker protection broadly. On the other hand, the presence of overlapping requirements can also lead to confusion and an additional compliance burden.

Consistent with the findings on overlap from our review of the four agencies' regulations, a number of managers at facilities with hazardous materials said that overlapping agency requirements caused them duplication of effort in several areas. For example, when incidents at their facilities necessitated investigations by more than one agency, facility managers we interviewed said that they were subject to simultaneous, independent investigations during which agencies often made separate requests for the same information or separately interviewed the same employees. Also, to address OSHA and EPA training requirements, employers and employee representatives said that facilities provided the same type of training to the same employees. In addition, they may have created training curriculums that attempt to consolidate both agencies' training requirements without being certain as to whether the consolidated curriculums provided all necessary training to workers. In addition, facility managers believed they had to develop multiple emergency plans to address overlapping OSHA and EPA emergency response requirements,

and were generally not aware that they had the option to use a single, consolidated emergency plan. They also believed that the existence of multiple emergency plans could lead to confusion about which plan to use and whom to notify in emergencies, raising the question of whether the appropriate actions would be taken in response to a hazardous material accident. On the other hand, even though there are overlaps, gaps in coverage of workers may exist. Employers and labor union officials told us that hazardous material workers in certain situations are inadequately covered by statutes and regulations; these include workers who handle reactive chemical mixtures and certain state and local government workers who respond to hazardous material accidents.

OSHA, EPA, ATF, and CSB have had mixed results using a variety of mechanisms to coordinate overlapping functions that affect worker safety and health at hazardous material facilities and, more specifically, in addressing the issues we identified. Officials of all four agencies told us that their primary vehicles for interagency coordination are Memorandums of Understanding (MOU). We found several MOUs that address coordination of incident investigations, but little evidence that agency staff followed these MOUs. In addition, these agencies have established interagency groups to foster coordination. First, OSHA and EPA established a standing committee to coordinate implementation of regulations under their statutory authorities for ensuring the safety of hazardous material processes. This standing committee has several accomplishments, such as its effort to further harmonize the agencies' covered materials. However, the standing committee lacks the procedures, including the development of a long-term strategy and a mechanism for obtaining the views of employees and labor unions, that may be needed to address future coordination issues. Second, both agencies are members of a public-private task force that was established to address the safety of workers who clean up hazardous waste. This task force has successfully addressed various technical issues to help facilitate compliance with regulations, but lacks the authority to address compliance issues resulting from regulatory overlap. Finally, a federal multiagency committee, known as the National Response Team (NRT), which is responsible for directing the federal response to hazardous material emergencies, has addressed the emergency response plan issue by developing a protocol that permits employers to consolidate multiple emergency response plans into a One-Plan. Employers we contacted reacted positively to the One-Plan but we found that the committee could do more to inform employers of this option. We are making recommendations to OSHA, EPA, ATF, and CSB to

improve the coordination of their overlapping functions in ways that enhance worker protection and reduce employer regulatory burden.

OSHA, EPA, ATF, and CSB provided us with written comments on a draft of this report. OSHA, EPA, and CSB made specific reference to our recommendations, agreeing or not objecting to them. All four agencies, however, raised concerns about or provided further clarification for portions of the draft report that characterized their jurisdictions and missions, and the extent to which they are currently coordinating. We incorporated these comments into the report as appropriate.

Background

OSHA is the federal agency with primary responsibility for protecting work place safety and health. Three other agencies—EPA, ATF, and CSB—are responsible for or perform functions that have an impact on work place safety at stationary facilities that produce, use, store, or dispose of hazardous materials. As shown in table 1, the three regulatory agencies—OSHA, EPA, and ATF—perform a number of the same functions, including promulgating regulations, conducting routine inspections to assess employer compliance, and conducting investigations in response to an incident. All three agencies can cite an employer for noncompliance. They can also conduct other activities to help employers comply, such as providing consultation. In contrast, CSB focuses on investigating incidents to determine their root causes.

Table 1: Agencies' Roles and Activities

Agency	Role	Key activities					Number of inspections and investigations in FY 1999[b]
		Promulgate regulations	Conduct routine regulatory inspections	Type of incident investigation conducted			
				Regulatory	Criminal	Root cause[a]	
OSHA	Regulate general work place safety and health	X	X	X		X	101,058
EPA	Regulate safety of environment and general public	X	X	X	X	X	74,228
ATF	Regulate use and storage of explosives[c]	X	X		X		6,780
CSB	Determine and report on root cause of accidents					X	6

[a]Although OSHA and EPA have authority to perform root cause investigations of incidents involving hazardous materials, they have not exercised this authority since CSB was funded in 1998.

[b]Includes state partners. EPA's data are for the period April 1999 to March 2000.

[c]ATF can also investigate incidents involving accelerants, which can include any material, ranging from cut-up paper to gasoline, that can augment the impact of an explosion.

Source: GAO analysis of agencies' authorities.

OSHA and its 10 regional offices have general responsibility for ensuring that all workers in the United States have safe and healthful work places. OSHA has promulgated a number of regulations that establish safety requirements for workers exposed to hazardous materials. These include the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation, which establishes safety requirements and requires training for workers involved in the treatment, storage, or disposal of hazardous waste; and the Process Safety Management regulation, which requires facilities to establish procedures for eliminating or minimizing the results of catastrophic releases of highly hazardous materials. (See table 5 in app. I for a full list of OSHA's statutory and regulatory authorities in this area.)

OSHA has delegated this authority to state agencies in 23 states.[6] In fiscal year 1999, OSHA issued about 45,000 citations for violations of safety and health standards related to hazardous materials exposure.[7]

EPA has broad authority under a variety of statutes to protect the environment and general public from pollutants. In addition, in carrying out its programs, EPA has issued regulations addressing worker protection and work place safety. For example, under the Resource Conservation and Recovery Act (RCRA), EPA has promulgated regulations establishing worker training and emergency response requirements at hazardous waste facilities. EPA's Risk Management Program regulation, under the Clean Air Act Amendments of 1990, requires facilities having large amounts of extremely hazardous substances to develop and implement risk management programs for the prevention and mitigation of accidental releases. EPA's Risk Management Program regulation is broader in scope than OSHA's Process Safety Management regulation and both regulations have a number of requirements in common. EPA's safety and health requirements aim to protect the environment and the general public but also afford some level of protection to workers. In addition, EPA was directed by statute to promulgate regulations that aim to specifically protect workers, such as its HAZWOPER regulation that supplements the OSHA regulation of the same name.[8] (See table 5 in app. I for a full list of EPA's statutory and regulatory authorities in this area.) When carrying out EPA's responsibilities, its 10 regional offices have some flexibility to focus on the specific environmental needs of their regions.[9] Moreover, EPA has delegated the authority for many of its programs to state environmental agencies.

The role of ATF and its 23 field offices in protecting work place safety and health stems from its responsibility to regulate the storage of explosives

[6]The Occupational Safety and Health Act (29 U.S.C. 651 et seq.) allows states to operate their own safety and health programs as long as they are determined by OSHA to be at least as effective as the federal OSHA program; OSHA provides up to 50 percent federal funding of state program costs (29 U.S.C. 667, 672(g)). Two of the state programs cover only state and local government employees.

[7]States with delegated authority are excluded from this total.

[8]EPA's HAZWOPER regulation applies to a subset of workers not reached by the OSHA regulation.

[9]Both OSHA and EPA maintain regional offices in the same 10 cities.

intended for civilian use. As a result, ATF's enforcement activities affect the safety of workers who handle, store, or are otherwise exposed to explosives. ATF's regulatory role is primarily for the issuance of licenses and permits, which organizations seeking to import, manufacture, distribute, store, or use explosives must obtain. ATF also has a role in addressing potentially criminal behavior, as it is responsible for conducting investigations at incident sites to determine whether violations of federal criminal law, such as arson, were involved. In addition, ATF has—but only infrequently exercises—statutory authority to determine whether an explosion or fire was brought about by accidental means and to recommend precautions to guard against a reoccurrence.

CSB, which was authorized by the Clean Air Act Amendments of 1990, first received funding in fiscal year 1998. Its role to protect work place safety and health rests with its responsibility to investigate and determine the root causes of chemical-related accidents that result in fatalities, serious injuries, or substantial property damage. CSB may issue recommendations to regulatory agencies, the company involved in the incident, and others that they take actions to reduce the likelihood of similar accidents. As of August 2000, the CSB had conducted only 11 investigations and issued reports on four of those investigations.[10]

Altogether, the four federal agencies in our review derive their authority in this area primarily from eight statutes. OSHA, EPA, and ATF implement their authority through regulations that affect the safety and health of workers at stationary hazardous material facilities. CSB does so primarily through its investigations and reports on chemical-related incidents. (See table 5 in app. I for a complete list of statutes and regulations.) The statutes range from worker-related legislation—such as the Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*), which led to the creation of OSHA—to statutes that have a primary purpose other than work place issues, such as the Organized Crime Control Act of 1990 (18 U.S.C. 841-848), which regulates the storage of explosives.

[10]GAO has reported on several occasions on the challenges CSB has faced since it was funded in 1998. See, for example, *Chemical Safety Board: Improved Policies and Additional Oversight Are Needed* (GAO/RCED-00-192, July 11, 2000).

Agencies Have Some Overlapping Authority, Procedures, or Requirements

OSHA, EPA, ATF, and CSB have distinct roles in protecting safety and health at hazardous material facilities but, as a result of similar statutory responsibilities, can have overlapping authority, procedures, or employer requirements. In the past, we found that shared responsibility among federal agencies is widespread and an outgrowth of several different factors. Shared responsibility is often a reasonable response to a specific need and can be beneficial if the overlap fosters competition among agencies, permits better service delivery, or provides emergency backup. However, unless it is properly managed, overlap can lead to duplicative requirements that waste funds, confuse and frustrate the regulated community, and limit overall effectiveness.[11] Specifically in the area of work place safety and health, we found that more than one agency can have authority for the same hazardous material and have similar procedures for investigating incidents involving these substances. We also found that OSHA and EPA have overlapping employer requirements for training workers and developing emergency response procedures, while OSHA, EPA, and ATF have employer requirements for keeping records and reporting information to government authorities.

Multiple Agencies Cover Similar Materials and Use Similar Procedures to Investigate Incidents

Recognizing the level of danger posed by hazardous materials that are often found in the work place, the Congress has given several agencies responsibility for regulating workers exposed to hazardous materials. The eight statutes we reviewed contained references to over 3,200 hazardous materials and many of these substances were covered by more than one of the eight statutes. This overlap largely results from the legislative and agency processes that lead to the development of regulations. In many cases, when developing a statute regarding hazardous materials, the Congress has included some of the hazardous materials that are already covered by other statutes. For example, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601 *et seq.*), which authorizes EPA to regulate the cleanup of uncontrolled or abandoned hazardous waste sites and respond to accidental releases of hazardous substances, contains a list of covered materials that was compiled from lists associated with other statutes. The Congress may also

[11]See our reports, *Managing for Results: Barriers to Interagency Coordination* (GAO/GGD-00-106, Mar. 29, 2000), and *Managing for Results: Using the Results Act to Address Mission Fragmentation and Program Overlap* (GAO/AIMD-97-146, Aug. 29, 1997).

direct agencies to promulgate regulations covering some of the same materials.

We found that 29 percent (or 214) of the hazardous materials associated with EPA's CERCLA were also covered by other agencies. Table 2 provides examples of several materials covered under CERCLA that are also covered by statutes and regulations enforced by OSHA or ATF.[12]

Table 2: Examples of CERCLA Hazardous Materials Regulated by or Otherwise Under the Auspices of Other Agencies

	Agency			
Hazardous material	**EPA (CERCLA)**	**OSHA**	**ATF**	**CSB**
Ammonia	X	X	[a]	[b]
Asbestos	X	X	[a]	[b]
Formaldehyde	X	X	[a]	[b]
Hydrochloric acid	X	X	[a]	[b]
Nitric acid	X	X	X	[b]
Dinitrophenol	X		X	[b]
Sulfuric acid	X	X	[a]	[b]
Vinyl chloride	X	X	[a]	[b]

[a]ATF can conduct a criminal investigation for any type of material that may be involved in causing a fire or explosion.

[b]CSB can conduct a root-cause investigation for any type of hazardous material that may be involved in causing an accident.

Source: Comparison of CERCLA materials to other statutes.

In order to prevent accidental releases of hazardous materials, the Clean Air Act Amendments of 1990 authorized OSHA to issue a chemical process safety standard designed to protect employees from accidental releases of hazardous materials in the work place. The legislation also required EPA, in

[12]Our analysis underestimates the incidence of hazardous materials that are regulated or otherwise under the auspices of multiple agencies because we did not compare all the materials governed by each statute. No agency has compiled such a list. Because the agencies' database systems are not compatible, such an undertaking would involve manually comparing seven lists of hazardous materials containing a total of over 3,200 substances. Furthermore, these lists use different terminology when referring to chemicals and their effects.

coordination with OSHA, to issue regulations governing the prevention, detection, and correction of hazardous material releases, which include monitoring, recordkeeping, reporting, and training requirements. OSHA's regulation—the Process Safety Management standard—regulates about 130 hazardous materials. EPA's regulation—the Risk Management Program—regulates 140 hazardous materials. These two regulations have 59 hazardous materials in common.

Although hazardous materials may fall under the auspices of more than one of these agencies, the materials are not necessarily regulated or covered at the same level or for the same use. In most cases, the level at which a material is subject to regulation (often called the "compliance threshold") is set at the minimum amount at which it may pose a hazard.[13] Using OSHA's Process Safety Management standard and EPA's Risk Management Program as an example, even though 59 materials are common to both regulations, only 6 are regulated at the same threshold.[14] For instance, whereas OSHA regulates nitric acid at any facility that uses at least 500 pounds of the substance in a process, EPA does not become involved unless the process involves at least 15,000 pounds. Generally, OSHA's compliance thresholds are much lower, as its focus is on the hazards these materials pose to workers, while EPA's focus is on larger releases that might pose a hazard to the environment and general public.

Because they cover similar materials, two or more agencies often conduct investigations of incidents involving the accidental release of hazardous materials at the same facilities. Of the facilities we contacted that had experienced serious incidents, all were investigated by more than one of the agencies in our review. These agencies tend to use similar procedures when conducting incident investigations. For example, all four agencies conduct interviews, gather physical evidence, collect documentation, and hold closeout meetings with management (see table 6 in app. II). Agencies recognize this situation, and several of their procedures call for working with other agencies on the scene. OSHA's and ATF's procedures require investigators to participate in joint meetings at about the same time as the

[13]The compliance threshold differs from the "discharge quantity," which represents the smallest discharge of hazardous material that must be reported to federal and/or state and local authorities; and the "exposure limit," which represents the maximum level of exposure to a hazardous material that is considered to be safe for individuals.

[14]By threshold, we mean the minimum amount of a hazardous material, either on premises or used in a process, that would initiate federal regulation.

opening conference with facility management. CSB's procedures also require investigators to participate in coordination meetings throughout the investigation.

Despite these coordination requirements, agency officials told us of barriers that prevent effective coordination of incident investigations.[15] Of greatest importance, investigators may pursue separate investigations out of concern that attempting to coordinate the information-gathering activities with agencies that have differing missions would jeopardize their ability to obtain all the information they need in a timely manner. For example, CSB instructs its investigators to conduct separate interviews because the agency fears that having regulatory investigators participate in the interviews would cause the witness to hold back information.[16] ATF generally does not permit regulatory investigators to participate in its investigations because, as a criminal-investigation agency, ATF is concerned that they might inadvertently tamper with evidence or undermine the interrogation of a witness. OSHA investigators sometimes move forward with their investigations, rather than waiting to make joint requests for information, because they only have 6 months to complete their investigation and issue citations for violations—the shortest mandatory time frame of the four agencies in our review. In addition, OSHA, EPA, and CSB officials stated that they might be unable to share documents that facilities have identified as confidential business information with other agencies.

Agencies Place Overlapping Requirements on Employers

Our review of the eight statutes and relevant regulations identified overlapping requirements for employers dealing with hazardous materials in four areas: (1) training workers to handle or dispose of hazardous materials; (2) developing emergency response plans, which detail the procedures for responding to and notifying authorities when accidental discharges of hazardous materials occur; (3) keeping records on various worker-related activities, including training provided to workers and the

[15]The National Response Team—a federal multiagency organization that coordinates federal response to hazardous material incidents—-is seeking to identify ways to strengthen coordination among agencies conducting emergency response to an incident and those that, at the same time, are conducting criminal investigations at an incident site.

[16]CSB is in the process of developing investigation protocols that require its staff to conduct separate interviews during incident investigations to ensure they receive the most complete information.

amount of hazardous materials used, stored, or emitted; and (4) reporting information, such as the amount of hazardous materials used or stored and procedures used to protect workers. Overlap occurs when facilities must comply with multiple requirements for the same materials. Table 3 provides examples of materials regulated by different agencies for which these requirements apply. OSHA and EPA have the greatest number of overlapping requirements.

Table 3: Examples of Requirements Placed on Facilities for Limiting Exposure to Selected Hazardous Materials

	Agency/requirement											
	OSHA[a]				EPA (CERCLA)				ATF[b]			
Hazardous material	Trng.	Rcdkpg.	Rpt.	Emer. response	Trng.	Rcdkpg.	Rpt.	Emer. response	Trng.	Rcdkpg.	Rpt.	Emer. response
Ammonia	X	X		X	X		X	X				
Ammonium perchlorate	X	X		X						X	X	
Asbestos	X	X			X		X	X				
Formaldehyde	X	X		X	X		X	X				
Hydrochloric acid	X	X		X	X		X	X				
Nitric acid	X	X		X	X		X	X		X	X	
Dinitrophenol					X		X	X		X	X	
Sulfuric acid	X	X		X	X		X	X				
Vinyl chloride	X	X	X	X	X		X	X				

Note: The abbreviations refer to training, recordkeeping, reporting, and emergency response.

[a]Includes requirements promulgated under the Occupational Safety and Health Act of 1970 and the Clean Air Act Amendments of 1990.

[b]Includes requirements promulgated under the Organized Crime Control Act of 1990.

Source: GAO analysis of agencies' regulatory authorities.

(Table 7 in app. II highlights the statutes and pertinent regulations that contain these kinds of requirements.)

Training

We found that OSHA and EPA have several regulations for training that have numerous overlapping requirements. As shown in table 7 in appendix II, training requirements are a key aspect of regulatory efforts to protect workers, the general public, and the environment from the harmful effects of hazardous materials. Virtually all of OSHA's hazardous material regulations promulgated under any of the statutes included in this review require workers to be trained to minimize their exposure. All but two of EPA's regulations promulgated under these statutes also require training

that generally aims to ensure that workers handle substances appropriately to avoid an accidental release.

We identified significant overlapping training requirements for workers handling hazardous materials and disposing of hazardous waste. During normal processing of a hazardous material, a worker would be covered by OSHA's Hazard Communication regulation, EPA's Toxic Substances Control Act (TSCA), or EPA's Federal Water Pollution Control Act. If some of that material should be accidentally discharged and become hazardous waste, the worker could be covered by OSHA's or EPA's HAZWOPER regulations and by EPA's RCRA regulations. Both require overlapping training in safety plans and potentially in other aspects of hazardous material management, such as emergency response, spill containment, and engineering controls inspection and maintenance. However, HAZWOPER requires training in five additional areas, including personal protective equipment and medical surveillance, while RCRA requires training in three additional subjects, including shutdowns.

One area in which EPA and OSHA have coordinated their training requirements is between OSHA's Process Safety Management and EPA's Risk Management Program regulations. OSHA's regulation requires employers to provide workers with initial training as well as refresher training in process overview and operating procedures with emphasis on (1) safety and health hazards, (2) emergency operations (including shutdown), and (3) safe work practices. EPA's regulation adopts OSHA's regulatory requirements for certain classes of facilities and places a lesser degree of regulation on others. According to EPA, if a firm covered by both regulations implements OSHA's Process Safety Management training requirements, it will be in compliance with the training requirements of EPA's Risk Management Program. OSHA and EPA have both issued guidance for companies seeking to comply with the regulations. While OSHA has conducted inspections to assess compliance with its regulation for several years, EPA is just beginning to conduct such inspections.

Emergency Response Planning and Notification

Emergency response plans are required by OSHA's HAZWOPER, Process Safety Management, and Emergency Action Plan regulations; by EPA's Risk Management Program regulation; and by regulations promulgated under RCRA and the Federal Water Pollution Control Act.[17] A number of these

[17]We did not review other federal, state, or local agencies that may have additional emergency response requirements.

regulations' requirements are similar in that they call for facilities to, where appropriate, prepare to notify community, state, and federal authorities; establish the facility chain of command for use during an incident; develop a process for ensuring the safety of responders; arrange for interaction between internal and external emergency response teams; and prepare for waste management.

Despite these similarities, the emergency plans under each regulation differ in some aspects. The detailed requirements for the execution of each plan vary, depending on the potential severity of the release, the type of hazardous material, the nature of the discharge (that is, into the air, water, or ground), the layout of the facility, and the extent to which the facility depends on outside assistance. In addition, EPA's regulations require plans that detail how a facility would respond to an accidental discharge that would affect the environment or the surrounding community. In contrast, OSHA's emergency response regulations focus on protecting workers. As discussed later, in 1996 facilities were permitted through the Integrated Contingency Plan Guidance to consolidate their federal emergency response plans into a One-Plan.

As part of these emergency plans, facilities are required to notify the appropriate federal authorities regarding the incident.[18] However, the appropriate federal officials vary according to the type of hazardous material involved and the nature of the release. For example, after any oil spill from a covered vessel or facility, or a hazardous material discharge of a certain magnitude, facilities are required to contact the National Response Center (NRC), which is the central point of contact for coordinating the federal response to such events. In addition, each plan must take into consideration the unique reporting requirements of individual agencies that must be notified if certain factors are present. For example, OSHA requires facilities to report within 8 hours any accidental discharge in which a worker is killed or three workers are injured seriously enough to require hospitalization.

Recordkeeping and Reporting

We found a lesser degree of overlap among recordkeeping and reporting requirements. Virtually all of the OSHA and EPA hazardous material statutes and regulations we reviewed contained requirements that facilities

[18]In addition, CSB has the authority to promulgate a regulation governing when it should be notified of incidents involving hazardous chemicals. CSB has been hesitant to promulgate such a regulation in light of existing requirements by other agencies.

keep records. OSHA's recordkeeping requirements tended to focus on worker-related information, such as on-the-job training, injuries or illnesses, and safety procedures. EPA's requirements in this area focused more on the results of environmental testing, such as air sampling and emissions monitoring. However, both require facilities to maintain records on the results of periodic medical examinations of workers at hazardous waste sites. ATF requires facilities to keep records of explosives transactions and inventories.

There are relatively few overlapping requirements for reporting related to work place safety and health at hazardous material facilities. OSHA requires little routine reporting. EPA generally requires reporting of information kept in facility records and the submission of facility emergency response plans for approval. As with recordkeeping, ATF requires facilities to report to the agency whenever explosives may have been misplaced in a transaction or may be missing from inventories. (See table 7 in app. II.)

Employers Report That Overlapping Regulations Cause Burden, yet Some Workers Are Inadequately Protected

Trade association and labor union officials we contacted agreed that regulatory overlap can benefit workers but also has the potential for placing a compliance burden on employers that, in the long term, could limit work place safety and health. Our review found overlapping requirements in three areas: incident investigation, worker training, and development of emergency response plans. Representatives of nearly all of the facilities we contacted agreed that these overlapping agency procedures and requirements resulted in duplication of effort and unnecessary burden. Labor union officials expressed concern that facilities facing such compliance burdens may not be able to fully implement regulatory requirements and comply with investigations, potentially placing workers at risk. At the same time, employer and employee representatives also emphasized that some workers—such as certain emergency response personnel—are inadequately protected due to regulatory gaps.

Multiagency Incident Investigations Have Created Confusion and Burden

Twelve of the 40 facilities we contacted had experienced multiagency incident investigations. According to facility and regional office officials, in a few instances the agencies coordinated their investigations to the extent possible with good results. For example, in one investigation, the agencies developed a protocol that identified the lead agency and contact points, and agreed on the extent to which the agencies would coordinate daily

meetings and the control of gathered evidence. In another investigation, the agencies worked together primarily because the employer threatened to not cooperate with any of them unless the agencies coordinated with each other. According to the employer, after the federal investigators consulted together, they were able to develop a procedure for coordinating the investigation.

However, many facility managers, as well as regional office officials, confirmed that the agencies' simultaneous, separate investigations placed a burden on facility personnel at a time when they were already coping with a catastrophe that might have involved fatalities or serious injuries.[19] These facilities' experiences are not unexpected given the results of our review of the relevant regulations, which found the potential for investigating agencies to make duplicative requests for information and evidence. For example, ATF agents pursued their criminal investigations independently. During one incident, ATF cordoned off the scene and permitted only law enforcement personnel to enter the site, thus excluding OSHA, EPA, and CSB investigators. Similarly, CSB investigators often insisted on conducting their interviews separately, even when other investigating agencies would have the same questions for the same witnesses. Finally, facilities would need to respond to separate requests for documents because, as stated earlier, the agencies are sometimes unable to share documents that have been designated as confidential business information.

Officials at some facilities expressed frustration over the resources they expended to comply with uncoordinated federal investigations. During some investigations, facility staff needed to accompany federal officials on separate tours of the scene of the incident to examine evidence. Facilities needed to make workers available for separate interviews, which often took hours. In addition, the employers said that agencies made separate requests for documents and facility staff spent days copying, compiling, and boxing such documents.[20] Two facility managers emphasized that, although agencies were within their rights to seek information during their

[19]Facility managers also indicated that they were subject to uncoordinated routine inspections, sometimes within a few weeks of one another, but stated that this did not present a problem.

[20]Facility managers added that, at the same time, state and local government agencies were often conducting their own investigations and lawyers representing the injured or survivors of those killed were also contacting the facility.

investigations, the agencies could ease the administrative burden if they would do so in a coordinated manner.

Multiagency Training Requirements Place Additional Burden on Employers

Representatives of 16 of the 40 facilities we contacted stated that the need to comply with OSHA's and EPA's training requirements has led to duplication and created a compliance burden for them. This occurs because several of their regulations address exposure to the same hazardous materials (or group of materials) and for similar groups of workers, but may have different requirements for the content of the training, depending on the type of exposure. In addition, although EPA and OSHA regulations may require the same training content, other aspects of their requirements differ, such as the required number of hours of training. As a result, facilities seeking to comply with training requirements may need to provide workers with multiple rounds of training that provide duplicative information. The experiences of these facilities are consistent with the findings of our review of training regulations for hazardous material facilities, which found overlap for the training requirements for workers handling hazardous materials.

According to facility managers and union representatives we contacted, the overlapping training requirements have led a few facilities to develop specific curriculums that attempt to consolidate the training requirements from key regulations. Managers at these facilities said additional resources were devoted to developing these curriculums. Despite best efforts, they were still concerned that they might have left out crucial training elements and, as a result, workers may not be adequately trained to handle hazardous materials. Managers also expressed concern that agency inspectors might not accept these consolidated curriculums as meeting the requirements of the various regulations involved.

Multiple Emergency Response Requirements Result in Additional Work and Confusion

Despite the availability of the One-Plan guidance, several facility managers stated that the overlapping emergency planning requirements caused them to develop multiple emergency response plans that created not only an additional burden, but also confusion as to what procedures should be used in the event of an emergency and whom should be contacted. OSHA and EPA alone maintain six emergency response plan requirements. These plans have some overlapping requirements although, according to managers at two facilities, not enough to permit facilities to use one of the plans for all emergencies. The plans differed in focus (for example, an oil spill into a local waterway versus a runaway chemical reaction that could

lead to an explosion) and had different emergency response requirements. Using the plan with the most stringent requirements would likely be inappropriate for smaller emergencies warranting a less vigorous response.

Only two of the facilities in our review stated that they were aware of the One-Plan guidance that would permit them to consolidate their emergency response plans. As a result, many of the facilities we contacted maintained at least two of the six emergency response plans required by OSHA and EPA, and some maintained as many as five. Facility managers said the requirements to develop multiple emergency response plans pose an administrative burden, not just for developing the plans initially but also for maintaining and updating the plans as required. The existence of multiple plans could also delay emergency response as personnel try to determine which plan to use while the accidental release is in progress. Some facility managers told us that they believed that such a delay could jeopardize the safety of workers and others injured by or attempting to contain the hazardous material leak. As a consequence, several facilities indicated to us that, in addition to the numerous federally required plans, they maintain yet another emergency response plan—one developed by the facility itself—that they would actually use in the event of an accidental release of hazardous materials. Managers at several of the facilities we contacted reacted positively to the concept of a One-Plan and some stated they would consider developing one the next time they reviewed and updated their emergency response plans.

According to managers at two of the 40 facilities, the existence of multiple plans and associated requirements also leads to confusion regarding which federal authorities should be contacted in the event of an emergency. By not contacting all appropriate authorities, facilities may conceivably delay response to a hazardous material leak. Such delay may threaten workers or the surrounding community. Out of concern that they may not be contacting all the appropriate authorities, managers at these facilities said that they contacted any federal agency they believe may have some jurisdiction, even though this practice may create additional burdens. Facility managers were generally familiar with the NRC—a federal point of contact that receives notification of many serious hazardous material incidents and notifies the appropriate federal agencies. However, officials at one facility pointed out that one call to the NRC does not obviate their need to contact other agencies directly. For example, as discussed earlier, OSHA has a separate reporting requirement when worker fatalities or injuries occur.

Some Workers Remain Inadequately Protected

Facility officials and labor union officials said that regulatory gaps leave some workers inadequately protected. For example, federal regulations often do not extend to workers who handle certain types of materials that become hazardous or explosive when mixed. The three regulatory agencies in our review noted the difficulty involved with extending regulatory coverage to the dangers posed by all chemical combinations. Given the approximately 650,000 chemicals currently in use and those being developed every day, developing a regulation that provides meaningful coverage for all mixtures would present a potentially insurmountable challenge. While OSHA and ATF regulations extend to explosives, which are often a composite of several materials, EPA and OSHA generally regulate work place hazards for single materials. CSB officials have said that each year, workers are injured—sometimes fatally—when explosions or other reactions occur because chemicals that should not be combined are mixed, or are mixed without the requisite safety procedures or equipment. In August 2000, a CSB investigation report found that an explosion that injured nine people—two seriously—largely resulted because unprotected workers lacked the proper equipment or training to safely mix materials and recognize when the mixture had become unstable. The report noted that existing federal safety standards do not provide sufficient protection for workers using this kind of reactive chemical process and recommended that OSHA and EPA issue joint guidelines governing reactive chemical process hazards that result from mixing such materials.

Labor union officials and the managers of one facility we contacted stated that federal regulations also do not adequately cover all state and local government emergency personnel that respond to accidental hazardous material releases. This view is consistent with our review of the relevant regulations and information we obtained from OSHA and EPA officials. OSHA's HAZWOPER regulation requires training, protective equipment, and other protections for personnel who respond to hazardous material incidents. However, OSHA's protections do not extend to state and local government workers, except in the 23 states that received delegated authority from OSHA. These states are required to provide work place safety and health coverage at least as effective as provided by OSHA to workers, including state and local government workers.

As required by the Superfund Amendments and Reauthorization Act of 1986 (P.L. 99-499), EPA adopted OSHA's HAZWOPER regulation for state and local government employees in the 27 states that do not have delegated authority from OSHA. However, EPA has not taken any enforcement actions under this regulation. In responding to this report, EPA's Assistant Administrator for Solid Waste and Emergency Response stated that while the agency has taken no enforcement action under the HAZWOPER regulation, this lack of enforcement is not because the agency believes it lacks the legal authority to do so. However, numerous EPA program officials we contacted in the field and headquarters said that EPA does not have legal authority to enforce this regulation. The internal confusion about EPA's authority, plus the lack of enforcement action, raises questions about how well EPA's regulation protects responders to hazardous material incidents.[21]

According to one OSHA official, the agency has addressed this issue to some extent by requiring facilities to ensure that any outside organization identified in the facilities' emergency response plans as playing a major role in containing any hazardous material accident is appropriately trained and equipped. If the external personnel do not have the required training or other protection, the facilities must pursue other options such as training the emergency personnel at their own expense, developing an in-house response capability, or contracting with a private hazardous materials response organization. With this requirement, OSHA has been able to extend HAZWOPER protection to additional emergency response organizations. However, OSHA recognizes that it could not reach all potential first responders to hazardous material emergencies in this way. First, not all hazardous material facilities are required by OSHA to have a facility response plan because they are below the threshold for regulatory coverage. Second, first responders who are untrained and not part of a facility's emergency response plan may, nonetheless, respond to an emergency at that facility. As a result, state and local government first responders may not receive the training or protective equipment needed to safely respond to emergencies involving hazardous materials.

[21]Similarly, federal work place safety and health regulations do not adequately protect volunteers who respond to hazardous material incidents. Generally speaking, OSHA protections do not extend to volunteers, leaving EPA as the only federal agency that provides such protection. However, EPA can extend protection to volunteer first responders only in states that do not have OSHA-delegated authority. State governments are under no obligation to provide regulatory protections to such volunteers but some may do so under certain circumstances.

Consequently, though they are working side-by-side with private-sector workers performing essentially the same work, they may have less training and protective equipment.

The gap in overall protection for state and local government workers in states without delegated authority from OSHA has not gone unnoticed. Members of the Congress, the Department of Labor's Office of the Inspector General, and the American Industrial Hygiene Association have all recommended that the law be amended so that OSHA can extend work place safety and health protection to state and local government employees. For example, on February 23, 1999, Congressman Robert E. Andrews introduced the Fairness for State and Local Workers Act, which seeks to extend OSHA work place safety and health protections to all state and local government workers. Also, on February 9, 2000, the Labor Department's Office of Inspector General issued its report, *Evaluating the Status of Occupational Safety and Health Coverage of State and Local Government Workers in Federal OSHA States*, Report No. 05-00-001-10-001, which found that many states under the jurisdiction of federal OSHA (that is, those without delegated authority) lack important occupational safety and health protections for public-sector employees in general. It recommended that the Occupational Safety and Health Act of 1970 be amended to extend federal work place safety and health coverage to all public-sector employees.

Agencies' Efforts to Coordinate Overlapping Activities Are Incomplete

OSHA, EPA, ATF, and CSB have taken steps to coordinate their overlapping requirements and activities; however, these efforts do not adequately address the duplication or gaps we identified. We found little evidence that existing MOUs among the agencies are generally followed or address the duplicative requirements claimed by the facilities in our review. Although interagency groups developed to facilitate coordination have had some success, their effect appears to be limited. The NRT—a federal multiagency organization with responsibility for coordinating federal response to hazardous material incidents—has made a good effort to reduce the compliance burden associated with the development of emergency response plans, but its effect has been limited because employers may not be aware of the new consolidated plan option.

Agreements Address Some Coordination Issues but Their Effectiveness Is Unknown

According to agency officials, coordination is necessary and important in the work place safety regulatory environment. Although some coordination mechanisms in this area date back to the 1970s and 1980s, the importance of coordination was emphasized in 1993, when the Government Performance and Results Act (GPRA) was signed into law. Among other things, this law required federal agencies to coordinate implementation of shared responsibilities.[22] In GPRA planning documents, OSHA, EPA, ATF, and CSB all recognized the importance of working closely with other agencies. In addition, some statutes require these agencies to coordinate specific activities with other regulatory agencies. For example, TSCA requires the EPA Administrator to coordinate implementation of the statute with other federal agencies to maximize enforcement and minimize the regulatory burden.

Also in 1993, EPA, working in conjunction with the NRT, issued a report that discussed how regulatory overlap could lead to confusion. This report, entitled *A Review of Federal Authorities for Hazardous Materials Accident Safety*, describes the hazardous material safety system and defines it as a composite of laws, regulations, and programs pieced together and administered by numerous agencies at all levels of government. The report concludes that this system, as developed, resulted in overlaps, inefficiencies, and some gaps in the statutory and regulatory framework, and in the federal government's management structure, causing it to be unnecessarily burdensome and confusing for government, industry, and the public. Although this report does not contain recommendations, EPA officials stated that it has led to several efforts to strengthen interagency coordination on hazardous materials issues.

According to agency officials, MOUs represent the agencies' efforts to implement these and other coordination requirements. Ten MOUs among OSHA, EPA, ATF, and CSB currently seek to coordinate overlapping authority or activities concerning hazardous materials. These MOUs do little to lessen the compliance burden placed on employers because they do not address the key duplicative requirements identified by facilities we contacted and the requirements in the MOUs are rarely followed.

[22]GPRA calls for agencies to establish program objectives and strategies for meeting those objectives. It also provides federal agencies with a framework for addressing overlapping program objectives.

As shown in table 4, two of the MOUs delineate jurisdictional responsibilities between the signatory agencies for regulating worker exposure to certain hazardous materials (namely, explosives and wood preservatives). The remaining eight are cooperative; that is, they call for interagency cooperation with regard to various activities, ranging from assessing the hazards for chemical substances (1986 EPA-OSHA MOU) to conducting incident investigations (1998 OSHA-CSB and 1998 EPA-CSB MOUs).[23]

Table 4: Hazardous Material MOUs

			Inspection-related coordination elements					
Year	**Signatory agencies**	**Subject**	**Incident notification**	**Information exchange**	**Referrals**	**Joint inspections**	**Reports**	**Other[a]**
Jurisdictional MOUs								
1974	OSHA, ATF	Storage of explosives[b]						X
1986	OSHA, EPA	Regulation of wood preservative pesticides[b]						X
Cooperative MOUs								
1981	OSHA, EPA	General coordination for regulating pesticides and other toxic materials		X	X			X
1986	OSHA, EPA, NIOSH,[c] USCG[d]	Protective clothing and equipment for handling hazardous waste		X				X
1986	OSHA, EPA	Designation of materials as toxic		X				
1988	OSHA, EPA, NIOSH	Assessment and regulation of toxic materials		X		X		
1990	OSHA, EPA	General coordination of enforcement procedures	X	X	X	X		X
1991	OSHA, EPA	Regulation of EPA-assisted municipal wastewater projects	X	X	X			X

[23]OSHA and EPA entered into an MOU in November 1996 that called for joint investigations of the causes of serious chemical accidents. Although it was never officially rescinded, according to OSHA officials, the MOU lost its effect in 1998 when the CSB took responsibility for investigating the root causes of such incidents.

(Continued From Previous Page)

Year	Signatory agencies	Subject	Inspection-related coordination elements					Other[a]
			Incident notification	Information exchange	Referrals	Joint inspections	Reports	
1998	OSHA, CSB	Hazardous material incident investigations	X	X			X	X
1999	EPA, CSB	Hazardous material incident investigations	X	X				X

[a]This category includes conducting research, coordinating the development of new regulations, and making efforts to encourage state OSHAs to participate in MOUs.

[b]OSHA considers these interagency agreements to function as MOUs.

[c]National Institute for Occupational Safety and Health.

[d]U.S. Coast Guard.

Source: MOUs provided by OSHA, EPA, ATF, and CSB.

The eight cooperative MOUs include a number of elements that may facilitate the coordination of incident investigations, including incident notification, information exchange, referrals, and joint inspections. However, we found little evidence that these elements were carried out by agency staff. While some EPA headquarters officials stated that agency regional staff complied with the elements of EPA-OSHA MOUs during incident investigations, other headquarters and regional agency officials were uncertain whether and to what extent their staff adhered to the elements of MOUs. Further, both OSHA and EPA officials said that states with delegated authority are not bound to comply with these MOUs. Managers at the agencies' regional offices stated that agency investigators speak informally with other agencies' staffs, but that formal notification or referral happens very infrequently and is generally not entered in the agencies' databases. In fact, EPA's inspection database does not track referrals, and OSHA's inspection database identified only 37 referrals to OSHA from EPA and three to EPA from OSHA from April 1998 to March 2000. Officials said joint inspections were rare, and neither EPA's nor OSHA's inspection databases identify those inspections that may occur jointly. Moreover, all but four of these MOUs are about 10 years old or older, and an OSHA official said that the usefulness of MOUs tends to diminish over time to the point where they are rarely, if ever, used. Finally, none of the MOUs address those duplicative requirements we identified as creating compliance burdens for facilities (that is, training and emergency notification requirements).

OSHA, EPA, and ATF are currently negotiating additional MOUs to further coordinate incident investigations. OSHA is currently negotiating an MOU with ATF to better define each agency's role during incident investigations

and the extent to which information or evidence can be jointly gathered. OSHA is also developing an MOU with EPA to update the 1990 MOU to incorporate the new regulations governing the safety of industrial processes (OSHA's Process Safety Management standard and EPA's Risk Management Program). According to OSHA officials, the revised MOU will enhance the agencies' efforts to share information relevant to each agency's regulations, conduct joint inspections, and coordinate investigations. The agencies have no time frames for the completion of these MOUs and no plans for ensuring that the elements of these new MOUs are implemented.

Interagency Groups Address Coordination Issues but Impact Is Limited

OSHA, EPA, other federal agencies and, in one case, labor unions have formed three interagency groups, explained below, to coordinate agency activities with regard to various aspects of work place safety and health at hazardous material facilities. These interagency groups have had mixed results in coordinating agencies' regulatory activities.

Standing Committee on Process Safety Regulations

The OSHA/EPA Process Safety Management-Risk Management Program Standing Committee has made progress but appears to operate in an informal manner, which may hamper its ability to address the coordination issues that will likely arise from these agencies' joint regulation of process safety management. The standing committee which, according to EPA officials, resulted in part from the EPA-NRT 1993 report, seeks to enhance interagency coordination for enforcement of OSHA's Process Safety Management standard and EPA's Risk Management Plan regulation. As discussed earlier, both regulations were mandated by the Clean Air Act Amendments of 1990, in which OSHA and EPA were instructed to coordinate implementation of their regulations governing the safety of hazardous material processes. The standing committee, which convened formally for the first time in fall 1999,[24] consists of staff from both agencies and meets monthly to identify areas in which either OSHA or EPA should harmonize their respective process safety regulations.

The standing committee has objectives, but no strategy for reaching those objectives or criteria for measuring success. Recognizing the potential for overlap with regard to their responsibilities for ensuring process safety,

[24]Prior to creation of the standing committee, OSHA and EPA officials met informally beginning in 1991 to address coordination issues resulting from their promulgation of process safety regulations.

OSHA and EPA in an August 1996 letter committed to coordinate enforcement of their respective regulations. This half-page letter contains background information on the need for coordination and lists four objectives, which the standing committee has adopted. These are to (1) assist the regulated community's efforts to comply with the regulations, (2) interpret the regulations and provide guidance to facilities, (3) share information, and (4) develop enforcement and compliance strategies and actions. The letter devotes a few sentences to a strategy to achieve these objectives, which standing committee officials contend is the strategy the committee is using. Thus, the standing committee, which has been in formal operation for about 1 year, has yet to develop additional outcome- or results-oriented goals to define the general process goals listed in the joint letter, a long-term strategy to help identify which issues should be addressed first, or procedures for identifying the progress made toward achieving its goals.

Moreover, as currently organized, the standing committee depends largely upon informal procedures for its operations, which may hinder its usefulness as a mechanism for coordinating OSHA's and EPA's implementation of process safety management regulations. According to agency officials on the committee, its members use ad hoc means to identify issues to address and take only general minutes of the meetings. Their communication is frequent but informal. They also have not established structured mechanisms to ensure that they identify the pertinent issues of concern to employees and labor unions, who can provide valuable input on the results of these regulations. They also can help to identify where confusion or the compliance burden may be limiting full implementation and thus, undermining the impact of the regulations on protecting work place safety and health. Agency officials stated that the two agencies could strengthen the standing committee by introducing some rigor into its operations.

Despite the informal nature of the committee's operations, according to agency officials on the committee, the committee has sought to address employers' priorities. The primary effort to date has been to recommend that OSHA expand its current list of covered hazardous materials by adding seven to nine substances that are currently covered only by EPA's regulation. Agency officials anticipate that this effort, that would increase to at least 66 the number of materials common to both lists, would further harmonize the two regulations and, ultimately, help employers comply. No decision has been reached, however, with regard to the threshold at which these materials will be regulated and OSHA has just recently initiated the

regulatory process needed to make this change. The standing committee has also been instrumental in (1) making sure that all process safety guidelines issued by either agency are reviewed to ensure that they do not conflict with agreed-upon policies or prior guidelines, (2) arranging for OSHA investigators to receive EPA's Risk Management Program training, and (3) arranging for EPA investigators to observe OSHA's Process Safety Management inspections. Agency officials acknowledged, however, that the standing committee's role in these efforts might not be evident because they have not documented the results of their efforts.

Hazardous Waste Task Force

The hazardous waste task force, known as the EPA/Labor Superfund Health and Safety Task Force, includes, in addition to EPA and OSHA, other agencies and labor unions. It has accomplished a great deal to improve the technical implementation of pertinent regulations, but lacks the authority to address employer concerns that may require changes in regulations. The task force was formed in 1991, and attempts to enhance coordination among those public and private-sector agencies involved in cleaning up and remediating emergencies at hazardous waste sites.[25] The task force, which is made up of health and safety experts from several federal agencies and labor organizations, does not have a statutory or regulatory charter.[26] The task force meets bimonthly and addresses primarily technical issues arising from overlapping authorities for workers at Superfund sites and those carrying out emergency response. The task force seeks to (1) identify issues that endanger the safety and health of workers in hazardous waste operations, including emergency response; (2) develop nonregulatory, coordinated interagency resolutions to those issues; and (3) communicate this information broadly within the industry sector. The task force also serves as a knowledgeable resource to aid agencies and organizations in addressing emerging hazardous waste operations and emergency response issues. The task force makes recommendations to EPA once or twice each year.

The task force has a number of accomplishments. For example, working through the task force, OSHA and EPA are updating HAZWOPER-related fact sheets, published originally in the early 1990s, to reflect changes or

[25]Superfund sites are abandoned or uncontrolled hazardous waste sites.

[26]Other agencies that send representatives to this task force are the U.S. Army Corps of Engineers, Department of Energy, Department of the Navy, NIOSH, and the National Institute of Environmental Health Services.

interpretations in related standards or identified best practices. The task force has also supported OSHA in the development of Protocols and Compliance Directories, which help employers to comply with its regulations. Member agencies have also contacted the task force to obtain other agencies' views on policy/guidance documents. However, because of its technical focus and lack of an official agency charter, the task force lacks the authority to address compliance issues resulting from regulatory overlap, such as duplicative training and emergency response requirements.

The NRT's Efforts Have Had Limited Results

In accordance with CERCLA, President Reagan created the NRT in 1987 in an order that also designated EPA to serve as chair. The NRT is responsible for national preparedness and coordination of response actions to incidents involving hazardous materials. As part of this responsibility, the NRT is authorized to recommend regulatory changes to facilitate coordination among federal agencies that respond to hazardous material emergencies.[27]

The NRT has taken a number of steps to address the concerns identified by the hazardous material facilities we contacted. For example, recognizing the duplication and other problems resulting from the overlapping requirements to develop emergency response plans, the NRT in 1996 developed the One-Plan. This guidance, the need for which was highlighted in the EPA-NRT 1993 report, allows hazardous material facilities to consolidate all of their pertinent federal emergency response plans into one plan that will meet federal regulatory requirements. With its minimal resources, the NRT was limited in what it could do to inform employers about the One-Plan, but it did post the guidance and a fact sheet on its website. EPA played a major role in publicizing the One-Plan, including publishing the guidance in the *Federal Register*, working with various trade associations to provide their members with this information, and referencing the One-Plan in its Risk Management Program regulation. OSHA has also made efforts to publicize the One-Plan. The agency included a description of the One-Plan in a relevant Compliance Directive and agency officials made a presentation at an industrial hygiene trade

[27]The USCG is the vice chair of the NRT, and OSHA is one of its 16 members. Other member agencies include the Departments of Agriculture, Commerce (National Oceanographic and Atmospheric Administration), Defense, Energy, Health and Human Services, Interior, Justice, State, Transportation, and the Treasury; the Federal Emergency Management Agency; the General Services Administration; and the Nuclear Regulatory Commission.

association conference. NRT officials do not know how many employers have implemented the One-Plan but, as discussed earlier, we found that only two of the facilities we contacted were aware of this option.

Currently, the NRT is making efforts to address the burden employers face regarding notification of federal agencies of unauthorized leaks of hazardous materials. There are many different requirements for notifying federal officials of leaks and the resulting confusion has often prompted facilities to contact any agency that might have interest or jurisdiction. The NRT is in the process of developing what it calls a One-Number—a single telephone number that facilities can use to contact all federal agencies regardless of the type of release or emergency. These efforts are in the early stages and NRT does not have a timetable for completing them. Until it is finalized and implemented, we will not know if this One-Number will in fact eliminate the need for facilities to undertake duplicative notification procedures.

Conclusions

In recognition of the importance placed on protection against exposure to hazardous materials that are often found in the work place, the Congress has given OSHA, EPA, ATF, and CSB related and sometimes overlapping roles for ensuring worker protection from exposure to hazardous materials. If properly coordinated, this overlap could help ensure that workers are protected. However, we found that, in many cases, agencies either did not have or did not make use of existing mechanisms to properly coordinate their activities—especially in the areas of incident investigation, training, and emergency response procedures. Managers at hazardous material facilities told us that this situation not only leads to unnecessary burden and duplication for employers, but also potentially weakens the protections afforded to workers. The agencies need mechanisms to coordinate overlapping activities to address the concerns raised by employers.

Regarding incident investigations, agencies need a protocol to use when more than one agency will be investigating to determine (1) which agency representative will coordinate the investigation, (2) the extent to which investigators can jointly obtain and share information, and (3) how confidentiality and other issues will be handled. The protocol should be flexible enough to accommodate various agency missions and requirements. In the absence of such a protocol, coordination at incident investigations will continue to be ad hoc.

To make compliance with training requirements easier for employers, EPA and OSHA could jointly develop a unified curriculum that consolidates both agencies' training requirements for workers who handle hazardous materials. Such an effort has precedent. The NRT's One-Plan, which establishes a mechanism for a single emergency response plan, serves as a model for this type of interagency effort. Finally, although the NRT's efforts to establish the One-Plan are useful, the NRT needs to expand beyond working with trade associations to help publicize the One-Plan option. The NRT's effort to establish the One-Number is too new to evaluate.

Given that there is little or no evidence that existing MOUs are being used or are efficient, the agencies need to determine whether they still believe MOUs serve a purpose and, if so, identify ways to measure achievement of the activities laid out in the MOUs. The agencies may identify other ways that better ensure coordination, such as developing investigation policies and procedures that require coordination, or developing other performance measures.

OSHA and EPA's standing committee on process safety regulations has made some progress. However, given its lack of a long-term strategy and mechanism to obtain the views of employees and labor unions, it may not be able to rise to the long-term challenge of coordinating the two regulations' overlapping requirements.

Recommendations for Executive Action

To enhance worker protection and reduce the compliance burden associated with the hazardous material statutes and associated regulations addressed in this report, we recommend that

- the Secretary of Labor, the Secretary of the Treasury, the EPA Administrator, and the CSB Chairman work to establish a general protocol that sets forth the framework under which multiagency incident investigations shall be conducted;
- the Secretary of Labor and the EPA Administrator establish guidance that consolidates common training requirements into a unified training curriculum for hazardous material workers; and
- the NRT Chairman consult with member agencies to identify and implement additional outreach mechanisms to alert employers to the option of preparing a consolidated emergency response plan, or One-Plan.

To ensure that agencies adequately coordinate overlapping authority, procedures, or requirements for hazardous material facilities over the long term, we recommend that

- the Secretary of Labor, the Secretary of the Treasury, the EPA Administrator, and the CSB Chairman work to determine whether and to what extent MOUs are achieving their stated objectives and, where necessary, to establish other mechanisms that more effectively address employer burden and enhance worker protection, such as enforcement procedures that require coordination; and
- the Secretary of Labor and the EPA Administrator enhance the accountability and effectiveness of the OSHA/EPA standing committee on the agencies' process safety management regulations by establishing a long-term strategy needed to address future coordination issues and a mechanism to obtain the views of employees and labor unions.

Agency Comments

OSHA, EPA, ATF, and CSB provided us with written comments on a draft of this report. These comments are reproduced in appendices III, IV, V, and VI, respectively. Three agencies made specific reference to our recommendations. EPA agreed with most of our recommendations without elaborating. CSB endorsed the two recommendations that applied to it. Finally, OSHA agreed with our recommendation regarding publicizing the One-Plan and did not object to any of the others. All four agencies raised concerns or provided further clarifications for the portions of our draft report that characterized their jurisdictions and missions, and the extent to which they are coordinating their overlapping requirements.

EPA, CSB and ATF raised issues concerning the report's discussion of their relative missions. EPA said that employers, and not government agencies, have the primary responsibility to protect work place safety and health. It also said that its primary mission is to protect the environment, and that worker safety and health may not be a major component of all its guiding statutes. ATF stated that its mission in the work place is to protect against the hazards arising from misuse and unsafe storage of explosive material in commerce. We made changes in the report to further clarify these agencies' primary missions. We also reflect in the report that OSHA has the primary role to enforce work place safety and health while continuing to discuss the other agencies' roles in this area. CSB and ATF also commented that there are instances in which, because of their unique missions, they need to function independently to attain their objectives at incident investigations.

OSHA acknowledged the overlap between its and EPA's training requirements, but stated our report did not consider the progress these two agencies had made to minimize the resulting burden on facilities. It cited several examples of such coordination, including OSHA's and EPA's HAZWOPER and process safety management regulations. These regulations and interagency coordination mechanisms are discussed in the report, which we believe provides a comprehensive discussion of the relevant coordination mechanisms brought to our attention by agency headquarters and field office officials, facility managers, and labor union officials. We acknowledge that some EPA regulations refer to OSHA's requirements or incorporate requirements by reference. According to employers and labor union officials, however, while such efforts are beneficial, they do not eliminate confusion or additional burden and fall short of the unified training guidance that we recommend. Such guidance would consolidate all relevant training requirements into a unified set of instructions similar in intent to the One-Plan guidance.

OSHA also said that, in its estimation, very few employers could be affected by combined overlapping jurisdiction of the four agencies in our review. The intent of our review was not to establish the number of employers that could be affected by overlapping jurisdictions, but to demonstrate the experiences of affected employers in their efforts to comply with these requirements. Moreover, as far back as 1993, EPA, working in conjunction with the NRT, concluded that the federal hazardous material safety system caused complexities, inefficiencies, and confusion for both regulators and the regulated community.

EPA raised other issues, including the association we draw between the compliance burden and resulting confusion, and the endangerment of worker safety. The agency said that, while it agrees that lack of coordination could lead to a compliance burden, it does not agree that inefficiencies in coordination could jeopardize worker safety. As stated in our report, we believe that compliance burden could, under certain circumstances, affect the level of work place safety and health afforded to workers. This view is corroborated by employers and union officials we contacted as part of this review. EPA also commented on our characterization of the operating structure of the OSHA/EPA standing committee and stated that it does have objectives, a long-term strategy and a mechanism to obtain the views of the regulated community. In response to EPA's comments, we revised and further clarified our description of certain aspects of the standing committee's operations. Nonetheless, we maintain our concerns that the standing committee relies on informal

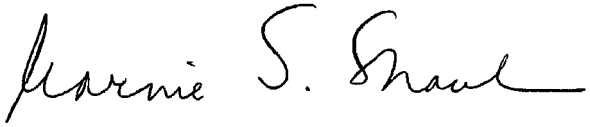
procedures and has not established mechanisms to ensure that it identifies the issues of concern pertinent to employees and labor unions, a long-term strategy to help identify which issues should be addressed first, or procedures for identifying when the standing committee has achieved its goals.

The agencies also made technical comments, which we incorporated as appropriate.

We are sending copies of this report to appropriate congressional committees; the Honorable Alexis M. Herman, Secretary of Labor; the Honorable Lawrence H. Summers, Secretary of the Treasury; the Honorable Carol M. Browner, Administrator of the Environmental Protection Agency; Gerald Poje, Irv Rosenthal, and Andrea Kidd Taylor, members of the Chemical Safety and Hazard Investigation Board; and the Honorable Jacob Lew, Director of the Office of Management and Budget. We will also make copies available to others upon request.

Please contact me on (202) 512-7215 if you or your staff have any questions about this report. Other major contributors to this report are listed in appendix VII.

Sincerely yours,



Marnie S. Shaul
Director, Education, Workforce,
and Income Security Issues

Relevant Statutes and Regulations

Table 5 lists the principal agencies with statutory responsibilities affecting safety and health at stationary work places where there is exposure to hazardous materials, the statutes that grant them this authority, and the regulations they have promulgated to exercise such authority. Given its sole focus on work place safety and health, the Department of Labor's Occupational Safety and Health Administration's (OSHA) regulations address numerous specific work place hazards. In contrast, the Environmental Protection Agency's (EPA) and Department of the Treasury's Bureau of Alcohol, Tobacco and Firearms' (ATF) regulations tend to address broader environmental and public safety issues, respectively, but are implemented in such a way as to protect workers.

Table 5: Statutes and Regulations Affecting Work Place Safety and Health at Hazardous Material Facilities

Agency	Regulation	Description
Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*)		
OSHA	Log and summary of occupational injuries and illnesses (29 C.F.R. 1904.2)	Employers must maintain a log and summary of all recordable occupational injuries and illnesses for that establishment and record each one within 6 working days.
	Reporting of fatality or multiple hospitalization incidents (29 C.F.R. 1904.8)	An employer must report to OSHA, within 8 hours, any fatality or catastrophic event (defined as three or more workers hospitalized).
	Means of egress (29 C.F.R. 1910 subpart E)	
	Employee emergency plans (29 C.F.R. 1910.38)	Employers must have, in writing, an emergency action plan to ensure employee safety from fire and other emergencies.
	Hazardous materials (29 C.F.R. 1910 subpart H)	
	Compressed gases (29 C.F.R. 1910.101)	Establishes a standard for the in-plant handling, storage, and utilization of compressed gas in cylinders. Employers must conduct visual and other inspections to ensure compressed gases are in safe condition.
	Acetylene (29 C.F.R. 1910.102)	Establishes a standard for the in-plant transfer, handling, storage, and utilization of acetylene in cylinders.
	Hydrogen (29 C.F.R. 1910.103)	Establishes a standard for the safe use of gaseous hydrogen systems.
	Oxygen (29 C.F.R. 1910.104)	Establishes a standard for the installation and storage of bulk oxygen systems on industrial and institutional consumer premises.
	Nitrous oxide (29 C.F.R. 1910.105)	Establishes a standard for the in-plant transfer and distribution of nitrous oxide.
	Flammable and combustible liquids (29 C.F.R. 1910.106)	Establishes a standard for the storage, location, piping, and protection of systems using flammable and combustible liquids.

(Continued From Previous Page)

Agency	Regulation	Description
	Spray finishing using flammable or combustible materials (29 C.F.R. 1910.107)	Establishes a standard for specific requirements concerning equipment and materials used to spray aerated solid powders for coating purposes.
	Dip tanks containing flammable or combustible liquids (29 C.F.R. 1910.108)	Not applicable
	Explosives and blasting agents (29 C.F.R. 1910.109)	Establishes a standard for the handling and storage of explosives and blasting agents.
	Storage and handling of liquefied petroleum gases (29 C.F.R. 1910.110)	Establishes a standard for the use of liquefied petroleum gases, their equipment, above and below ground containers, and piping.
	Storage and handling of anhydrous ammonia (29 C.F.R. 1910.111)	Establishes a standard for the design, location, construction, installation, and operation of anhydrous ammonia systems.
	General requirements for dipping and coating operations (29 C.F.R. 1910.124)	Establishes requirements for construction and ventilation for dipping and coating operations.
	Additional requirements for dipping and coating operations that use flammable or combustible liquids (29 C.F.R. 1910.125)	Establishes requirements for construction materials and piping systems for dipping and coating operations.
	Additional requirements for special dipping and coating operations (29 C.F.R. 1910.126)	Establishes procedures for hardening or tempering tanks.
	Personal protective equipment (29 C.F.R. 1910 Subpart I)	
	Eye and face protection (29 C.F.R. 1910.133)	Requires the use of proper eye or face equipment to protect employees from hazardous materials.
	Respiratory protection (29 C.F.R. 1910.134)	Requires the use of respirators to protect employees from breathing contaminated air.
	Occupational foot protection (29 C.F.R. 1910.136)	Requires the use of protective footwear in areas where there is danger of foot injury.
	Hand protection (29 C.F.R. 1910.138)	Requires the use of appropriate hand protection to protect employees' hands from exposure to hazards.
	Respiratory protection for M. tuberculosis (29 C.F.R. 1910.139)	Requires the use of respirators to protect employees from breathing contaminated air.
	Toxic and hazardous substances (29 C.F.R. 1910 Subpart Z)	
	Air contaminants (29 C.F.R. 1910.1000)	Limits employees' exposure to particular substances.
	Asbestos (29 C.F.R. 1910.1001)	Establishes requirements for occupational exposure to asbestos.
	Coal tar pitch volatiles (29 C.F.R 1002)	Limits employee exposure to coal tar pitch volatiles.
	13 Carcinogens (4-nitrobiphenyl, etc.) (29 C.F.R. 1910.1003)	Establishes occupational exposure limits to particular substances, medical surveillance, and air sampling.
	Alpha-naphthylamine (29 C.F.R. 1910.1004)	See 29 C.F.R. 1910.1003.
	Methyl chloromethyl ether (29 C.F.R. 1910.1006)	See 29 C.F.R. 1910.1003.
	3.3'-Dichlorobenzidine (29 C.F.R. 1910.1007)	See 29 C.F.R. 1910.1003.
	bis-Chloromethyl ether (29 C.F.R. 1910.1008)	See 29 C.F.R. 1910.1003.
	beta-Naphthylamine (29 C.F.R. 1910.1009)	See 29 C.F.R. 1910.1003.

(Continued From Previous Page)

Agency	Regulation	Description
	Benzidine (29 C.F.R. 1910.1010)	See 29 C.F.R. 1910.1003.
	4-Aminodiphenyl (29 C.F.R. 1910.1011)	See 29 C.F.R. 1910.1003.
	Ethyleneimine (29 C.F.R. 1910.1012)	See 29 C.F.R. 1910.1003.
	beta-Propiolactone (29 C.F.R. 1910.1013)	See 29 C.F.R. 1910.1003.
	2-Acetylaminofluorene (29 C.F.R. 1910.1014)	See 29 C.F.R. 1910.1003.
	4-Dimethylaminoazobenzene (29 C.F.R. 1910.1015)	See 29 C.F.R. 1910.1003.
	N-Nitrosodimethylamine (29 C.F.R. 1910.1016)	See 29 C.F.R. 1910.1003.
	Vinyl chloride (29 C.F.R. 1910.1017)	Establishes exposure limits and medical surveillance measures for vinyl chloride.
	Inorganic arsenic (29 C.F.R. 1910.1018)	Establishes exposure limits and medical surveillance measures for inorganic arsenic.
	Lead (29 C.F.R. 1910.1025)	Establishes exposure limits and medical surveillance measures for lead.
	Cadmium (29 C.F.R. 1910.1027)	Establishes exposure limits and medical surveillance measures for cadmium.
	Benzene (29 C.F.R. 1910.1028)	Establishes exposure limits and medical surveillance measures for benzene.
	Coke oven emissions (29 C.F.R. 1910.1029)	Establishes exposure limits and medical surveillance measures for coke oven emissions.
	Bloodborne pathogens (29 C.F.R. 1910.1030)	Establishes exposure limits and safety measures for bloodborne pathogens.
	Cotton dust (29 C.F.R. 1910.1043)	Establishes exposure limits and medical surveillance measures for cotton dust.
	1,2-Dibromo-3-chloropropane (29 C.F.R. 1910.1044)	Establishes exposure limits and medical surveillance measures for 1,2-dibromo-3-chloropropane.
	Acrylonitrile (29 C.F.R. 1910.1045)	Establishes exposure limits and medical surveillance measures for acrylonitrile.
	Ethylene oxide (29 C.F.R. 1910.1047)	Establishes exposure limits and medical surveillance measures for ethylene oxide.
	Formaldehyde (29 C.F.R. 1910.1048)	Establishes exposure limits and medical surveillance measures for formaldehyde.
	Methylenedianiline (29 C.F.R. 1910.1050)	Establishes exposure limits and medical surveillance measures for methylenedianiline.
	1,3-Butadiene (29 C.F.R. 1910.1051)	Establishes exposure limits and medical surveillance measures for 1,3-butadiene.
	Methylene chloride (29 C.F.R. 1910.1052)	Establishes exposure limits and medical surveillance measures for methylene chloride.
	Ionizing radiation (29 C.F.R. 1910.1096)	Establishes exposure limits and medical surveillance measures for ionizing radiation.
	Hazard communication (29 C.F.R. 1910.1200)	Chemical manufacturers and importers must assess and communicate the hazards associated with particular chemicals to employers. Employers must provide this information to employees through labels, training, and other means.

(Continued From Previous Page)

Agency	Regulation	Description
Clean Air Act Amendments of 1990 (P.L. 101-549)		
OSHA	Process safety management of highly hazardous chemicals (29 C.F.R. 1910.119)	Requires the development and implementation of a plan to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals that may result in toxic, fire, or explosion hazards.
EPA	Risk management program (40 C.F.R. 68)	Requires the development and implementation of plans to prevent the accidental release of highly hazardous materials.
Superfund Amendments and Reauthorization Act of 1986 (SARA) (P.L. 99-499)		
OSHA	Hazardous waste operations and emergency response (29 C.F.R. 1910.120)	Establishes safety requirements and requires training for workers involved in the treatment, storage, or disposal of hazardous waste
EPA	Hazardous waste operations and emergency response (40 C.F.R. 300.150 and 311)	Establishes safety requirements and requires training for workers involved in the treatment, storage, or disposal of hazardous waste.
Emergency Planning & Community Right-to-Know Act (Title III SARA/EPCRA) (42 U.S.C. 11001 *et seq.*)		
	Inventory reporting (40 C.F.R. 370.25; 370.40 and 370.41)	Requires facilities that use, store, or otherwise have custody of hazardous chemicals to submit a hazardous materials inventory form to the proper authorities
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 9601 *et seq.*)		
EPA	Emergency response plans (40 C.F.R. 300)	Establishes emergency response procedures for oil and hazardous substances, including notifying the National Response Center of chemical spills.
Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901 *et seq.*)		
EPA	Personnel training (40 C.F.R. 264.16 and 265.16)	Establishes training requirements for employees at hazardous waste facilities.
	Emergency response plans (40 C.F.R. 264.50 *et seq.* and 265.50 *et seq.*)	Requires the development and implementation of a plan to address emergency procedures at hazardous waste facilities.
Toxic Substances Control Act (TSCA) (15 U.S.C. 2601 *et seq.*)		
EPA	Asbestos (40 C.F.R. 763)	Establishes safety standards for handling asbestos in renovation of schools
	Significant new uses of chemical substances (40 C.F.R. 721)	Establishes research and other requirements to assess the health risks of materials
Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. 1251 *et seq.*)		
EPA	Spill prevention, control and countermeasures plan (40 C.F.R. 112.3)	Requires the development and implementation of procedures and methods to prevent oil discharges
	Facility response plan (40 C.F.R. 112.20)	Requires the development and implementation of procedures and methods to address potential oil discharges, including storage requirements and training requirements for employees to be able to respond to emergencies.
Organized Crime Control Act of 1990 (18 U.S.C. 841 *et seq.*)		
ATF	Commerce in explosives (27 C.F.R. 55)	Establishes requirements for the licensing and storage of explosives in sale and commerce.

Source: Agency records.

Incident Investigation Procedures and Regulatory Requirements

Table 6 shows the similarities among the incident investigation procedures of the four agencies in our review.

Table 6: Comparison of Incident Investigation Procedures

Investigation procedure	OSHA	EPA[a]	ATF	CSB[a,b]
Assess scene of incident		X	X	
Make initial contact with facility	X	X		X
Participate in opening conference and first joint coordination meeting	X	X		X
Establish field operations center			X	X
Tour facility	X	X		
Conduct joint coordination meetings during investigation				X
Conduct interviews	X	X	X	X
Gather physical evidence	X	X	X	X
Gather documentation	X	X	X	X
Conduct testing		X	X	
Evaluate site safety plan[c]	X	X		X
Make referrals to other agencies	X	X		
Conduct closeout meeting	X	X	X	X
Provide abatement assistance	X			
Conduct followup inspections	X			

[a]Procedures include references to interagency MOUs.

[b]Chemical Safety and Hazard Investigation Board.

[c]Includes training, recordkeeping, and reporting requirements.

Source: Agency records.

Table 7 shows the statutes included in our review and the pertinent regulations that contain any requirements highlighted in our review.

Table 7: Requirements Placed on Hazardous Material Facilities by Statute and Regulation

Statute, pertinent regulation, and citation	Training	Recordkeeping	Reporting	Emergency response[a]
OSHA				
Occupational Safety And Health Act of 1970[b]				
Log and summary of occupational injuries and illnesses (29 C.F.R. 1904.2)		X		
Reporting of fatality or multiple hospitalization incidents (29 C.F.R. 1904.8)				X
Employee emergency plans and fire-prevention plans (29 C.F.R. 1910.38)	X	X		X
Explosives and blasting agents (29 C.F.R. 1910.109)	X	X	X	X
Respiratory protection (29 C.F.R. 1910.134)	X	X		X
Respiratory protection for tuberculosis (29 C.F.R. 1910.139)	X	X		
Asbestos (29 C.F.R. 1910.1001)	X	X		
13 Carcinogens (29 C.F.R. 1910.1003)		X		X
Vinyl chloride (29 C.F.R. 1910.1017)	X	X	X	X
Inorganic arsenic (29 C.F.R. 1910.1018)	X	X	X	
Lead (29 C.F.R. 1910.1025)	X	X		
Cadmium (29 C.F.R. 1910.1027)	X	X		X
Benzene (29 C.F.R. 1910.1028)	X	X		
Coke oven emissions (29 C.F.R. 1910.1029)	X	X		
Bloodborne pathogens (29 C.F.R. 1910.1030)	X	X		
Cotton dust (29 C.F.R. 1910.1043)	X	X		
1,2-Dibromo-3-chloropropane (29 C.F.R. 1910.1044)	X	X	X	X
Acrylonitrile (29 C.F.R. 1910.1045)	X	X	X	X
Ethylene oxide (29 C.F.R. 1910.1047)	X	X		X
Formaldehyde (29 C.F.R. 1910.1048)	X	X		X
Methylenedianiline (29 C.F.R. 1910.1050)	X	X		X
1,3-Butadiene (29 C.F.R. 1910.1051)	X	X		X
Methylene chloride (29 C.F.R. 1910.1052)	X	X		
Ionizing radiation (29 C.F.R. 1910.1096)		X	X	X
Hazard communication (29 C.F.R. 1910.1200)	X	X		
Clean Air Act Amendments of 1990				

(Continued From Previous Page)

Statute, pertinent regulation, and citation	Training	Recordkeeping	Reporting	Emergency response[a]
Process safety management of highly hazardous chemicals (29 C.F.R. 1910.119)	X	X	X	X
SARA of 1986				
Hazardous waste operations and emergency response (29 C.F.R. 1910.120)	X	X		X
EPA				
Clean Air Act Amendments of 1990				
Risk management program (40 C.F.R. 68)	X	X	X	X
SARA of 1986				
Hazardous waste operations and emergency response (40 C.F.R. 300.150 and 311)	X	X		X
Inventory reporting (40 C.F.R. 370.25; 370.40 and 370.41)		X	X	
CERCLA				
Emergency response plans (40 C.F.R. 300)	X		X	X
RCRA				
Personnel training (40 C.F.R. 264.16 and 265.16)	X	X		
Emergency response plans (40 C.F.R. 264.50 *et seq.* and 265.50 *et seq.*)				X
TSCA				
Asbestos (40 C.F.R. 763.80 *et seq.*)	X	X		
Significant new uses of chemical substances (40 C.F.R. 721.40, 721.72, and 721.125)	X	X		
Federal Water Pollution Control Act				
Oil pollution prevention (40 C.F.R. 112.1 *et seq.*)	X	X	X	X
ATF				
Organized Crime Control Act of 1990				
Commerce in explosives (27 C.F.R. 55.121 - 55.129)		X	X	

[a]For purposes of this table, we placed routine or recurring reporting requirements in the “Reporting” column and reporting requirements related to emergency response in the “Emergency response” column. Also, we included in the “Emergency response” column only those requirements that called for the facility to inform government authorities of the incident causing the emergency.

[b]In some cases, statutes identify the materials that will be regulated under those statutes. In other cases, such as with the Occupational Safety and Health Act, no materials are specifically identified. Instead, the act authorizes the Secretary of Labor to extend regulatory coverage to any material that poses a threat to safety and health in the work place. OSHA has used this authority since 1970 to develop specific regulations for specific materials.

Source: GAO analysis of statues and regulations.

Comments From the Department of Labor

U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

OCT 6 2000

Marnie S. Shaul
Associate Director
Education, Workforce, and
Income Security Issues
United States General Accounting Office
441 G Street, NW #5928
Washington, D.C. 20548

Dear Ms. Shaul:

Thank you for providing the Department of Labor the opportunity to comment on your study, *Worker Protection: Better Coordination Can Improve Safety of Hazardous Material Facilities,* (GAO/HEHS-99-188). While the Department agrees with many of the findings in the GAO study, there are several points we wish to clarify below.

The researchers concluded that OSHA, EPA, ATF, and CSB did not properly coordinate their activities in the areas of incident investigation, training, and emergency response procedures. Yet, the only clear area of overlap among these four agencies is for incident investigation. In this area, it is widely acknowledged that CSB, as a newly-created agency in 1998, is still finding its role in functions that were previously managed by other agencies, including EPA and OSHA. The Department believes that it is highly premature to assess the effectiveness of this coordination (recent MOUs between CSB and OSHA, and CSB and EPA, and "interagency coordination with ATF) after only eighteen months of CSB's operation. More important, there has been no finding that unresolved jurisdictional overlap has been faulted for potentially endangering worker health and safety at investigated facilities.

The Department does acknowledge points of overlap between EPA and OSHA in the areas of worker training and emergency response procedures, but the GAO report fails to discuss the ways in which the agencies have attempted to minimize potential overlap. For example, with respect to worker training, the report cites overlap between OSHA's HAZWOPER standard and two EPA standards, 40 CFR 311 and 40 CFR 300.150. EPA 40 CFR 311, however, adopts HAZWOPER in its entirety rather than creating any new requirements. In 40 CFR 300.150, the National Contingency Plan, EPA simply requires compliance with OSHA's HAZWOPER standard. With respect to the training requirements in OSHA's Process Safety Management standard (29 CFR 1910.119) and EPA's Risk Management Plan rule (40 CFR 68), the provisions are identical. The one remaining area of overlap for worker training in hazardous material facilities, found in 40 CFR 264 and 265, and in OSHA's HAZWOPER standard, is currently being resolved by EPA. It is the Department's understanding that EPA is amending the worker training provisions to simply point to OSHA's HAZWOPER training provisions.

With respect to OSHA and EPA emergency response provisions, the report does acknowledge NRT's effort to assist employers in complying with emergency response planning provisions from OSHA and EPA via the One-Plan. We agree with GAO's recommendations that the option of preparing a One-Plan should be more widely publicized. We are not certain, however, that GAO is aware of the following:

a OSHA emergency response provisions in paragraph (p)(8) of HAZWOPER (for treatment, storage and disposal facilities regulated under 40 CFR 264 and 265) indicate that an employer's emergency response plan does not need to duplicate any of the subjects addressed by their contingency plan prepared in compliance with EPA requirements.

b OSHA's emergency response provisions in paragraph (q) of HAZWOPER, that apply more broadly to any facility that could have a hazardous substance emergency release, indicate that facilities that have implemented emergency response programs under EPA EPCRA provisions are considered in compliance with OSHA requirements.

c In the past two years, OSHA has made several efforts to publicize the One-Plan.
- In 1998, OSHA completed amendments to Compliance Directive, CPL 2-2.59A, to include a description of the purpose and use of the One-Plan in meeting OSHA's emergency response provisions under HAZWOPER and 1910.38(a).
- At the annual conference of the American Industrial Hygiene Association in 1999, OSHA made a presentation on local emergency response coordination that included a description of the use of the One-Plan to streamline an employer's compliance efforts.
- In training courses at the OSHA Training Institute, OSHA added a discussion of the One-Plan to its HAZWOPER training courses.

Overall, the Department is concerned that this report may mislead some readers about the nature and size of any overlap or confusion. For example, the report lists the number of hazardous substances that are regulated by the different agencies, perhaps implying the number of workplaces that could be affected. In the Department's estimation, however, very few employers could be affected by combined overlapping jurisdiction of the four agencies studied. While there is nothing particularly objectionable about the recommendations themselves, the Department is concerned that the report reflects a confusion about the role and jurisdiction of the agencies discussed, an incomplete understanding of the standards it identifies, and limited acknowledgment of the efforts made on the part of these agencies to coordinate their efforts and avoid burdening employers with duplicate requirements.

Sincerely,

Charles N. Jeffress
Assistant Secretary

Comments From the Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 11 2000

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

Ms. Marnie Shaul
Associate Director
Education, Workforce, and Income Security Issues
Health, Education, and Human Services Division
United States General Accounting Office
Washington, DC 20548

Dear Ms. Shaul:

Thank you for the opportunity to comment on the GAO draft report, Worker Protection: Better Coordination Can Improve Safety of Hazardous Material Facilities. We appreciate the diligent effort of your staff throughout this very broad based review. This report includes programs involving many offices at EPA Headquarters and in the Regions.

We have long been aware of the patchwork nature of federal statutes and programs concerning hazardous materials safety and the resulting need for interagency coordination. In December of 1993, EPA, through the National Response Team (NRT), completed a Report to Congress entitled A Review of Federal Authorities For Hazardous Materials Accident Safety. This review concluded that, while achieving statutory goals, existing federal programs related to hazardous materials accidents resulted in a patchwork system that was both complex and costly. The issues brought out in this Report to Congress, including the comprehensive examination of safety issues and the complexities and burden of the various safety statutes, have fostered improvements in our safety programs. For example, since the report, NRT has developed the "One Plan" guidance for emergency response plans and we maintain strong coordination between OSHA's Process Safety Management (PSM) program and EPA's Risk Management Program.

While EPA has made many improvements in its safety programs since the 1993 report and has been commended for these efforts (including receiving a Vice Presidential Hammer Award), we agree that we can continually improve coordination with the other agencies also responsible for hazardous materials safety. We agree with most of the recommendations in GAO's report, as explained more fully below. However, we are very concerned with numerous statements in the report that suggest EPA, the Occupational Safety and Health Administration (OSHA) and several other agencies have overlapping and duplicative authority to protect *worker* health. As noted above, we believe that existing statutes have created a patchwork of protections against hazardous materials accidents.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (40% Postconsumer)

-2-

In our view, the statutes have by and large recognized the differing missions and responsibilities of federal agencies in providing those protections. For example, OSHA, as the agency primarily responsible for protecting worker health, was directed by the Clean Air Act Amendments of 1990 to create standards protecting the *workplace* against hazardous materials accidents. By contrast, EPA, as the agency primarily responsible for protecting public health and the environment, was directed to issue regulations protecting the *surrounding community and environment* from those same accidents. The two agencies' regulations reflect this different focus, as EPA explained in issuing its Risk Management Program rule (see 61 Fed. Reg. 31668, 31687 (June 20, 1996)). The few EPA programs that directly address worker protection generally do so in order to fill narrow regulatory gaps (e.g., extending HAZWOPER requirements to state and local governments in states without delegated OSHA programs, as mandated by Congress). We thus believe it is incorrect and misleading to suggest EPA is on par with OSHA in having "primary responsibility for ensuring workplace safety and health at hazardous material facilities." We recommend that the report instead recognize OSHA's primacy in addressing worker protection and other agencies' direct and indirect effects on worker safety at these facilities.

Relatedly, we are concerned with many of the statements regarding the report's findings and conclusions. Most are general statements, and we are concerned that they may lead to misunderstandings because they may apply to one statute or program but not to others. The report does not provide the specificity necessary to fully understand many of these general statements. For example, the statement on page 8 "[a]ccording to EPA, the general public includes workers, as they are often the first to be affected by an accidental release of hazardous materials" is misleading. This statement may be correct under the Toxic Substances Control Act regulations, but it is not correct with respect to the Clean Air Act's Risk Management Program. As noted above, the focus of the Risk Management Program is on the public and environment *beyond* the facility's fence line. The program, for example, allows a facility that can show a worst-case release would not cause harm beyond the fence line to avoid most prevention program requirements, even though workers at the facility might be harmed by such a release. At the same time, the program requires a facility that could cause harm beyond the fence line, and that is already subject to OSHA's PSM standard, to comply with prevention program requirements virtually identical to OSHA's standard. EPA's requirements differ only in ensuring that the facility also considers the safety of the public and environment in developing its prevention program and emergency response plan. We urge that GAO use or reference the 1993 Report to Congress to better explain the details and complexities of the various statutes that comprise the federal authorities for hazardous materials accident safety.

The report speculates that inefficiencies in coordination "might" or "could conceivably" jeopardize the safety of workers. We believe that these statements are untrue, and are not supported in the report. Employers have the primary responsibility to protect the health and safety of workers. Statements that "the potential for redundancies in regulations could increase the risk of worker injuries" neglects that the employer is in the best situation to determine how to

-3-

prevent chemical releases and/or respond to accidents that do occur. This is the foundation for both EPA's and OSHA's programs as well as our statutory General Duty Clauses.

EPA believes the report (specifically the recommendations) does not address safety concerns, as the title and the body of the report would imply; rather the report centers on ways to reduce burden. Our program, including the recommendations in this report, addresses ways in which to improve coordination that can reduce burden while maintaining the federal government's standards for safety. Only two statements in the report address the potential for improving safety, yet neither of these statements is associated with a recommendation. These are the "gaps" in the regulation of reactive mixtures and in the HAZWOPER statutory authorities (page 5). While neither of these safety concerns stems from redundancies in regulations or a lack of coordination, EPA has already agreed to work with OSHA and the Chemical Safety Board on how to effectively improve safe handling of reactive materials. We have published guidance and accident investigation reports on this subject, but we agree that more needs to be done.

We believe that the statement on page 24 "agency officials said they were not given the authority to enforce their HAZWOPER regulation, which casts doubt on how well EPA's regulation protects responders to hazardous material incidents" is misleading. First, through grants provided by the Department of Transportation and training sessions given by EPA and the Federal Emergency Management Agency, the federal government provides a great amount of resources to assist state and local governments with their training needs. Secondly, although EPA has not brought any actions to enforce the HAZWOPER regulation, that is NOT because the Agency believes that it lacks the legal authority to do so.

We would like you to know that we have been working to reduce reporting and recordkeeping burden for the RCRA requirements. On June 18, 1999, we published a Notice of Data Availability in the Federal Register discussing a number of burden reduction ideas. Two of the ideas discussed in the June 18, 1999, Notice were having facilities comply with OSHA personnel training requirements on emergency response procedures, instead of the RCRA requirements; and discussing the option for facilities to consolidate multiple emergency response plans into a One Plan. We are currently drafting a proposed rulemaking that will address these two ideas.

We believe statements in the draft report are inaccurate regarding the OSHA and EPA standing committee on process safety regulations having a "lack of objectives, long-term strategy, and mechanism to obtain the views of the regulated community." Our strategy and objectives for the coordination of these programs were specified in August of 1996 in the *Strategy For Coordinated EPA/OSHA Implementation of the Chemical Accident Prevention Requirements Of The Clean Air Act Amendments of 1990*. Also, many of the issues addressed by the standing committee have been raised by the regulated community or stemmed from discussions with trade associations. Because the Risk Management Program regulations incorporate OSHA's Process Safety Management standard nearly verbatim, we announced in the preamble at the time we issued the our regulations that EPA and OSHA would work closely to

-4-

ensure consistent interpretations (see 61 Fed. Reg. 31668, 31688). This has led to a very close working relationship between EPA and OSHA, which has been complimented by the regulated community.

The subsection Multiagency Incident Investigations Have Created Confusion and Burden may be misleading because it does not address the timing of the incident investigations in light of the recently established Chemical Safety Board. While there were some coordination problems with the first one or two Board investigations, EPA, the Chemical Safety Board, and OSHA have taken great strides to coordinate before an investigation occurs. In fact, since the establishment of the Board, EPA has not conducted any separate root cause investigations. In the future, there may be concerns about coordination when facilities claim information as Confidential Business Information and the Agencies are forced to utilize their legal procedures to prevent the distribution of information. However, we have sound working relationships with the other agencies that can quickly resolve any issues.

Thank you for the opportunity to comment on the draft report. Enclosed is a copy of the draft report that incorporates our "technical comments." If you have any questions, please contact Johnsie Webster, of my staff, at 202-260-4475.

Sincerely,

for Jane E Woolford

Timothy Fields, Jr.
Assistant Administrator

Enclosure

cc: Johnsie Webster
Steve Tiber
Johns Ferris
David Speights
Robert Burchard
Rod Turpin
Mike Marshall (OSHA)
Chris Warner (CSB)

Comments From the Department of the Treasury

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
WASHINGTON, D.C. 20226

DIRECTOR

OCT - 6 2000

902000:MLW
5400

Ms. Marnie S. Shaul
Associate Director, Education, Workforce,
and Income Security Issues
United States General Accounting Office
Washington, DC 20548

Dear Ms. Shaul:

Thank you for the opportunity to comment on the General Accounting Office's draft report entitled "WORKER PROTECTION--Better Coordination Can Improve Safety at Hazardous Material Facilities." As the report explains, you have reviewed coordination among Federal agencies responsible for protecting safety and health at hazardous material work places, and you have specifically assessed (1) the extent to which agencies have overlapping statutory authority or procedures, (2) employers' and workers' experiences with multiagency efforts to protect workplace safety and health at hazardous material facilities, and (3) the extent to which agencies coordinate their enforcement efforts and communicate to employers the nature and extent of their coordinated activities. Your review identified four agencies--the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), the Bureau of Alcohol, Tobacco and Firearms (ATF), and the Chemical Safety Board (CSP)--as having primary responsibility for ensuring workplace safety and health at hazardous materials facilities.

Although ATF enforces the Federal explosives laws, we do not have specific statutory authority to enforce workplace safety. ATF's authority to enforce the

-2-

Ms. Marnie S. Shaul

Federal explosives laws derives from the Organized Crime Control Act of 1970[1] (the Act), as set forth at 18 U.S.C. §§ 841 et seq.

The Act and its implementing regulations set forth a framework for the issuance of licenses to individuals and entities engaged in the business of manufacturing, importing, or dealing in explosive materials, and for the issuance of permits to entities that otherwise obtain explosives in interstate commerce. Further, the Act authorizes ATF to enforce, against any party, regulations concerning the storage of explosive materials. Finally, the Act provides criminal penalties for violations of its various provisions. It bears noting that Congress has declared that the purpose of the Act "…is to protect interstate and foreign commerce against interference and interruption by reducing the hazard to persons and property arising from misuse and unsafe or insecure storage of explosive materials…."

As your report indicates, there are duplicative practices among those agencies responsible for workplace safety. Your report noted in the first paragraph of the conclusion, beginning on page 33, "…Congress has given OSHA, EPA, ATF, and CSB related and sometimes overlapping responsibility for ensuring worker protection from exposure to hazardous materials." Although ATF's inspections involving explosives storage do impact worker safety at facilities, we, in fact, have no specific statutory responsibility for workplace safety.

Many other items in this report also convey a misunderstanding of ATF's mission as it relates to workplace safety. For example:

Page 3, Paragraph 2. "These eight statutes give four agencies…primary responsibility for ensuring

[1] Please note that your report has misidentified this Act as the Organized Crime Control Act of 1990.

-3-

Ms. Marnie S. Shaul

workplace safety and health at hazardous material facilities."

ATF is listed as one of these agencies. However, ATF's role is limited generally to the issuance of explosives licenses and permits, and to the regulation and inspection of explosives licensees and permittees. It does bear noting that all individuals and non-Government entities are required to comply with ATF's regulations regarding the storage of explosive materials.

Page 4, Paragraph 2. "They also place similar requirements on employers for training workers and developing plans for responding to emergencies."

ATF places no requirements on employers to train workers or develop emergency response plans.

Page 6, Paragraph 2. Line 2 refers to workplace safety.

ATF's jurisdiction involves public safety and has no specific statutory role in workplace safety standards.

Page 6, Paragraph 2, Lines 6, 7, and 8 refer to conducting inspections to assess employer compliance… citing an employer for noncompliance… and conducting activities to help employers comply, such as providing consultation.

ATF's jurisdiction extends to commercial practices of explosives licensees or permittees, not specifically to employers' work practices. ATF may only "cite" for non-compliance with Federal explosives law those individuals and entities who have been issued licenses or permits under our regulations.

-4-

Ms. Marnie S. Shaul

Page 8, Paragraph 3. "…As a result, ATF has some degree of responsibility for protecting workers who handle, store, or are otherwise exposed to explosives."

As noted above, ATF has no specific statutory authority for protecting worker safety, although our enforcement of Federal explosives laws may impact worker safety.

Page 10, Paragraph 1. "…OSHA, EPA, and, in some cases, ATF have overlapping employer requirements…training workers, developing emergency response procedures…."

ATF has no employer requirements in the areas of training workers or developing emergency response procedures.

Page 19, Paragraph 3, regarding Multiagency Incident Investigations. "…ATF agents pursued their criminal investigations independently. During one incident, ATF cordoned off the scene and permitted only law enforcement personnel to enter the site, thus excluding OSHA, EPA, and CSB investigators."

There are occasions in which ATF responds in an investigative or law enforcement role to the scene of a fire or explosion where hazardous materials may be a factor. However, every scene ATF investigates represents a potential crime scene and must be protected as such. ATF traditionally investigates these scenes in conjunction with other State, local, or Federal law enforcement agencies, which also have stringent rules regarding the protection of potential crime scenes. It would be detrimental to the integrity of these investigations to begin exploring worker safety issues prior to conducting a thorough examination of the scene and making a cause determination.

-5-

Ms. Marnie S. Shaul

ATF is strongly committed to protecting public safety, and we work side-by-side with other agencies to do so. ATF is primarily a law enforcement agency with Congressional mandate to regulate commerce in explosives. Although we have no specific statutory authority to investigate worker safety issues, we are currently working with EPA, OSHA, and the CSB on memoranda of understanding that will avoid unnecessary duplication of effort. We applaud efforts to reduce regulatory burden without compromising public safety.

There are other areas in this report that require clarification; however, due to the time constraints involved in preparing our comments, we have been unable to provide you an exhaustive analysis of your draft report. At your request, we will be happy to discuss this report further. If you have questions, please contact Arson and Explosives Programs Division Chief Guy Hummel at (202) 927-8812.

Sincerely yours,

Bradley A. Buckles
Director

Comments From the Chemical Safety and Hazard Investigation Board

U. S. Chemical Safety and Hazard Investigation Board
2175 K Street, NW Suite 400 Washington, D.C. 20037-1809
Phone 202-261-7600 Fax 202-261-7650
www.chemsafety.gov

Paul L. Hill, Jr., Ph.D.
Board Member

Irv Rosenthal, Ph.D.
Board Member

Gerald V. Poje, Ph.D.
Board Member

Andrea Kidd Taylor, Dr. P.H.
Board Member

September 28, 2000

Ms. Marnie Shaul
Associate Director
Education, Workforce, and Income Security Issues
Health, Education, and Human Services Division
U.S. General Accounting Office
441 G Street, NW, Room 5940
Washington, DC 20548

Dear Ms. Shaul:

Thank you for the opportunity to comment on your draft report, *Worker Protection: Better Coordination Can Improve Safety of Hazardous Material Facilities.* The Chemical Safety Board (CSB) appreciates and supports the intent of the report, to improve worker safety and to reduce unnecessary burdens on industry.

I should emphasize that the Board has a unique statutory mission: to investigate and determine the root causes of chemical accidents and make recommendations to promote accident prevention. The CSB is sensitive to the burdens imposed on industry by having multiple agencies investigate chemical incidents and understands the value of coordinating some phases of evidence gathering. The CSB has sought to cooperate to an appropriate extent with all parties to accident investigations. However, the CSB must also exercise many of its functions independently in order to fulfill its legislative mandate. The CSB was specifically created by Congress to work independently from the Environmental Protection Agency (EPA); Occupational Safety and Health Administration (OSHA); the Bureau of Alcohol, Tobacco, and Firearms (ATF); and other regulatory bodies. Only in this manner can the CSB uncover regulatory or other deficiencies that may endanger public or worker safety.

Congress explicitly recognized this fact, ensuring in law that no other agency or executive branch official may direct the activities of the Board. The Senate noted:

> *The independence of the Board . . . is essential for several reasons. First, it is unlikely that an agency charged both with rule-making and investigating functions would be quick to acknowledge that existing requirements were insufficient to prevent an accident . . . . Second, the Board is intended as an organizational stimulus to an appropriate amount of regulatory activity by the Environmental Protection Agency in this area . . . . A Board which did not operate independent from the [EPA] Administrator's direction would defeat the objective of stimulating regulatory action -- a stimulus created through the organizational tension built into the statutory relationship between the Board and the [Environmental Protection] Agency.* [Senate Report No. 101-228 (1989), pp 229-230]

Beyond serving as a stimulus to regulators, Congress recognized that Board investigations would be qualitatively different from those of other agencies:

> *[T]he investigations conducted by agencies with dual responsibilities tend to focus on violations of existing rules as the cause of the accident almost to the exclusion of other contributing factors for which no enforcement or compliance actions can be taken. The purpose of an accident investigation (as authorized here) is to determine the cause or causes of an accident whether or not those causes were in violation of any current and enforceable requirement.* [Ibid.]

For example, in the recently completed investigation of a chemical explosion at Morton International, the CSB noted there was a lack of generally available, pertinent information on controlling reactive hazards. Reactive hazards are those associated with one or more otherwise stable chemicals that have the potential to generate excess heat or pressure under unusual conditions (e.g. exposure to heat, moisture, or a catalyst). The Morton incident, which injured nine workers, occurred as the result of a runaway decomposition process, an example of a common reactive hazard.

As the result of its investigation, the CSB recommended that OSHA and EPA (1) develop comprehensive good-practice guidelines for reactive hazards, so that industry may more readily evaluate and mitigate these hazards before accidents occur, and (2) participate with the CSB in a special investigation of how companies and regulatory agencies deal with reactive hazards currently. The latter investigation could lead to recommendations for regulatory changes, if warranted. As this example demonstrates, the Board goes well beyond regulatory compliance issues and reveals systemic deficiencies that contribute to accidents.

Your report makes two recommendations jointly to the CSB, OSHA, EPA, and ATF. First, you recommended that the agencies establish a general protocol that sets forth the framework under which multiagency incident investigations shall be conducted. The Board agrees with this recommendation. The CSB has coordinated with EPA and OSHA in each and every case where the CSB conducted a field investigation. In each case, contacts were established early in the process, both in the field and at headquarters, to minimize the burden on the companies. Moreover, CSB has consistently solicited EPA

and OSHA input into development of the Board's strategic plan and incident selection process.

Conducting joint interviews of witnesses, however, is sometimes not consistent with the Board's statutory safety mission. The cooperation of witnesses is essential for the Board to uncover the systemic deficiencies that often are the cause of accidents. However, witnesses may not be forthcoming with relevant evidence in the presence of federal or state officials who have the authority to pursue civil and/or criminal penalties against them. In creating the CSB, Congress recognized this potential problem and provided a solution at least with respect to related civil litigation. To encourage witness cooperation, the CSB's enabling statute provides, in part: "No part of the conclusions, findings, or recommendations of the Board relating to any accidental release or the investigation thereof shall be admitted as evidence or used in any action or suit for damages . . . . " [42 U.S.C. § 7412(r)(6)(G)] The legislative history explains the rationale for this provision:

> *The findings, conclusions and recommendations of the Board are not to be used in civil proceedings for damages . . . . In conducting its investigations, the Board will need the fullest cooperation from facility owners and operators, equipment suppliers and other parties involved in an accidental release to determine the probable causes of the event. The likelihood that conclusions drawn from information provided to the Board will be used in a suit [for] damages will discourage full cooperation.* [Senate Report, p. 232]

Similarly, the fear of criminal prosecution also discourages full and open cooperation from witnesses. For example, recent National Transportation Safety Board (NTSB) and CSB investigations have been made more difficult by an increasingly common phenomenon – parallel criminal investigations by other federal agencies.[1] For these reasons, it is important for the CSB, like the NTSB, to retain its independent identity as a strictly scientific agency. In some instances, this may mean conducting interviews outside the presence of civil and criminal investigators.

You also recommended that the four agencies assess the efficacy of existing memoranda of understanding (MOUs) and, where necessary, establish other mechanisms to reduce burdens on facilities and enhance worker safety. The CSB supports this recommendation. The Board notes that the facilities examined in the GAO report are not necessarily representative of the whole of industry. Serious chemical incidents investigated by the CSB only occur at a small minority of facilities, but these facilities are disproportionately represented in the GAO report. The relatively small number of incidents investigated by the CSB were responsible for numerous fatalities and injuries and have subjected those facilities to unusual levels of external scrutiny.

---

[1]Testimony of Jim Hall, Chairman, National Transportation Safety Board, before the Committee on Transportation and Infrastructure, Subcommittee on Economic Development, Public Buildings, Hazardous Materials and Pipeline Transportation, House of Representatives, Regarding the June 10, 1999, Pipeline Rupture and Fire in Bellingham, Washington, October 27, 1999. Chairman Hall testified, in part: "[My] investigators have been stymied by the prospect of criminal prosecutions . . . a number of our investigative activities have been suspended because most of the central players will not talk to us."

In implementing your two recommendations, the CSB will adhere to its statutory mission and preserve the necessary degree of independence for its investigative activities. The CSB will seek to maximize worker safety while minimizing burdens on industry and duplication of agency efforts.

Sincerely,

Christopher Warner
Chief Operating Officer

GAO Contacts and Staff Acknowledgments

GAO Contacts

Lori Rectanus, (202) 512-9847
Joseph Natalicchio, (202) 512-5897

Staff Acknowledgments

In addition to those above, Monika Gomez, Julian Klazkin, and Suzanne Sterling made key contributions to this report.

Ordering Information

The first copy of each GAO report is free. Additional copies of reports are $2 each. A check or money order should be made out to the Superintendent of Documents. VISA and MasterCard credit cards are accepted, also.

Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:
U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013

Orders by visiting:
Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders by phone:
(202) 512-6000
fax: (202) 512-6061
TDD (202) 512-2537

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

Orders by Internet:
For information on how to access GAO reports on the Internet, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web home page at:

http://www.gao.gov

To Report Fraud, Waste, or Abuse in Federal Programs

Contact one:

- **Web site: http://www.gao.gov/fraudnet/fraudnet.htm**
- **e-mail: fraudnet@gao.gov**
- **1-800-424-5454 (automated answering system)**

PRINTED ON RECYCLED PAPER

United States
General Accounting Office
Washington, D.C. 20548-0001

Official Business
Penalty for Private Use $300

Address Correction Requested

Bulk Rate
Postage & Fees Paid
GAO
Permit No. GI00