

March 2007

DISASTER PREPAREDNESS

Better Planning Would Improve OSHA's Efforts to Protect Workers' Safety and Health in Disasters



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Highlights

Highlights of [GAO-07-193](#), a report to congressional committees

Why GAO Did This Study

Concerns about the safety and health of workers involved in the response to Hurricane Katrina included their exposure to contaminated floodwaters and injuries from working around debris. The Department of Labor's Occupational Safety and Health Administration (OSHA) is responsible for coordinating federal efforts to protect the safety and health of workers involved in the response to large national disasters. Under the Comptroller General's authority, GAO initiated a number of Katrina-related reviews. For this review, GAO examined (1) what is known about the number of response and recovery workers deployed to the Gulf Coast in response to Hurricane Katrina; (2) the extent to which OSHA tracked injuries and illnesses sustained by these workers; and (3) how well OSHA met the safety and health needs of workers. To address these issues, GAO reviewed reports; analyzed data; interviewed federal, state, and local officials; and conducted site visits.

What GAO Recommends

GAO is making recommendations to the Secretaries of Labor, Homeland Security, and Health and Human Services designed to improve OSHA's efforts during future disasters. Labor agreed with the recommendation to establish a system to better track injuries and illnesses but disagreed with some of the findings on which the other recommendations were based. The other two agencies agreed with the recommendations in the report.

www.gao.gov/cgi-bin/getrpt?GAO-07-193.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Daniel Bertoni at (202) 512-5988 or bertonid@gao.gov.

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Better Planning Would Improve OSHA's Efforts to Protect Workers' Safety and Health in Disasters

What GAO Found

No one, including OSHA, was responsible for collecting information on the total number of response and recovery workers deployed to the Gulf Coast in response to Hurricane Katrina and no one collected it, but 10 federal agencies provided estimates showing that, on October 1, 2005, the agencies had about 49,000 federal workers in the Gulf Coast area. In addition, six of these agencies estimated that their contractors had about 5,100 workers in the area on December 1, 2005, but the other four either did not track the number of workers employed by their contractors or did not employ contractors.

Although OSHA was responsible for tracking the injuries and illnesses that federal response and recovery workers sustained during the response to Hurricane Katrina, the agency's efforts to collect it were delayed and it was unable to collect usable information. According to OSHA, the Federal Emergency Management Agency (FEMA) must assign and fund specific responsibilities for each disaster. However, FEMA did not direct OSHA to collect injury and illness data until more than 3 weeks after the hurricane struck. OSHA attempted to collect the data, but the information federal agencies provided were incomplete and unreliable. OSHA and other agencies did track fatalities. They reported nine worker fatalities attributed to work-related accidents: three employees of federal contractors and six nonfederal workers or volunteers.

OSHA provided assistance to many response and recovery workers who responded to Hurricane Katrina, but not all workers' safety and health needs were met. OSHA quickly established operations in the Gulf area; intervened in thousands of potentially hazardous situations; and assessed air, water, soil, and noise hazards at many work sites. However, disagreements between OSHA and FEMA about which agency was in charge of providing safety and health assistance to federal agencies and workers and how it would be provided delayed some of OSHA's efforts. Also, some agencies' lack of awareness about the role OSHA plays in a disaster further hindered its ability to provide assistance. As a result, OSHA did not fully meet workers' safety and health needs, particularly their need for training and protective equipment. OSHA also did not coordinate with the Department of Health and Human Services to ensure that workers had needed mental health services, and OSHA was not assigned responsibility for coordinating the needs of nonfederal workers, including state and local agency workers; many immigrants; and volunteers.

Workers at an EPA Hazardous Waste Collection Facility near New Orleans, Louisiana



Source: GAO.

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Abbreviations

DOD	Department of Defense
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
NRP	National Response Plan
OSHA	Occupational Safety and Health Administration
USACE	U.S. Army Corps of Engineers

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Congressional Committees

After Hurricane Katrina hit the Gulf Coast on August 29, 2005, federal agencies undertook one of the largest rescue and recovery efforts in American history. Several agencies sent workers to the three states that suffered the most damage from the hurricane: Alabama, Louisiana, and Mississippi. Various reports have raised concerns about the safety and health of workers involved in the response to Hurricane Katrina and the dangers they faced, from animals such as snakes and alligators to floodwaters contaminated by chemicals, oil, corpses, and fecal matter. Public health advisories also warned about high temperatures and the potential spread of diseases such as West Nile Virus resulting from mosquitoes that breed in standing water. In addition, worker advocacy groups, public health advisors, and representatives of the Congress have raised concerns about the possibility of latent illnesses among workers deployed to the Gulf, especially in light of such illnesses among workers involved in rescue and recovery efforts at the World Trade Center disaster site. Many workers at the site in New York were not aware that they had developed debilitating respiratory conditions or post-traumatic stress disorders until months or years after they left the site.

The safety and health of workers responding to Hurricane Katrina is addressed in a section, or “annex,” of the National Response Plan (NRP) of December 2004, the federal plan for responding to domestic emergencies and disasters. As lead agency for carrying out the provisions of the Worker Safety and Health Support Annex (the Annex), the Department of Labor’s Occupational Safety and Health Administration (OSHA) is responsible for coordinating the worker safety and health efforts of responders—including federal, state, local and tribal governments, and private and nonprofit organizations—in protecting the safety and health of their workers when the Annex is implemented. OSHA’s responsibilities under the Annex include identifying and assessing health and safety hazards, providing technical advice and support to safety officials, and collecting data on exposures and injuries. Given the large numbers of workers who responded to Hurricane Katrina and concerns about their health and safety, we addressed the following questions: (1) What is known about the number of response and recovery workers deployed to the Gulf Coast in response to Hurricane Katrina? (2) To what extent did OSHA track injuries

and illnesses sustained by these workers? (3) How well did OSHA meet the safety and health needs of these workers?

To address these objectives, we reviewed reports and documents related to the federal response efforts for Hurricane Katrina and other recent disasters; interviewed officials from 10 federal agencies identified by FEMA and OSHA as having deployed response and recovery workers to the Gulf Coast: OSHA; the Federal Emergency Management Agency (FEMA); the Environmental Protection Agency (EPA); the Coast Guard; the Department of Defense (DOD); the National Guard; the U.S. Army Corps of Engineers (USACE); and the Departments of Agriculture, Health and Human Services, and the Interior. We also conducted site visits in Alabama, Mississippi, and Louisiana where we interviewed federal officials in all three states and selected state and local officials who were part of the rescue and recovery efforts. To obtain information on the number of response and recovery workers who responded to Hurricane Katrina, we contacted the 10 agencies identified by FEMA and OSHA and asked them to provide information on the number of workers each agency employed in the Gulf Coast. To obtain information on injuries and illnesses sustained by these workers, we asked these same agencies for this information for their workers. Of the 10 agencies, only four—USACE, EPA, the Coast Guard, and the Department of the Interior—had data on workers’ injuries and illnesses that were sufficiently reliable for us to report. We also obtained data on injuries and illnesses related to Hurricane Katrina from workers’ compensation claims filed by federal workers, and information on worker fatalities from OSHA and other federal agencies. To assess the reliability of the agencies’ data, we talked with agency officials about their data quality-control procedures and reviewed relevant documentation. We determined the data were sufficiently reliable for the purposes of this report. Finally, we interviewed workers’ rights organizations, including the Mississippi Immigrant Rights Alliance, Boat People SOS, the Center to Protect Workers’ Rights, and the New York Committee for Occupational Safety and Health. We conducted our work from October 2005 to December 2006 in accordance with generally accepted government auditing standards. For additional information, see appendix I.

Results in Brief

No one, including OSHA, was responsible for collecting information on the total number of response and recovery workers deployed to the Gulf in response to Hurricane Katrina, and no one collected it, but 10 federal agencies provided estimates showing that, on October 1, 2005 (the month with the largest total number of federal workers), the agencies had about

49,000 federal workers in the Gulf Coast area. In addition, six of these agencies estimated that their contractors had over 5,100 workers in the area as of December 1, 2005 (the month with the largest total number of contractor employees), but three of the other four did not track the number of workers employed by their contractors, and one did not employ contractors for the response.

Although OSHA was responsible for tracking injuries and illnesses for federal response and recovery workers, including federal contractor employees, deployed to the Gulf Coast during the response to Hurricane Katrina, the agency was unable to collect usable information from federal agencies on their workers' injuries and illnesses. OSHA could not track workers' injuries and illnesses because the agency (1) had not developed a process for collecting this information prior to the disaster, (2) was not directed by FEMA to track this information right away, and (3) received incomplete and unreliable data from federal agencies once it attempted to collect the information. In the 8 months between the time the National Response Plan and the Annex was issued and Hurricane Katrina hit the Gulf Coast, OSHA focused its efforts on introducing the Annex to agencies that might respond to a disaster and did not develop a process for collecting data on workers' injuries and illnesses. In addition, OSHA, like all other agencies under the NRP, must wait for FEMA to assign it specific responsibilities for each disaster and authorize funding for these activities, but FEMA did not direct OSHA to collect data on federal workers' injuries and illnesses until more than 3 weeks after the hurricane struck. After receiving this assignment from FEMA, OSHA tried to obtain the data from the logs that OSHA requires agencies to keep at each work site on workers' injuries and illnesses. However, not all agencies that deployed workers to the Gulf Coast provided these logs to OSHA as requested, and those that did provided incomplete and unreliable data. OSHA and other agencies also reported nine worker fatalities attributed to work-related accidents, including three employees of federal contractors and six nonfederal workers or volunteers.

OSHA provided assistance to many response and recovery workers who responded to Hurricane Katrina, but OSHA's efforts to meet all workers' safety and health needs were hampered by several factors. OSHA used its own funds to quickly establish operations in the Gulf area prior to receiving authorization from FEMA in the form of a mission assignment implementing the Annex. OSHA developed health and safety plans; provided information on common safety hazards to many agencies and workers; intervened in thousands of potentially hazardous situations; and assessed air, water, soil, and noise hazards at many worksites. However,

disagreements between OSHA and FEMA about which agency was in charge of providing safety and health assistance to federal agencies and workers and how and when the Annex would be implemented delayed some of OSHA's efforts to provide assistance. Once OSHA began its efforts, some agencies' lack of awareness about the role OSHA plays in a disaster further hindered its ability to provide assistance. For example, many agency officials did not know that, in a disaster, OSHA provides technical assistance rather than conducting inspections of work sites or that OSHA can provide assistance such as assessing safety hazards and recommending the proper protective equipment for workers. This lack of understanding contributed to agencies' not requesting OSHA's assistance during the response and not inviting OSHA to participate in emergency preparedness exercises in the months leading up to Hurricane Katrina. In addition, although OSHA provided valuable assistance to many agencies and workers, it was not able to ensure that all workers' needs for training, protective gear, and mental health services were met. The training OSHA provided was delayed for several weeks because FEMA did not officially authorize OSHA to carry out its responsibilities under the Annex until more than 3 weeks after the hurricane, and some agencies did not request training from OSHA because they did not realize it was available. OSHA provided some personal protective equipment to workers in the Gulf Coast area but had not developed a plan for ensuring that workers had needed protective equipment as required by the Annex and FEMA, and some workers did not have equipment to protect them from hazards. For example, National Guard officials told us that some of their federalized workers did not have equipment such as rubber boots to protect them from contaminated floodwaters. OSHA also had difficulty getting counselors to provide mental health services in the locations and during the hours they were needed, and it did not coordinate with the Department of Health and Human Services to ensure that workers had needed mental health services. Finally, coordinating the safety and health needs of nonfederal workers—including state and local government workers, many immigrants, and volunteers—was not part of OSHA's assigned responsibilities for Hurricane Katrina (nor any other federal agency's responsibility), and some of their needs were not met.

We are recommending that the Secretaries of the Departments of Labor and Homeland Security direct the Administrators of OSHA and FEMA to improve their ability to meet workers' safety and health needs in the event of a future disaster in several areas, including clearly defining the criteria to be used in deciding when OSHA will be responsible for carrying out its duties under the Annex to the NRP; clarifying OSHA's and FEMA's roles under the Annex; and proactively working to provide information to other

federal, state, and local agencies about the role that OSHA plays in a major disaster and the assistance it can provide. We are also recommending that the Secretary of Labor direct OSHA to establish a process for collecting data on injuries and illnesses sustained by workers who respond to disasters and develop, implement, and monitor an incident personal protective equipment program as defined in the Annex. Finally, we are recommending that the Secretaries of the Departments of Labor and Health and Human Services develop a plan for coordinating and providing mental health services in the event of a future disaster. In responding to a draft of this report, officials with the Departments of Health and Human Services and Homeland Security agreed with our recommendations and provided technical comments that we incorporated as appropriate. The Department of Health and Human Services provided general written comments. (See app. III for a copy of its comments.) The Department of Labor agreed with one of our recommendations and, while it did not comment on the other recommendations, stated generally that we did not give the agency enough credit for the actions it took during its response to Hurricane Katrina and disagreed with some of the findings. (See app. IV for a copy of the agency's comments and our response.) The Departments of Labor and the Interior; the Coast Guard; and the National Guard also provided technical comments, which we incorporated as appropriate. Although they were provided with a draft for comment, DOD did not respond to our request for comments. Officials with EPA, USACE, and the Department of Agriculture told us that they had no comments.

Background

The Role of OSHA in Occupational Safety and Health

The Occupational Safety and Health Act of 1970 authorizes OSHA to set occupational safety and health standards, rules, and regulations and to enforce their compliance. OSHA uses two approaches—enforcement and compliance assistance.

Enforcement is carried out primarily by using compliance officers to inspect employer work sites. Employers whose work sites fail to meet federal safety and health standards face sanctions, such as paying penalties for violations of safety and health standards. In this enforcement capacity, OSHA targets employers for inspection using injury and illness rates for industries and specific work sites. OSHA also conducts inspections when employers report fatalities or serious injuries and when workers file complaints alleging that a violation of a safety or health

standard exists that threatens physical harm or that an imminent danger exists at their work sites.

Cooperative programs, in contrast, use a variety of incentives to encourage employers to work with OSHA to reduce hazards and institute practices that foster safer and healthier working conditions. Such incentives include free consultations, recognition for exemplary safety and health systems, and exemption from routine inspections.

OSHA has direct enforcement responsibility for federal workers in all states and for private sector workers in about half the states. In the remaining states, OSHA has granted approval for the states to conduct their own enforcement of private sector, state, and local government work sites.¹ None of the three states most affected by Hurricane Katrina conducts its own worker safety and health program; OSHA provides direct oversight for workers in these states.

OSHA is organized by regional and area offices. The three states most affected by Hurricane Katrina are located in OSHA's Region 4 (Mississippi and Alabama) and Region 6 (Louisiana). Its area offices in these states are located in Jackson, Mississippi; Mobile, Alabama; and Baton Rouge, Louisiana

Federal and private sector employers are required by OSHA to maintain records documenting certain work-related injuries and illnesses: those that result in death, 1 or more days away from work, restricted work, loss of consciousness, or a significant injury or illness diagnosed by a physician. Each employer's work site is required to record illness and injury data on a form known as an "OSHA 300 log." While employers are not required to submit these logs to OSHA, they must be available for inspection upon request. Federal agencies are required to submit summary information to OSHA about their safety and health programs on an annual basis, but these reports generally do not contain information on specific injuries and illnesses sustained by their workers.

¹At present, 22 states have been approved by OSHA to operate their own enforcement programs covering all private sector workers and state and local public sector workers, and 4 have been approved to cover state and local public sector workers only.

The Role of OSHA in a Disaster

Based on lessons learned during the response to the World Trade Center disaster, OSHA now uses its statutory enforcement discretion during a disaster to exempt selected employers from normal enforcement operations and provide technical assistance and consultation in combination with traditional enforcement as required by the incident.² At the World Trade Center, OSHA made this decision based on the recognition that a rescue effort should not be hampered, that enforcement takes time and can affect the speed of the correction of safety and health hazards, and that its goal was protection, not citation. The Assistant Secretary of OSHA, in conjunction with regional administrators, makes the decision when to exercise its enforcement discretion and move to a technical assistance role, and when to return to traditional enforcement

While federal, state, and local agencies as well as private sector employers are responsible for ensuring the safety and health of their workers, OSHA is responsible for coordinating with other federal cooperating agencies to provide safety and health technical assistance to response and recovery workers involved in the response to a disaster. The federal cooperating agencies are DOD; the Departments of Energy, Health and Human Services, and Homeland Security; and EPA.

As the lead coordinating agency for the Worker Safety and Health Support Annex (the Annex), OSHA's coordination responsibilities include

1. providing occupational safety and health technical advice and support to safety officials at the Joint Field Office, a temporary federal facility established at the site of a disaster to coordinate federal assistance to affected jurisdictions;
2. developing and implementing site-specific occupational safety and health plans and ensuring that the plans are coordinated and consistent among multiple sites;
3. identifying and assessing health and safety hazards and characterizing the incident environment, to include continued monitoring of incident safety on a 24-hours-a-day, 7-days-a-week basis;

²OSHA retains the ability to enforce regulations and issue citations even when it is in a technical assistance role and may cite employers that do not comply with the suggestions of OSHA staff or if there is an employee complaint or a fatality.

-
4. monitoring responder personal exposure on a 24-hours-a-day, 7-days-a-week basis, including monitoring for chemical and biological contaminants, noise, heat or cold, and ionizing radiation;
 5. monitoring the medical condition of responders and, in conjunction with the Department of Health and Human Services, evaluating the need for longer term monitoring;
 6. assessing responder safety and health resource needs and identifying sources for those assets;
 7. developing, implementing, and monitoring an incident personal protective equipment program—including the selection, use, and decontamination of the equipment; implementation of a respiratory protection fit-test program—and distribution of equipment;
 8. collecting and managing data on exposures, accidents, and injuries to facilitate consistent formatting and data sharing among response organizations;
 9. communicating with labor unions, contractors, and other organizations regarding responder safety and health issues;
 10. coordinating and providing incident-specific responder training;
 11. providing psychological first aid during and after incident response and recovery activities; and
 12. identifying, in coordination with the Department of Health and Human Services, appropriate immunization and prophylaxis for responders and recovery workers.

Even though OSHA has been assigned responsibility for coordinating the activities in the Annex, during an actual disaster, FEMA must issue a “mission assignment” that authorizes OSHA to receive reimbursement for carrying out some or all of these activities, depending on the needs of the disaster and which groups are covered during each response effort. Without a mission assignment, services provided by an agency cannot be reimbursed by FEMA.³ For Hurricane Katrina, FEMA issued mission assignments to OSHA tasking it with 11 of the 12 activities listed in the

³Reimbursement is provided under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Stafford Act) 42 U.S.C. § 5147.

Annex for federal agencies and their workers, including federal contractor employees. The only activity in the Annex for which OSHA was not assigned responsibility for Hurricane Katrina was monitoring the medical conditions of responders, including assessing the need for long-term medical monitoring because, according to FEMA, it does not have the authority under the Stafford Act to pay for the collection and management of data for long-term studies or analysis.⁴ FEMA also did not assign responsibility to OSHA, or any other federal agency, for coordinating the safety and health of nonfederal workers, except workers employed by federal contractors. State and local agency employees, private sector employees other than those employed by federal contractors, and volunteers were not covered under the Annex.⁵ OSHA had difficulty addressing the needs of nonfederal workers not covered under its mission assignment, but was able to provide some assistance to these workers using its own funds.

⁴In the mission assignment FEMA issued to OSHA implementing the Annex for Hurricane Katrina, FEMA stated that it did not have authority under the Stafford Act to pay for the collection and management of data for long-term studies or analysis.

⁵In order for state and local agency workers in a state to be covered by the Stafford Act in a disaster, the governor of the affected state must specifically request services from FEMA. For Hurricane Katrina, none of the governors of the three states requested assistance with safety and health issues.

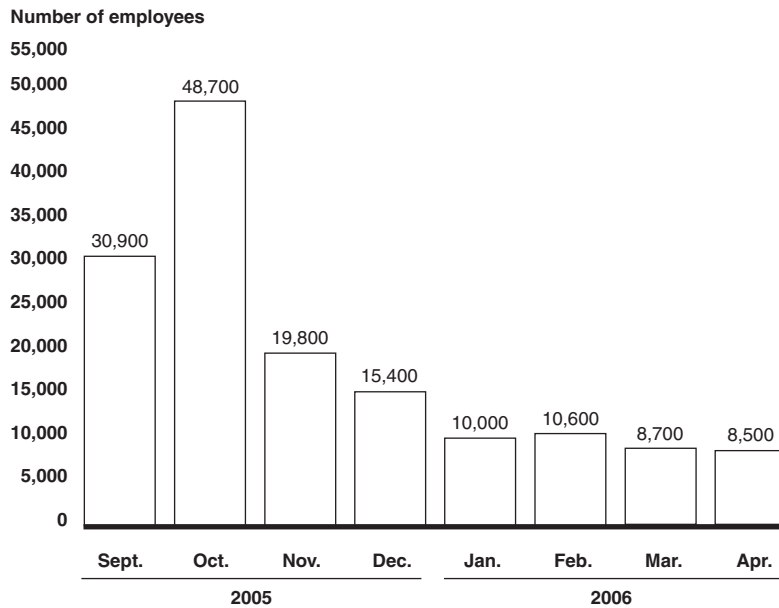
No One Collected Information on the Total Number of Response and Recovery Workers Deployed to the Gulf Coast, but 10 Federal Agencies Collected Data on Their Workers

No one, including OSHA, was assigned responsibility for collecting data on the total number of response and recovery workers deployed to the Gulf and no one collected it, but 10 federal agencies were able to provide estimates of the number of federal workers they deployed to the Gulf for specific points in time. However, only six of them tracked the number of workers employed by their contractors.⁶ According to FEMA and OSHA, 10 federal agencies deployed response and recovery workers to the Gulf in response to Hurricane Katrina: the Departments of Agriculture, the Interior, and Health and Human Services; the Coast Guard; DOD; EPA; FEMA; OSHA; USACE; and the National Guard. We asked officials from these 10 agencies to provide us with the total number of response and recovery workers they had in the Gulf Coast from August 2005 through April 2006. Agency officials said they did not collect data in a way that would enable them to provide us with unduplicated counts of workers who rotated in and out of the Gulf Coast area. All 10 agencies, however, told us they could provide us with estimates of the number of workers they had in the Gulf Coast area at any specific point in time. Therefore, we asked them to provide us with information on the number of workers they employed in the three states on the first of each month for the period from September 2005 to April 2006.

As shown in figure 1, the agencies estimated that they had about 31,000 federal employees in the Gulf Coast area on September 1, 2005. That number increased to approximately 49,000 workers on October 1, 2005, and dropped to about 8,500 workers on April 1, 2006.

⁶National Guard officials told us the agency did not employ any contractor personnel during the response to Hurricane Katrina.

Figure 1: Estimated Number of Federal Employees in the Gulf Coast Area on the First Day of Each Month, September 2005 to April 2006



Source: Data obtained from selected federal agencies.

The National Guard reported having the largest number of federal employees—about 31,000—in the Gulf Coast area on October 1, 2005, and FEMA reported the second largest number—about 4,800 workers. The Coast Guard reported the third largest number of federal employees in October—approximately 3,100 workers. OSHA reported that it had 84 staff in the Gulf Coast area on the first of October and November 2005.

Of these 10 federal agencies, only six of the agencies that employed contractors in the Gulf area—EPA, OSHA, FEMA, and the Departments of Agriculture, Health and Human Services, and the Interior could provide data on the number of employees their contractors employed. These agencies estimated that their contractors had over 5,100 workers in the Gulf Coast area on December 1, 2005, the month with the largest total number. FEMA and EPA reported the most contractor employees: FEMA estimated that it had approximately 3,800 contractor employees at one point, and EPA estimated that its contractors had about 1,200 workers in the Gulf area. The other agencies reported much smaller numbers of contractor employees, ranging from 1 worker to 150. USACE and Coast Guard officials told us they could provide us with information on the number of contracts they issued, but they did not know the number of workers employed under each of these contracts. Officials with DOD told

us that, although DOD employed contractors in the Gulf area, they did not track the number of workers employed by their contractors. National Guard officials told us that they did not employ any contractors.

OSHA Was Unable to Collect Information on Workers' Injuries and Illnesses

Although OSHA was directed by FEMA to collect information from federal agencies on injuries and illnesses sustained by federal workers during the response to Hurricane Katrina, the agency was unable to collect useable information from all of the agencies that deployed workers to the Gulf. Four federal agencies provided some information to us on their workers who were injured or became ill, and OSHA and other agencies provided information on worker fatalities that occurred during the response.

Several Factors Hindered OSHA's Efforts to Collect Data on Injuries and Illnesses

Although the Annex assigned responsibility to OSHA for collecting data on workers' injuries and illnesses during disasters, and FEMA directed OSHA to collect this information from federal agencies for Hurricane Katrina, several factors hindered OSHA's efforts to collect these data as required. OSHA did not establish a process for gathering these data between the time the Annex was issued in December 2004 and when Hurricane Katrina hit the Gulf Coast in late August 2005. According to OSHA officials, during this 8-month period, they focused their efforts on introducing federal, state, and local agencies to OSHA's new role under the Annex in a disaster rather than developing a process for collecting data on workers' injuries and illnesses during a response.

The second factor that hindered OSHA's ability to collect data on workers' injuries and illnesses was that fact that FEMA did not issue a mission assignment directing OSHA to collect these data for federal agencies' workers until more than 3 weeks after the hurricane hit the Gulf. FEMA instructed OSHA to track workers' injuries and illnesses across all federal agencies that deployed workers to the Gulf in the mission assignment it issued to OSHA on September 21, 2005, more than 3 weeks after the hurricane struck on August 29, 2005.

Third, OSHA tried to collect data on injuries and illnesses for federal workers in the Gulf Coast area from the logs that OSHA requires agencies to maintain at each worksite on workers' injuries and illnesses but received incomplete or unreliable data from federal agencies. In November 2005, OSHA asked federal agencies and their contractors to submit their injury and illness logs for worksites located in the Gulf area to OSHA headquarters on a monthly basis. However, according to OSHA officials, because they did not request agencies to provide their injury and

illness logs to OSHA until five or six weeks after the hurricane hit, and because agencies are normally not required to send their logs to OSHA, not all agencies submitted their logs. In addition, many of the agencies could not separate data for workers assigned to the Gulf Coast area temporarily since employers are not required to establish separate logs for temporary worksites expected to be in operation for one year or less. Some agencies provided their logs to OSHA, but the data they provided were incomplete and unreliable, according to OSHA officials. For example, one agency's logs included information on accidents involving heavy equipment but did not contain information on the related injuries to workers. OSHA officials cited several reasons for the poor quality of the data, including the fact that the agencies may have placed a low priority on recording injuries and illnesses while responding to a disaster.

In technical comments on the draft report, OSHA officials stated that neither their efforts to educate the federal community about the Annex nor the more than 3-week delay in receiving its mission assignment prevented them from developing a system for collecting injury and illness data.

In a mission assignment, FEMA tasked OSHA to collect these data in order to facilitate consistent formatting and data sharing among response organizations. OSHA could then use the data to track emerging trends in the types of injuries and illnesses sustained by workers so that appropriate measures, such as providing specific safety training and information on hazards, could be taken to address emerging safety issues and prevent or reduce injuries and illnesses. Although OSHA was unable to use injury and illness data to track emerging trends, it did identify some injuries and illnesses that occurred during the response through the information it obtained from other federal agencies at the Interagency Safety Committee meetings held at the Joint Field Office in each state.

Available Data from Four Agencies Show Over 3,000 Injuries and Illnesses

Because OSHA could not provide data on injuries and illnesses, we asked the 10 agencies that deployed workers to the Gulf Coast area for these data. However, although agency officials told us they collected information on the injuries and illnesses for their workers on the injury and illness logs required by OSHA, most of them could not separate out this information for workers sent to the Gulf Coast. Four of the 10 agencies—EPA, USACE, the Coast Guard, and the Department of the Interior—collected information on the injuries and illnesses their workers sustained in the Gulf Coast area using their own data systems. The four reported that their workers sustained over 3,000 injuries and illnesses

from the end of August 2005 through June 2006 including minor injuries that would not have been recordable on the OSHA logs. The most frequently cited injuries were bites from insects such as mosquitoes and dogs; sunburn; exposure to floodwater; heat stress; and exposures to chemicals, infectious or biological agents, mold, and carbon monoxide. (See app. II for additional information on the injury and illness data provided by these four agencies.) The data were not comparable across the four agencies because each one collected different types of information and categorized it differently. For example, EPA used nonstandard, detailed descriptions of the illness or injury, such as “tripped on wire and bruised knee,” while the Coast Guard described the health effects of injuries or exposures using consistent and concise categories, such as “infected skin” and “skin laceration.”

The Department of Labor’s Office of Workers’ Compensation Program, another source of data on injuries and illnesses, reported that federal workers filed 770 claims related to Hurricanes Katrina and Rita from August 2005 through June 2006.⁷ While data on the number of claims were reliable, the information on the nature and causes of the injuries and illnesses was not reliable. Therefore, we could not use it to identify the types of injuries and illnesses sustained by federal workers in the Gulf Coast area.

Eleven Worker Fatalities Related to Hurricane Katrina Reported

OSHA and other agency officials identified 11 fatalities of workers involved in response and recovery work for Hurricane Katrina from September 2005 through June 2006, 9 of which occurred as a result of work-related accidents.⁸ No worker fatalities directly related to the response were reported in Alabama. In Louisiana and Mississippi, three federal agency contractor employees died in work-related accidents, including two employees of FEMA subcontractors and an employee of a USACE subcontractor. (See app. II for additional information.)

⁷Officials with the Office of Workers’ Compensation Programs told us they could not use their computer database to distinguish claims for injuries or illnesses related to Hurricane Katrina from those related to Hurricane Rita, a hurricane that caused extensive damage in Texas and Louisiana in September 2005.

⁸Some of the fatalities reported involved workers that were not covered under OSHA’s mission assignment, such as volunteers or private sector employees.

OSHA Provided Assistance to Many Agencies and Workers, but Its Efforts to Meet the Safety and Health Needs of All Workers Were Hampered by Several Factors

Although FEMA did not issue a mission assignment to OSHA implementing the Annex until more than 3 weeks after Hurricane Katrina struck the Gulf Coast, OSHA was able to establish several of its operations within hours of the hurricane. FEMA officials told us that all of the NRP's annexes take effect when the NRP is implemented, but OSHA officials said they must first receive a mission assignment from FEMA to receive funding and begin the work as described in the Annex. OSHA used its own staff and budget to establish operations and provide assistance to utility workers in the Gulf Coast before receiving authorization from FEMA. OSHA staff developed health and safety plans, provided information on safety and health hazards to many workers, and intervened in thousands of potentially hazardous situations. OSHA staff also assessed air, water, soil, and noise hazards at many worksites. However, OSHA waited to provide assistance that involved substantial funding—such as deploying worker safety and health trainers and purchasing protective gear for other federal agencies—until FEMA formally authorized OSHA to receive reimbursement for these activities through mission assignments. Disagreements between OSHA and FEMA delayed issuance of the mission assignment that implemented the Annex, which delayed OSHA's efforts to provide assistance to workers. In addition, lack of awareness by other agencies about OSHA's role in a disaster further hindered its efforts. Because of these and other factors, the agency was unable to ensure that all workers' needs for safety and health assistance were met, including obtaining needed training, protective gear, and mental health services, and OSHA had difficulty addressing the needs of nonfederal workers not covered under its mission assignments.

OSHA Established Operations Quickly, Developed Health and Safety Plans, Provided Valuable Information, Intervened in Hazardous Situations, and Sampled Work Sites

OSHA Quickly Established Operations in the Gulf

OSHA effectively used its existing relationships with private companies and another federal agency to quickly establish its operations in the Gulf Coast area and provide safety and health assistance to workers. Through these relationships, OSHA quickly set up staging areas for its staff, obtained needed equipment, and provided safety and health information to

workers early in the response. For example, when OSHA had difficulty finding housing for its staff in New Orleans, it contacted a chemical company that is part of one of OSHA's cooperative programs, and the company gave OSHA space in its parking lot for recreational vehicles that OSHA used to house several of its field staff. OSHA also obtained support from the Mine Safety and Health Administration, another agency within the Department of Labor, for almost 3 months after the hurricane. The agency provided OSHA with two large trailers equipped with satellite communications that it uses for mine rescue operations. OSHA used the trailers as mobile command post centers to communicate with other agencies at a time when communication in the area was very difficult. The agency also gave OSHA generators to power electricity and plumbing.

OSHA also capitalized on relationships with utility companies established during previous responses to hurricanes in the three affected states to target its safety and health assistance. Utility companies are among the first responders on the scene of hurricanes, restoring power and communications in the affected areas. OSHA accompanied the utility companies to staging areas each morning to brief workers on safety and distribute printed safety information. OSHA also advised utility workers on using the proper safety equipment. For example, although utility workers were trained on how to safely handle downed power lines, some were not aware that they needed to wear boots with steel shanks to prevent puncture wounds from debris containing nails and other sharp objects or that floodwater and drainage pipes could contain alligators, snakes, or other animals. Figure 2 shows some of the wildlife encountered by Hurricane Katrina response workers.

Figure 2: Animals Such as Snakes and Alligators Presented Hazards to Workers in the Gulf Coast Area



Source: EPA.

OSHA Developed a Health and Safety Plan for the Entire Response and Helped Other Federal Agencies Develop Their Own Plans

OSHA developed a health and safety plan for the federal response to Hurricane Katrina that included all responders and hazards commonly encountered. The plan included information on how to

- monitor exposures;
- provide adequate supplies of protective gear that was
 - appropriate for the hazard,
 - fitted to the employee, and
 - inspected, repaired or replaced as necessary;
- provide training on safety and health hazards that was
 - conducted before deployment,
 - applicable to general conditions,

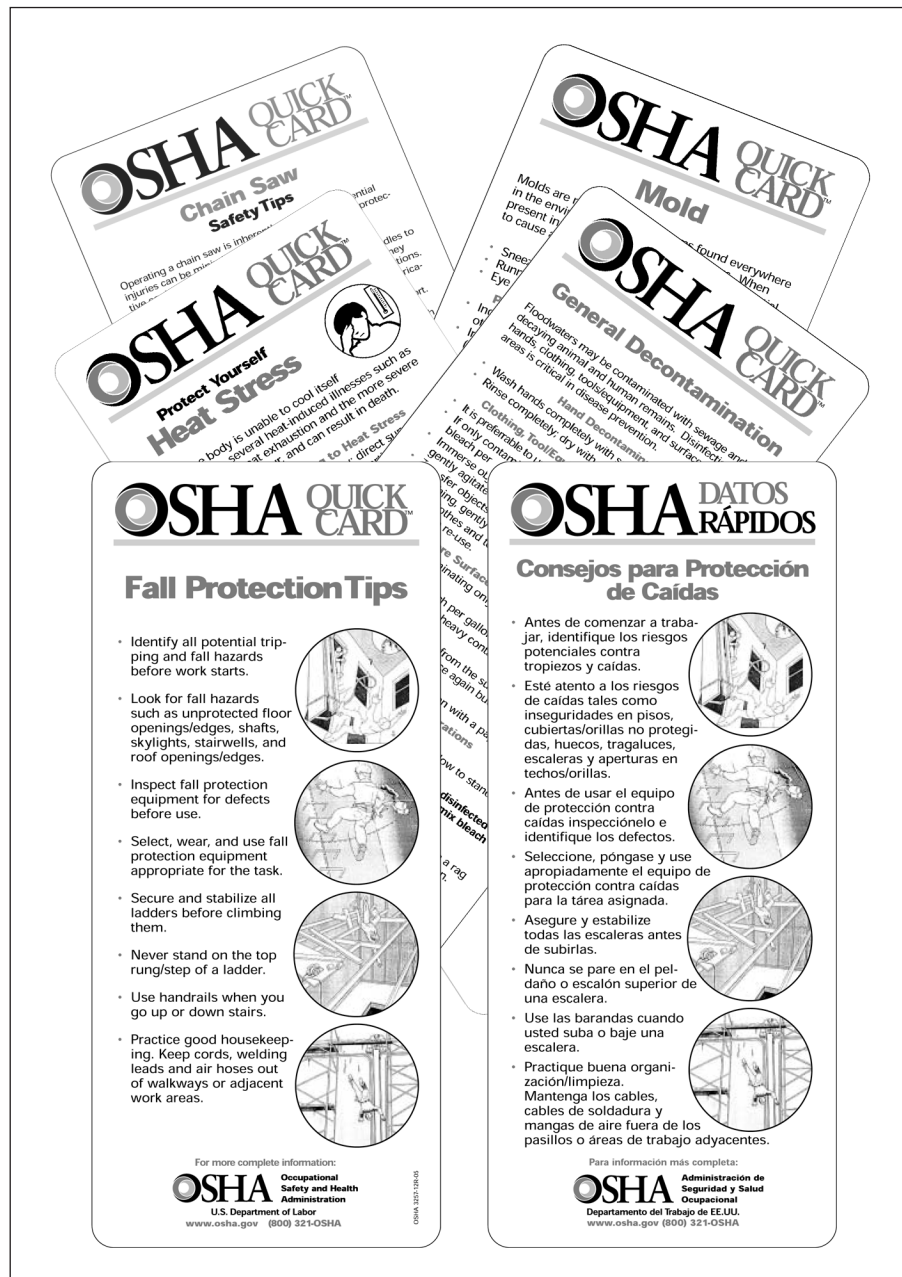
-
- customized for different sites, and
 - customized for specific tasks;
 - develop decontamination procedures; and
 - provide psychological first aid and other mental health services.

OSHA also assisted other federal agencies in developing similar plans for their workers and ensured that all of the plans were coordinated and consistent across the response.

OSHA Provided Information on Common Hazards on Its Web Site and in Public Places on the Gulf Coast

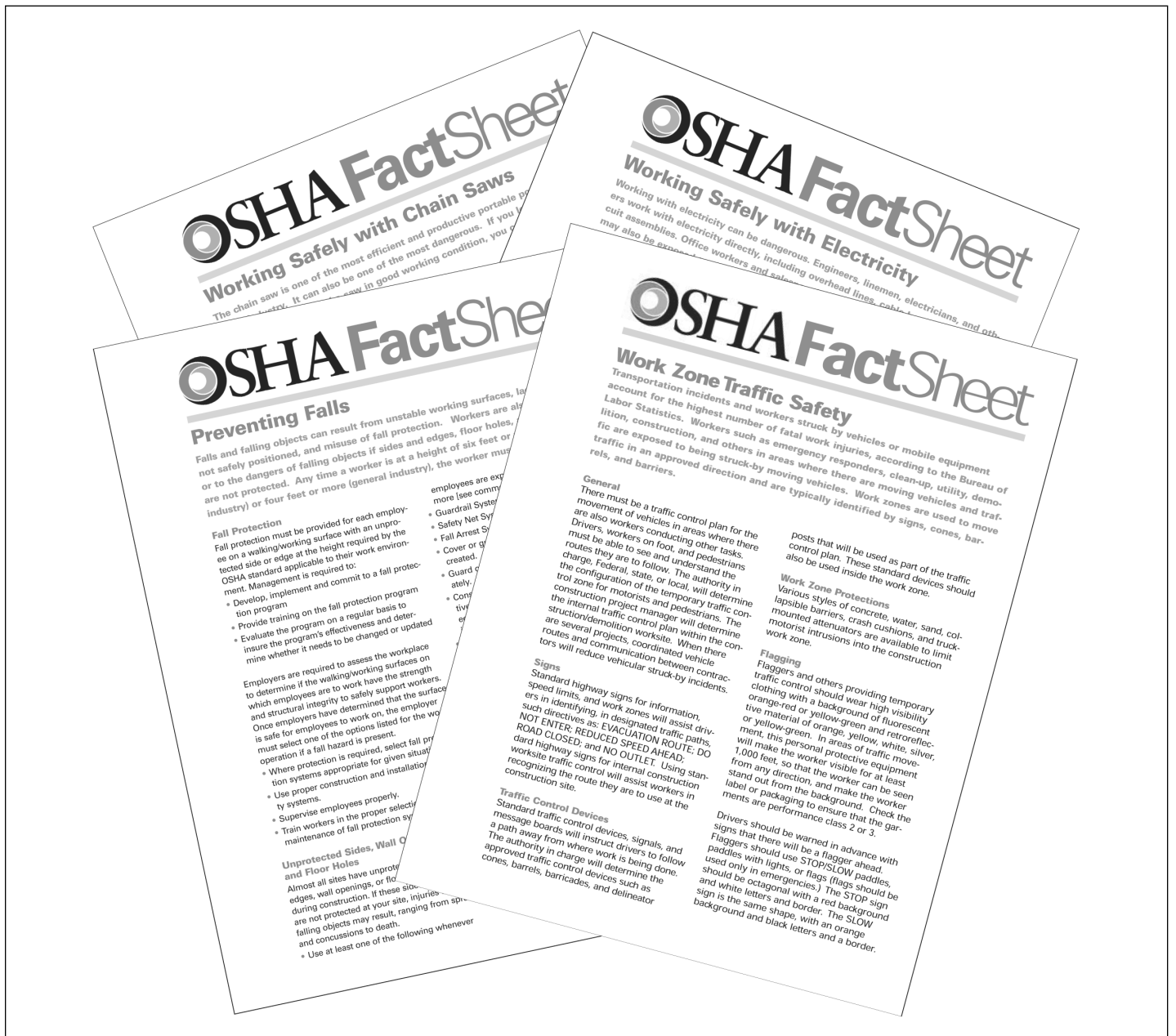
OSHA also provided information about hazards on its Web site and directly to workers at public places such as hardware stores where they purchased materials. For example, OSHA developed 58 small, laminated “quick cards” and 1-page fact sheets in English and Spanish with information about hazards and how to address them, such as how to safely handle traffic in work zones, how to operate a chain saw safely, how to work safely with electricity, how to prevent falls, and how to use ladders safely. See figures 3 and 4 for selected quick cards and fact sheets distributed by OSHA.

Figure 3: Selected Quick Cards Developed by OSHA for Hurricane Katrina



Source: OSHA.

Figure 4: Selected Fact Sheets Developed by OSHA for Hurricane Katrina



Source: OSHA.

OSHA also provided pre-recorded public service announcements on its Web site with information on safe work practices that could be aired by local radio stations and stores. According to OSHA officials, one large national hardware chain played the public service announcements over its loudspeaker system in stores in the Gulf area as a safety and health reminder for its customers.

**OSHA Intervened at Work Sites
by Correcting Potential
Hazards**

From the beginning of the response in August 2005 through June 2006, OSHA's field staff intervened in more than 15,000 potentially hazardous situations at work sites throughout the Gulf—6,800 in Louisiana and 8,320 in Alabama and Mississippi.⁹ OSHA targeted these visits based on information it received from other federal agencies and utility companies about work sites with large numbers of workers or potential hazards. As shown in figures 5, 6, and 7, OSHA staff intervened in many different types of hazardous situations, including work zones containing equipment not protected from traffic by safety cones and individuals working on water towers and roofs without proper fall protection such as safety harnesses and guard rails.

⁹OSHA refers to these visits to work sites by its field staff in which potentially hazardous situations were identified and corrected as "interventions."

Figure 5: Work Zones with Equipment Not Protected from Traffic by Safety Cones



Source: OSHA.

Figure 6: Workers on a Water Tower without Fall Protection Such As Guard Rails or Safety Harnesses



Source: OSHA.

Figure 7: Workers on a Roof without Safety Harnesses and with Poorly Secured Ladders



Source: OSHA.

OSHA staff offered advice on safety and health measures and followed up to make sure hazards were corrected. For example, an OSHA official in Louisiana stopped work at a site until unprotected workers in an aerial lift 50 feet above the ground received safety harnesses and orange cones were placed around the lift to protect against traffic. On the few occasions when an employer did not follow OSHA's recommendations, or if there were repeat problems with an employer, OSHA would elevate its concerns to company management or to the federal agency that contracted with the company and this usually brought about the needed changes, according to OSHA officials. For example, OSHA staff told a supervisor at one worksite that workers repairing a bridge needed safety harnesses to protect them from falls, but the workers did not have the equipment when OSHA visited

the next day. OSHA staff then called the owner of the company, who promptly provided the safety equipment and made sure the workers used it.

Other federal agencies asked OSHA to intervene in hazardous situations. For example, EPA asked OSHA to monitor the health of workers at the site of an oil spill where more than a million gallons of crude oil leaked from an above-ground storage tank. FEMA asked OSHA to provide a hazardous materials specialist to accompany its staff to jails and Department of Justice buildings in New Orleans and assess what protective gear was needed to enter and inspect buildings and to a local hospital to assess general safety and health hazards. FEMA also asked OSHA to conduct air-monitoring tests and assess hazards at local courts and other public buildings in the area, and OSHA staff advised FEMA on how to properly ventilate temporary housing trailers contaminated with formaldehyde gas emitted by construction materials such as plywood and rugs.

Officials with OSHA and other federal agencies told us that the technical assistance OSHA provided during the response was well received and was more effective in protecting workers than if the agency had been operating in an enforcement mode. The officials noted that enforcement actions can take months to complete due to the legal requirements of an investigation, the amount of documentation required, and the due process provided to employers to appeal citations. By providing technical assistance and immediately addressing hazardous situations, OSHA officials said they were able to assist many more workers and correct more hazardous situations during the response than if they had been operating in an enforcement mode. OSHA typically conducts about 1,500 inspections each year in the three affected states—about 430 in Alabama, about 530 in Louisiana, and about 500 in Mississippi—but intervened in over 15,000 potentially hazardous situations during approximately 11 months of the response.

OSHA Sampled Air, Water, Soil, and Noise Levels at Many Work Sites

In addition to providing safety and health technical assistance, OSHA also took more than 6,000 samples at work sites throughout the Gulf Coast area to assess air, water, soil, and noise hazards. As shown in figure 8, workers in the Gulf Coast area faced many airborne hazards.

Figure 8: Airborne Hazards on the Gulf Coast



Source: OSHA.

EPA was responsible for sampling the general environment—such as the air, water, and soil—in order to assess the dangers to the public, while OSHA was responsible for sampling worksites for hazardous substances harmful to workers. For example, OSHA field staff pinned small personal monitors on workers' clothing to sample for potential exposure to hazardous chemicals and substances, and sampled water and soil at worksites (see fig. 9).

Figure 9: OSHA Field Staff Sampling the Air, Water, and Soil on the Gulf Coast by Pinning a Small Personal Monitor to a Worker, Taking Water Samples, and Taking Soil Samples



Source: OSHA.

OSHA field staff also monitored unoccupied buildings for carbon monoxide that may have accumulated from the use of generators before the building was vacated and to determine whether the siding and shingles contained asbestos. OSHA officials told us they posted the results of the samples taken on the agency's Web site and said they are developing a data management system for future disasters that will provide faster access to sampling results.

Disagreements with FEMA and Lack of Awareness of OSHA's Role Hindered OSHA's Efforts to Assist Other Agencies

OSHA and FEMA disagreed about how and when to implement the Annex and about each agency's responsibilities in the rescue and recovery effort. As a result, some of OSHA's efforts to provide assistance were delayed. Additionally, before Hurricane Katrina, OSHA provided limited information to federal, state, and local agencies about the Annex, and many agencies did not understand the services OSHA can provide or that OSHA provides technical assistance, not enforcement, in a disaster. This may have contributed to agencies not inviting OSHA to participate in emergency preparedness exercises held prior to Hurricane Katrina or asking for OSHA's help during the response and recovery efforts once the storm hit.

OSHA and FEMA Disagreed about Implementation of the Annex and about Each Other's Roles and Responsibilities

FEMA did not issue a mission assignment to OSHA implementing the Annex until September 21, 2005—more than 3 weeks after the hurricane hit the Gulf Coast. Before Hurricane Katrina, FEMA and OSHA had not developed criteria or procedures for implementing the Annex in a disaster.¹⁰ FEMA officials told us that all of the NRP's annexes take effect when the NRP is implemented; however, OSHA said it must first receive a mission assignment from FEMA to receive funding and begin its work as described in the Annex. OSHA used its own staff and budget to establish operations and provide assistance to workers in the Gulf before receiving authorization for reimbursement from FEMA. However, OSHA delayed activities that involved substantial funding, such as deploying worker safety and health trainers and purchasing protective gear for other federal agencies, until FEMA formally authorized funding through mission assignments, assuring that such activities would be reimbursed. However, although FEMA and OSHA were developing procedures for their operations in future disasters, as of December 2006, these procedures did not contain criteria that clearly defined when and how OSHA will carry out its responsibilities under the Annex or the type or magnitude of disasters in which OSHA will be involved.

FEMA and OSHA also disagreed about which agency was in charge of worker safety and health for the response and recovery efforts and which workers should be covered. The agency in charge assumed the role of Safety Coordinator at the Joint Field Office in each state, where the federal agencies met to coordinate their response and recovery efforts.

¹⁰A majority of the disaster response efforts FEMA oversees involve small, regional disasters, such as flooding in a single county. FEMA oversees 50 to 60 such disasters annually.

Because of their disagreement about leadership, FEMA and OSHA each fulfilled the role of Safety Coordinator for different periods of time in Louisiana, Alabama, and Mississippi, and other federal agencies did not know which agency was consistently and officially in charge. In addition, some FEMA officials viewed the role of the Safety Coordinator as providing support only to FEMA employees and personnel at FEMA-managed facilities. In contrast, OSHA officials saw the role of the Safety Coordinator as supporting all federal workers, including federal contractor employees involved in the response. For example, both FEMA and OSHA officials in Mississippi identified a need for driver training because of the large number of motor vehicle accidents. FEMA's Safety Coordinator in Mississippi sought the driver training for FEMA staff only, while, under its mission assignment, OSHA had already worked with the National Institute of Environmental Health Sciences to develop a similar program that was available to all federal responders.

In addition, under the Annex, OSHA is responsible for coordinating with the Department of Health and Human Services to monitor the medical conditions of responders and evaluate the need for long-term medical monitoring. However, FEMA did not direct OSHA to coordinate this activity in the mission assignments issued for Hurricane Katrina because, according to FEMA officials, they do not have the authority under the Stafford Act to pay for the collection and management of data for long-term studies or analysis. Although it is not clear whether there is a need for this type of monitoring for response and recovery workers involved in the response to Hurricane Katrina, the fact that some workers at the World Trade Center disaster did not exhibit symptoms of illnesses until months or years after they left the site, and others developed acute conditions at the site that later worsened or became chronic, highlights the importance of considering these issues for rescue and recovery workers who responded to Hurricane Katrina or for those involved in future disasters.

FEMA and OSHA are in the process of developing new procedures for future disasters. However, the procedures do not specify the type or magnitude of disaster in which OSHA will be involved, and they include FEMA's definition of the scope of the Safety Coordinator as providing safety and health support only to FEMA employees and personnel at FEMA-managed facilities, not OSHA's definition that covers all responders, including federal contractor employees at all facilities. As a result, OSHA may have difficulty providing assistance to all workers involved in future response efforts. The new procedures also do not resolve the issue of how OSHA will be able to monitor the medical condition of responders or evaluate the need for long-term medical

Many Agency Officials Were Not Aware of OSHA's Role in a Large Disaster

monitoring in future disasters as described in the Annex, given that FEMA does not believe it can authorize such activities or reimburse them under the Stafford Act.

OSHA officials told us they did not have enough time to conduct extensive outreach to other federal agencies in the months between the issuance of the NRP in December 2004 and the end of August 2005 when Hurricane Katrina hit the Gulf Coast. They said they planned to inform other federal agencies about the Annex and OSHA's new role in large disasters through a committee comprised of the key federal agencies that have a role in the Annex in responding to disasters. OSHA was in the process of developing this committee when Hurricane Katrina hit, but these efforts were suspended during the response.¹¹

OSHA's efforts to inform state and local agencies about its role under the Annex were limited to making presentations and staffing information booths at training sessions conducted by the Department of Homeland Security after the NRP and Annex became effective in April 2005. The sessions were offered in seven cities to state and local emergency and health officials from fire departments, police departments, and local hospitals. The Department of Homeland Security chose to visit cities it considered likely targets in future terrorist attacks: the District of Columbia, Chicago, New York, Los Angeles, Seattle, Miami, and Houston. According to OSHA and FEMA officials, the presentations were attended by individuals from federal, state, and local agencies; trade groups; and support personnel. OSHA officials also said they provided information about the Annex at meetings and conferences held by organizations such as the National Governors' Association. These presentations, however, were not targeted to the key state and local agencies involved in disaster response efforts, such as state emergency management agencies.

Officials from several federal, state, and local agencies told us that they did not understand OSHA's role in a disaster response, including providing information on potential hazards, recommending proper protective gear,

¹¹The Annex assigns responsibility to OSHA for establishing a Worker Safety and Health Support Annex Coordination Committee. This committee—comprised of officials from DOD, the Department of Energy, the Department of Health and Human Services, the National Institute for Occupational Safety and Health, the National Institute of Environmental Health Sciences, the Coast Guard, and EPA—is responsible for coordinating the assets needed to protect worker safety and health at all levels of government during a disaster.

and testing for hazardous substances at work sites. They also did not know that, in a disaster, OSHA switches from enforcing regulations by conducting inspections of work sites to providing technical assistance. National Guard and EPA officials we interviewed told us they did not know OSHA's role in disaster response. Representatives from state police and fire departments in Louisiana, the state highway patrol in Alabama, and the Federal Law Enforcement Officers Association—an organization that represents officers from more than 50 different federal law enforcement agencies—said they did not know that OSHA provides technical assistance in a disaster or that they could have asked for OSHA's help.

OSHA Was Not Invited to Participate in Emergency Preparedness Exercises Held Prior to Katrina

Because many federal, state, and local agency officials did not understand the assistance OSHA could provide in a disaster or its role under the Annex, OSHA was not invited to participate in many of the emergency preparedness exercises the agencies held prior to Hurricane Katrina. Moreover, in the few exercises to which OSHA was invited, the Annex was never implemented. For example, OSHA attended a national emergency preparedness exercise conducted by FEMA in June 2005 that simulated a response to a large, destructive hurricane, but the exercise did not include implementing the safety and health Annex. OSHA headquarters officials told us they thought the Annex was not implemented during these exercises because other agency officials did not fully understand the assistance OSHA can provide in a disaster or its new role under the Annex. OSHA's participation in state and local emergency preparedness exercises held prior to Hurricane Katrina was also limited. Two of OSHA Area Office Directors in the affected states told us they had difficulty getting invited to participate in state and local emergency preparedness exercises, and often when they were invited, they did not play an active role in the exercise. For example, the Director of OSHA's Mobile Area Office told us he attended regional training exercises on his own initiative. It took him a year to convince the sponsoring agencies that OSHA provides assistance in a disaster, at which point they incorporated OSHA into an exercise involving a chemical spill from a railroad car, but OSHA's services were not used during the exercise.

Since its response to Hurricane Katrina, OSHA officials say the agency has been invited to participate in more emergency response exercises where the Annex is implemented and the agency plays an active role. OSHA officials also told us they plan to participate in an exercise sponsored by EPA in 2007 that will simulate a large chemical spill. OSHA's regional and area office directors told us they continue to look for opportunities to participate in regional, state, and local emergency preparedness exercises.

OSHA Was Only Partially Successful in Providing Training, Distributing Protective Gear, Serving Nonfederal Workers, and Providing Mental Health Services

Some of OSHA's Training Was Delayed, and Some Agencies Did Not Request Needed Training from OSHA Because They Did Not Realize It Was Available

Because OSHA and FEMA disagreed about the process for issuing the mission assignment authorizing OSHA to receive reimbursement for its safety and health training to workers, FEMA did not issue it until more than 3 weeks after the hurricane hit the Gulf Coast. As a result, OSHA and its cooperating agency, the National Institute of Environmental Health Sciences, reported that trainers who were ready to begin work in the aftermath of the storm were not deployed to Mississippi until October 2005 or to Louisiana until November 2005. In addition, some agencies did not ask OSHA to provide training because they did not realize that OSHA offered this type of training. For example, EPA regional officials told us that, although their response managers noted a need for driver safety training in October 2005 because of the large number of motor vehicle accidents that occurred in the Gulf Coast area during the initial response efforts, it was not provided until March 2006 because it took them several months to determine that OSHA could provide this training. Workers faced many hazardous driving conditions during the response to Hurricane Katrina, including missing road signs or signs pointing the wrong direction, debris-strewn streets, intersections without working traffic signals, and lack of street lights—which made nighttime driving especially hazardous. (See fig. 10.)

Figure 10: Driving Hazards Faced by Workers in the Gulf Coast Area



Source: OSHA.

OSHA Distributed Some Protective Equipment to Workers but Was Not Prepared to Establish a Protective Equipment Program, As Required

FEMA authorized OSHA to receive reimbursement for establishing a personal protective equipment program as described in the Annex for other federal agencies that included the selection, ad hoc distribution, fit, use, and decontamination of equipment for the response to Hurricane Katrina. While OSHA field staff distributed ear plugs, eye goggles, respirators, and safety vests to workers throughout the Gulf from supplies they had on hand for the use of OSHA staff, the agency was unprepared to establish a program that included procuring and distributing needed equipment on an ad hoc basis to other agencies as required by its mission assignment from FEMA. In its lessons learned from the World Trade Center disaster, OSHA recognized the need to ensure an adequate supply of personal protective equipment before a future incident and to develop a

program to ensure for the storage, transportation, and distribution of this equipment through FEMA and other federal agencies. However, OSHA did not have such a program in place prior to Katrina, and OSHA and FEMA disagreed on how to obtain personal protective equipment: OSHA ordered equipment from its Cincinnati Technology Center, while FEMA ordered equipment from its contractor. In addition, OSHA had not made prior arrangements for storing the equipment during the response. OSHA and FEMA resolved their disagreements about suppliers and OSHA arranged to store equipment in its area offices and FEMA-managed facilities near the Joint Field Offices in Louisiana and Mississippi, but these difficulties delayed the provision of some equipment to workers and highlighted the need to establish a personal protection equipment program in advance of a disaster.

Some federal agency officials reported needing advice on proper protective gear, and other officials reported a shortage of equipment. For example, National Guard officials in Louisiana told us they would have liked information from OSHA on the hazards workers were facing, recommendations on how to protect workers, and assistance in obtaining protective equipment such as rubber boots needed to protect workers from contaminated floodwaters. USACE officials told us they had difficulty obtaining sufficient supplies of protective equipment such as gloves and reflective vests.

OSHA officials told us the agency has not yet fully addressed what the personal protective equipment program, as defined in the Annex, should entail. Issues to be addressed include obtaining agreement with FEMA on how such equipment should be purchased and where it will be stored, how the equipment will be distributed at disasters, and which workers will be entitled to receive the equipment.

The Need for Mental Health Services Exceeded the Assistance OSHA Provided

FEMA tasked OSHA with coordinating with the Department of Health and Human Services to ensure that mental health assistance was provided to workers during the response to Hurricane Katrina.¹² However, OSHA did not coordinate with them to ensure that all workers in the Gulf area who needed mental health services received them, and OSHA had difficulty

¹²Specifically, OSHA was tasked with providing short-term psychological first aid during and after incident response and recovery activities. Psychological first aid is an approach to help children, adolescents, adults and families in the immediate aftermath of disaster and terrorism. It is designed to reduce the initial distress caused by traumatic events and to foster short-and long-term adaptive functioning and coping.

obtaining these services. OSHA and FEMA officials told us it was difficult to get mental health counselors to go to the base camps where workers lived during the response and to get counselors to provide services during off-hours to workers who did not have standard work schedules. They also said it was difficult to obtain mental health services for non-FEMA employees because while FEMA believed its contract with a unit of the Department of Health and Human Services, Federal Occupational Health, to provide counseling would cover all federal workers responding to Hurricane Katrina, the contractor interpreted the contract to only cover FEMA workers. In addition, instead of sending counselors to work sites throughout the Gulf, the contractor provided a toll-free number for workers to call. This was not an effective way to provide services because phone service in the Gulf was widely disrupted, and OSHA and FEMA officials said they thought on-site counseling was a better way to help workers. Although the contractor eventually provided services to non-FEMA employees by sending counselors to work sites and base camps in the Gulf area and distributing literature about available services, these efforts did not begin until late December 2005—too late to address the needs of response workers who were most in need of these services and the needs of many recovery workers involved early in the response.

According to a FEMA official, the agency recently began an effort to review its contracts to ensure that non-FEMA employees are explicitly covered in the event of a future disaster response. However, OSHA headquarters officials told us that, in their opinion, ensuring that mental health services are available to workers in a disaster response should not be part of OSHA's responsibilities under the Annex because the agency does not have the resources needed; this responsibility should be placed with a federal agency that has subject matter expertise and access to appropriate mental health resources, such as the agencies within the Department of Health and Human Services. OSHA officials we interviewed said they are coordinating with FEMA and the Department of Health and Human Services to improve the delivery of psychological first aid and informational materials during future disasters. Such efforts include distributing pamphlets to workers and their families throughout the Gulf area; consulting with other agencies to learn what types of mental health assistance are most appropriate for workers who respond to disasters; developing pamphlets on mental health issues for employers, employees, and their families; and distributing these pamphlets to OSHA area offices and other federal agencies to use during future disaster responses.

Although OSHA Provided Some Information and Training to Nonfederal Workers in the Gulf, the Safety and Health Needs of Some Workers Were Not Met

Although OSHA staff intervened to assist any worker when they observed unsafe work practices, some of the safety and health needs of nonfederal workers not covered by OSHA's mission assignments for Hurricane Katrina—state and local government employees, immigrants, and volunteers—involved in the response were not met.¹³ OSHA officials in Alabama, Louisiana, and Mississippi said it was difficult to address the needs of these populations. The mission assignment FEMA issued to OSHA only covered federal workers and federal contractor employees. OSHA's efforts, therefore, were focused on those workers, and no other federal agency had responsibility for meeting the safety and health needs of nonfederal workers. OSHA had limited access to state and local workers because the states did not request the agency's assistance. OSHA also had difficulty addressing the needs of immigrant workers because of language barriers, low literacy levels among some immigrants, the transience of many employers that hire immigrant workers, and immigrants' fear of deportation and the federal government. In addition, OSHA had no authority to compel volunteer workers in the Gulf to follow safe work practices.

Some state and local agency officials reported that they could have benefited from additional assistance from OSHA, including information about potential hazards and protective equipment for their workers. For example, Louisiana state troopers involved in recovering bodies were provided with boots and gloves, but officials said they would have liked additional information on potential hazards and guidelines on appropriate protective gear such as waders and on proper decontamination procedures. Similarly, many state and local agencies reported that they did not have waders to protect workers from contaminated flood waters. An official with the New Orleans Police Department told us the only staff who had waders to use during rescue efforts were fishermen and hunters who owned their own waders. However, because the governors of the three states most affected by Hurricane Katrina did not request OSHA's assistance, the mission assignments issued to OSHA by FEMA did not cover state or local workers, they only covered federal workers. As a result, OSHA's efforts were focused on providing assistance to federal agencies and workers.

¹³Some immigrants may have been employed by federal contractors and, therefore, covered under OSHA's mission assignments, but many of these workers were not employed by federal contractors.

Several advocacy groups have issued reports highlighting the worker safety and health issues among immigrant workers in the Gulf Coast area who lacked information on hazards, training, and protective equipment. For example, a study by the Advancement Project, the National Immigration Law Center, and the New Orleans Worker Justice Coalition concluded that, in their opinion, the level of health and safety training and equipment provided to many workers in the Gulf area, including immigrants, fell well below federal standards.¹⁴

OSHA trained its staff on the cultural aspects of working with immigrant populations, hired some bilingual field staff, and built relationships with immigrant advocacy groups. For example, OSHA's Mississippi Area Office hired several Hispanic staff to provide training to immigrant workers and participated in several local cultural events and job fairs to improve workers' awareness of OSHA's role in protecting workers. In addition, OSHA officials in Alabama, Louisiana, and Mississippi developed worker safety literature in Spanish and Vietnamese, two languages frequently used by non-English speaking workers in the Gulf Coast area, and distributed the literature at cultural events sponsored by immigrant groups. The unit that conducted most of OSHA's training in the Gulf area through an interagency agreement, the National Institute of Environmental Health Sciences, developed brochures in Spanish and Vietnamese.¹⁵ (See fig. 11.)

¹⁴The Advancement Project, the National Immigration Law Center, and the New Orleans Worker Justice Coalition, *And Injustice For All: Workers' Lives in the Reconstruction of New Orleans*, (2006).

¹⁵The National Institute of Environmental Health Sciences is part of the Department of Health and Human Services' National Institutes of Health.

Figure 11: Safety Brochures in English, Spanish, and Vietnamese



Source: National Institute of Environmental Health Sciences.

OSHA officials told us they issued five public service announcements in Spanish and translated 26 safety and health technical assistance documents into Spanish and 3 into Vietnamese. They also said they

worked closely with the Mexican Consulate offices in Houston, Texas and Atlanta, Georgia to address concerns about the safety of Hispanic workers involved in the response. For example, according to OSHA, the consulate in Houston arranged several events in New Orleans designed to give the Hispanic community a chance to raise concerns and meet with OSHA staff. In addition, OSHA officials said they worked with local Catholic churches to reach Hispanic workers in the New Orleans area.

OSHA also raised concerns about the safety and health of volunteers who arrived in the Gulf Coast area to assist in the recovery efforts, including concerns about the lack of training and protective equipment among the volunteers. For example, OSHA staff encountered several volunteers working on roofs without the proper training or proper fall protection. OSHA staff intervened when they encountered such situations and, according to agency officials in the Gulf area, provided on-site training and protective equipment to volunteer workers when it was available.

Conclusions

Although OSHA did not have a lot of time to prepare for its new role in a disaster between the time the NRP became effective and when Hurricane Katrina struck the Gulf Coast, the agency moved quickly to provide assistance to workers who were part of the early response effort and those involved in recovery work. In preparing for future disasters, however, it is important for OSHA to note the areas in which its efforts in responding to Hurricane Katrina could have been improved. Without the ability to collect data on injuries and illnesses sustained by workers involved in disaster recovery efforts, OSHA cannot fulfill its role as defined in the Annex to identify trends and use this information to prevent further injuries and illnesses by informing workers and their employers about potential safety and health hazards. Furthermore, unless OSHA and FEMA clearly define their roles, the type and magnitude of the disasters in which OSHA will be involved, and how and when the Annex will be implemented, there may continue to be delays in providing critical assistance and information needed to protect workers in future disasters. As a result, workers may sustain injuries and illnesses that could have been prevented. In addition, if OSHA and FEMA do not resolve the issue of who is responsible for assessing the need and paying for long-term medical monitoring of workers involved in a response effort, these needs may not be met in future disasters.

Because OSHA has not taken a proactive role in educating many federal, state, and local agencies and their workers about the role the agency plays in large disasters, some of the agencies do not know about the assistance

OSHA can provide or how to request it. Similarly, by not seeking opportunities to participate in emergency preparedness exercises held by federal, state, and local agencies, OSHA has not been able to demonstrate the assistance it can provide or how the agencies can obtain its services during a disaster. As a result, without knowledge of OSHA's role, it is unlikely that state and local agencies will request OSHA's assistance in future disasters, hampering the agency's ability to meet the safety and health needs of nonfederal workers, many of whom are first responders. Further, because OSHA was not prepared to establish a program for providing information on what protective equipment is needed or how to use it during future disasters or for ensuring that agencies obtain adequate supplies of equipment, workers may not be properly protected from potential hazards. Finally, some workers' needs for mental health services in future disasters may not be met, and the full extent of workers' unmet mental health needs will not be known because OSHA has not coordinated with the Department of Health and Human Services to determine how it will assess the need for mental health services or ensure that these services are provided to rescue and recovery workers.

Recommendations for Executive Action

In order to improve the ability to meet workers' safety and health needs in the event of a future disaster, the Secretaries of the Departments of Labor and Homeland Security should direct the Administrators of OSHA and FEMA to

- clearly define the criteria to be used in deciding when OSHA will be responsible for carrying out its duties under the Worker Safety and Health Support Annex to the National Response Plan, including the types and magnitude of disasters in which OSHA will be involved, and
- clearly define OSHA's and FEMA's roles under the Worker Safety and Health Support Annex, including resolving the issue of how the need for long-term medical monitoring of workers involved in the response to future disasters will be met; and
- proactively work to provide information to federal, state, and local agencies about OSHA's role in a disaster and the assistance it can provide under the Worker Safety and Health Support Annex, including seeking opportunities for OSHA to participate in emergency preparedness exercises at federal, state, and local levels.

In addition, the Secretary of the Department of Labor should direct OSHA to

- establish a process for collecting data on injuries and illnesses sustained by workers who respond to disasters as defined in the Worker Safety and Health Support Annex to the National Response Plan, such as requiring employers to record injuries and illnesses on logs maintained at each disaster work site and periodically submit them to OSHA during the response;
- use the information collected on injuries and illnesses to identify safety and health hazards and analyze injury and illness trends; and
- develop, implement, and monitor an incident personal protective equipment program as defined in the Worker Safety and Health Support Annex.

In order to improve the ability to meet workers' needs for mental health services in the event of a future disaster, the Secretaries of the Departments of Labor and Health and Human Services should

- develop a plan for coordinating and providing mental health services to response and recovery workers as described in the Worker Safety and Health Support Annex to the National Response Plan.

Agency Comments and Our Evaluation

We provided a draft of this report to the Secretaries of the Departments of Agriculture, Health and Human Services, Homeland Security, the Interior, and Labor; EPA; the Coast Guard; DOD; the National Guard; and USACE for comment. We received written comments from the Departments of Health and Human Services and Labor, which are reproduced, along with our response in appendixes III and IV. Both agencies also provided technical comments, which we incorporated in the report as appropriate.

The Department of Health and Human Services agreed with our recommendations. The Department of Labor agreed with our recommendation for OSHA to establish a process for collecting data on injuries and illnesses sustained by workers who respond to disasters as defined in the Annex, although it noted several challenges in doing so. Although the agency did not comment on the other recommendations, it disagreed with our findings in several areas and provided additional information on the actions it took to provide assistance to agencies and

workers. Officials with the Department of Homeland Security stated in oral comments that they agreed with our findings and recommendations and provided written technical comments, which we incorporated as appropriate. The Department of the Interior, the Coast Guard, and the National Guard also provided technical comments, which we incorporated as appropriate. DOD did not respond to our request for comments. Officials with EPA, USACE, and the Department of Agriculture told us that they had no comments on the report.

We will make copies of this report available upon request. In addition, the report is available at no charge on GAO's Web site at <http://www.gao.gov>.

If you have any questions about the report, please contact me at (202) 512-5988 or at bertonid@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to the report are listed in appendix V.



Daniel Bertoni
Director, Education, Workforce
and Income Security Issues

List of Congressional Committees

The Honorable Edward M. Kennedy
Chairman

The Honorable Michael B. Enzi
Ranking Minority Member
Committee on Health, Education, Labor, and Pensions
United States Senate

The Honorable Joseph Lieberman
Chairman
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Tom Harkin
Chairman
Subcommittee on Labor, Health and Human Services,
Education and Related Agencies
Committee on Appropriations
United States Senate

The Honorable Patty Murray
Chairman
Subcommittee on Employment and Workplace Safety
Committee on Health, Education, Labor, and Pensions
United States Senate

The Honorable George Miller
Chairman
Committee on Education and Labor
House of Representatives

The Honorable Tom Davis
Ranking Minority Member
Committee on Oversight and Government Reform
House of Representatives

The Honorable James T. Walsh
Ranking Minority Member
Subcommittee on Labor, Health and Human Services, Education and
Related Agencies
Committee on Appropriations
House of Representatives

The Honorable Henry Cuellar
Chairman
The Honorable Charles W. Dent
Ranking Minority Member
Subcommittee on Emergency Communications, Preparedness,
and Response
Committee on Homeland Security
House of Representatives

Appendix I: Scope and Methodology

We met with OSHA national, regional, and area office officials to obtain a general understanding of their specific roles and responsibilities under the National Response Plan (NRP) and the Worker Safety and Health Support Annex (the Annex). We documented the steps OSHA took to ensure the safety and health of workers in the Gulf Coast area during the response to Hurricane Katrina; the extent of the agency's coordination with other federal, state, and local government officials; and the lessons learned that included any new initiatives that had been implemented or were being considered.

We also met with officials from federal agencies that, according to OSHA and FEMA officials, deployed federal workers and contractor employees to the Gulf Coast in response to Hurricane Katrina: OSHA; FEMA; EPA; the Coast Guard; DOD; the National Guard; USACE; and the Departments of Agriculture, Health and Human Services, and the Interior. As a part of our interviews, we asked about them the extent of their involvement with OSHA, lessons learned, and specific initiatives being implemented or planned to address the challenges faced by their workers during Hurricane Katrina. In addition, we interviewed representatives of several workers' rights groups to obtain their perspectives on the role OSHA played in protecting the safety and health of workers involved in the response to Hurricane Katrina, including the safety and health of the immigrant population. These groups included Boat People SOS, the Mississippi Immigrants Rights Alliance, the Center to Protect Workers' Rights, and the New York Committee for Occupational Safety and Health. We also reviewed several studies on emergency preparation, response, and recovery efforts conducted prior to and during Hurricane Katrina.

We conducted our work from October 2005 to December 2006 in accordance with generally accepted auditing standards.

Analysis of Agency Documents

We reviewed provisions of the NRP and the Annex to identify the specific roles and responsibilities of OSHA in an incident of national disaster or a catastrophic event. We also reviewed state emergency management plans in Alabama and Louisiana to determine whether these state plans had provisions for ensuring the safety and health of rescue and recovery workers. Mississippi did not have a current state emergency management plan.

Site Visits

To provide some perspectives on the extent of OSHA effectiveness for ensuring safety and health of workers at the state and local levels, we conducted site visits in Alabama, Louisiana, and Mississippi, the states that suffered the most damage from Hurricane Katrina. We spoke with OSHA regional and area officials as well as federal officials from FEMA, EPA, and USACE. We also interviewed many state and local response and recovery workers, including state police in Louisiana and Mississippi; local law enforcement in New Orleans, Louisiana and Jackson, Mississippi; firefighters in New Orleans, Louisiana; the Louisiana Department of Wildlife and Fisheries; the Louisiana Department of Environmental Quality; and a county emergency management official in Mississippi. In addition, in March 2006, we attended a conference sponsored by the National Institute of Environmental Health Sciences that discussed the various lessons learned and challenges federal agencies encountered during the responses to Hurricanes Katrina and Rita.

Data from Federal Agencies on Injuries and Illnesses

Because OSHA was unable to collect useable data on the number of injuries and illnesses sustained by federal workers in the Gulf Coast area, we asked the 10 agencies that sent rescue and recovery workers to the Gulf Coast to provide this information. Although agency officials told us that they tracked illnesses and injuries on the work site logs that OSHA requires them to maintain, they were not able to separate out this information for all workers deployed to the Gulf Coast because injuries and illnesses are recorded at the work sites where workers are permanently assigned, not the work sites to which they were temporarily assigned during the response.

We asked these agencies whether they maintained their own data on workers who were injured or became ill as a result of their work in the Gulf area. Four of the 10 agencies—EPA, USACE, the Coast Guard, and the Department of the Interior—provided data on injuries and illnesses for workers deployed to the Gulf Coast that were sufficiently reliable for us to report. However, each of these agencies used different methods to report this information. In an effort to summarize the injury and illness data reported by the agencies, we developed a coding scheme for classifying and combining the data on injuries and illnesses provided by EPA and USACE into more consistent and concise categories. For example, we classified an injury described in USACE's data as "contractor chain saw operator suffered laceration," as a "laceration," and an injury described in EPA's data as "employee lost his footing and fell onto the deck landing," as a "trip/fall." We determined that the codes used by the Coast Guard were sufficiently reliable in coding scheme to use to report the number and

types of injuries and illnesses sustained by their workers. We received the data from the Department of the Interior too late to include it in its entirety but provided a brief summary of the types of injuries and illnesses sustained by its workers in the Gulf Coast area (see app. II).

In addition, to determine the number and types of injuries and illnesses sustained by their workers, we looked at the nature and causes of the injuries and illnesses reported by the four agencies and, where possible, the number of injuries and illnesses reported for each month. Because some incidents reported by EPA and USACE contained more than one injury or illness, we used more than one code to report on the type of injury or illness sustained. For example, we classified an injury reported by EPA where an employee had “pulled and strain neck and back from a motor vehicle accident,” as a “motor vehicle accident” and a “pain/strain.” As a result, the total number of injuries and illness reported by the agencies may differ from the numbers we reported.

Data on Federal and State Workers’ Compensation Claims

Because the data on injuries and illnesses provided by the federal agencies on their workers were limited, we obtained information on workers’ compensation claims filed by federal workers from the Department of Labor’s Office of Workers’ Compensation Programs in order to obtain more information about injuries and illnesses sustained by federal workers involved in the response. The Office of Workers’ Compensation Programs provided us with data on 770 claims related to Hurricanes Katrina and Rita filed from August 2005 through June 2006.¹ However, we found that the data provided to us on claims filed by federal workers were not sufficiently reliable to use in reporting the types of injuries and illnesses sustained by federal workers involved in the response.

¹Officials with the Office of Workers’ Compensation Programs told us they could not separate claims related to Hurricane Katrina from claims related to Hurricane Rita using the information recorded in their database.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

Officials with OSHA and FEMA told us the following federal agencies sent workers to Alabama, Louisiana, and Mississippi—the three states that sustained the most damage from Hurricane Katrina—to perform rescues and conduct recovery work such as clearing debris:

1. the Department of Agriculture;
2. the Department of the Interior;
3. the Coast Guard;
4. FEMA;
5. EPA;
6. the Department of Health and Human Services, including the Centers for Disease Control and Prevention, the National Institutes of Health, the Food and Drug Administration, the Office of Force Readiness and Deployment, and the Substance Abuse and Mental Health Services Administration;
7. OSHA;
8. USACE;
9. DOD, including the Air Force, Army, Navy, and Marine Corps; and
10. the National Guard.

In early May 2006, we asked these agencies to provide us with the number of employees and contract employees they employed in the three states to assist with rescue and recovery work related to Hurricane Katrina from the beginning of the response through April 1, 2006. Many agency officials told us that they could not provide the total number of workers for the entire period because they did not collect data in a way that would enable them to provide us with unduplicated counts of workers who rotated in and out of the Gulf Coast area. However, many said they could provide us with estimates of the total number of workers for specific points in time so we requested such data from all 10 agencies.

We asked them to provide the total number of full-time equivalent workers they employed in Alabama, Louisiana, and Mississippi on the first day of each month from September 1, 2005, through April 1, 2006. We also asked them to exclude employees of other agencies that were temporarily

**Appendix II: Data on the Estimated Number
of Federal Workers Who Responded to
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Illnesses**

assigned to them or volunteers who were not government employees or contractors. All of the agencies submitted estimates for their federal employees working in the Gulf area, although some agencies were not able to provide information on all personnel deployed to the Gulf Coast.¹ Only 6 of the 10 agencies tracked information on the number of workers employed by their contractors in these three states to work on response and recovery work related to Hurricane Katrina: the Departments of Agriculture, the Interior, Health and Human Services, EPA, OSHA, and FEMA. Although officials with three of the other four agencies—the Department of Defense, USACE, and the Coast Guard—said they employed contractors in the Gulf, they did not track the number of workers employed by their contractors. Officials from the National Guard told us they did not employ contractors in the Gulf Coast area.

We obtained data from OSHA and the other agencies on 11 response and recovery workers who died in the Gulf, 9 of whom were killed in work-related accidents. OSHA provided information on 10 fatalities, 9 of which were work-related, and USACE on 2 fatalities, one of which was work-related.² All of the other agencies said that none of their workers was killed during the response to Hurricane Katrina. (See table 1 for additional information on these fatalities.)

¹DOD, for example, did not track the number of active duty Navy personnel who assisted with rescue and recovery efforts in the Gulf because the Navy base was damaged by the hurricane and they were not able to report this information.

²Both OSHA and USACE provided us with information on one of the fatalities.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

Table 1: Number of Fatalities Reported by OSHA and Other Federal Agencies

State	Description of incident	Employer	Work-related?
Louisiana	A worker was struck by a bulldozer at a debris site.	Employee of a federal subcontractor for USACE	Yes
Louisiana	A worker was crushed during the installation of a parked trailer that was accidentally released and ran over him.	Employee of a federal subcontractor for FEMA	Yes
Louisiana	A worker who was attempting to reinstall electrical services to a residence was electrocuted.	Nonfederal employee or volunteer	Yes
Louisiana	A worker suffered a massive heart attack while sitting in a company truck.	Nonfederal employee or volunteer	No
Louisiana	A maintenance worker fell 18 feet to his death after receiving an electric shock.	Nonfederal employee or volunteer	Yes
Mississippi	A worker operating a tractor to clear debris died when the tractor overturned into a ditch with 5½ feet of water, pinning the operator under the tractor.	Employee of a federal subcontractor for FEMA	Yes
Mississippi	A worker was killed when a 75 foot pole fell from a forklift and struck him.	Nonfederal employee or volunteer	Yes
Mississippi	A worker fell 40 feet to the floor of a warehouse.	Nonfederal employee or volunteer	Yes
Mississippi	Two workers on a casino barge were overcome by hydrogen sulfide fumes and drowned.	Nonfederal employees or volunteers	Yes
Mississippi	Employee died on the way to work as the result of a car accident.	Employee of a federal subcontractor for USACE	No

Source: GAO analysis of OSHA and USACE data.

Because OSHA was unable to collect data on the number of injuries and illnesses sustained by federal workers in the Gulf Coast area, we asked the 10 agencies that sent workers to the Gulf Coast area to provide this information. Although agency officials told us that they tracked illnesses and injuries on the worksite logs that OSHA requires them to maintain, they were not able to separate out this information for all workers deployed to the Gulf Coast because injuries and illnesses are recorded at the worksites where workers are permanently assigned, not the worksites to which they were temporarily assigned during the response.

**Appendix II: Data on the Estimated Number
of Federal Workers Who Responded to
Hurricane Katrina and Their Injuries and
Illnesses**

We asked these agencies whether they maintained their own data on workers who were injured or became ill as a result of their work in the Gulf Coast area. Four of the 10 agencies—EPA, USACE, the Coast Guard, and the Department of the Interior—provided data on injuries and illnesses for workers in the Gulf area that were sufficiently reliable for us to report. However, each agency used different descriptions of the injuries and illnesses to report the information collected. In an effort to summarize the data reported by the agencies, we developed our own categories to use in classifying and collapsing the descriptions of injuries and illnesses provided by EPA and USACE into more consistent and easily understood categories. For example, for an injury described in USACE’s data as “contractor chain saw operator suffered laceration,” we reclassified it as a “laceration;” and for an injury described in EPA’s data as “employee lost his footing and fell onto the deck landing,” we reclassified it as a “trip/fall.” We determined that the descriptions and categories used by the Coast Guard were sufficiently clear to use in reporting the number and types of injuries and illnesses sustained by their workers. We received the data from the Department of the Interior too late to reclassify it and report it in its entirety, but we provided a brief summary of the types of injuries and illnesses sustained by its workers deployed to the Gulf Coast on page 58.

To determine the number and types of injuries and illnesses sustained by their workers deployed to the Gulf Coast, we looked at the nature and causes of the injuries and illnesses reported by the agencies and, where possible, the number of injuries and illnesses reported for each month. Because some incidents reported by EPA and USACE contained more than one injury and/or illness, we used more than one code to report on the type of injury and illness sustained. For example, where EPA reported that an employee had pulled and strain neck and back from a motor vehicle accident, we classified it as “motor vehicle accident” and “pain/strain.” As a result, the total number of injuries and illness reported by these agencies may differ from the types of injuries and illnesses reported for that same time frame.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

EPA reported information on the number of injuries and illnesses sustained by their federal workers and contractor employees. (See table 2.)

Table 2: Reported Number of Injuries and Illnesses for EPA, August 2005 to June 2006

Month	Region 4	Region 6	Total
August	0	0	0
September	0	7	7
October	1	22	23
November	1	32	33
December	0	14	14
January	0	13	13
February	0	12	12
March	0	7	7
April	0	5	5
May	0	8	8
June	0	2	2
Total	2	122	124

Source: GAO analysis of EPA data.

Note: These numbers represent data on EPA agency personnel, employees of their contractors, and employees of the Tennessee Valley Authority. At OSHA's request, EPA collected data on all types and causes of hurricane response-related injuries and illnesses. However, according to EPA, the totals do not include some minor injuries and illnesses.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

EPA also provided information on the types of injuries and illnesses these workers sustained. (See table 3.)

Table 3: Reported Types of Injuries and Illnesses for EPA, August 2005 to June 2006

Type of Injury or Illness	Region 4	Region 6	Total
Cut/scrape/bruise	0	43	43
Skin condition	0	16	16
Pain/strain	0	13	13
Animal/insect bite	0	12	12
Sprain/fracture	1	10	11
Irritation	0	9	9
Chemical Splash	0	6	6
Trip/fall	0	4	4
Medical condition	0	3	3
Chemical exposure	0	3	3
Infection	0	2	2
Exhaustion/dehydration/heat stress	0	2	2
Smoke exposure	0	1	1
Nausea	0	1	1
Burn	0	1	1
Viral infection	0	1	1
Motor vehicle accident	0	1	1
Seizure	0	1	1
Acute appendectomy	0	1	1
Rupture	1	0	1
Total	2	130	132

Source: GAO analysis of EPA data.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

USACE reported information on the number of injuries and illnesses sustained by their federal workers and contractor employees. (See table 4.)

Table 4: Reported Number of Injuries and Illnesses for USACE, August 2005 to June 2006

Month	Total
August	0
September	64
October	99
November	49
December	40
January	95
February	70
March	75
April	46
May	17
June	7
Total	562

Source: GAO analysis of USACE data.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

USACE also reported information on the types of injuries and illnesses sustained by these workers. (See table 5.)

Table 5: Reported Types of Injuries and Illnesses for USACE, August 2005 to June 2006

Injury/Illness Category	Total
Motor vehicle accident	247
Motor vehicle rollover	90
Property damage	62
Struck by object	48
Trip/fall	25
Cut/scrape/bruise	24
Animal/insect bites	13
Laceration	11
All other injuries	11
Pain/strain	8
Fire	7
Sprain/fracture	6
Broken limb	5
Limb caught in object	4
Skin conditions	3
Operational stress	3
Unknown	3
Burn	2
Contusion	2
Medical conditions	2
Fatality	2
Violence	2
Muscle spasm	1
Heat exposure	1
Gastrointestinal	1
Total	583

Source: GAO analysis of USACE data.

The Coast Guard provided information on injuries and illnesses sustained by their workers and contractor employees from November 2005 through March 2006 in several different categories. According to Coast Guard officials, about 5 percent of the data it received on illnesses and injuries

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

that occurred during this period had not been entered into its injury and illness tracking system. It reported data on the number of types of exposures their federal workers and contractor employees experienced during the response. (See table 6.)

Table 6: Reported Exposures for the Coast Guard, November 2005 to March 2006

Type of Exposure	Total
Animal vector (e.g., bites from insects such as mosquitoes or animals such as snakes and dogs)	1,171
Sunburn	1,002
Floodwater	737
Heat stress	727
Chemicals	684
Infectious agents or biological agents	659
Mold exposure	562
Carbon monoxide	246
Total number of exposures	5,788

Source: GAO analysis of Coast Guard data.

The Coast Guard also reported the number of injuries sustained by their federal workers and contractor employees. (See table 7.)

Table 7: Reported Injuries for the Coast Guard, November 2005 to March 2006

Injuries	Total
Penetrating injury	419
Slips, trips, falls	136
Total number of injuries	555

Source: GAO analysis of Coast Guard data.

Appendix II: Data on the Estimated Number of Federal Workers Who Responded to Hurricane Katrina and Their Injuries and Illnesses

In addition, the Coast Guard provided data on the health effects of the injuries and illnesses sustained by their federal workers and contractor employees. (See table 8.)

Table 8: Reported Health Effects for the Coast Guard, November 2005 to March 2006

Health Effects	Totals
Sinus infections	299
Diarrhea	196
Skin rash	179
Dehydration	174
Other (e.g., cough, fatigue, flu, headache)	157
Joint pain	151
Loss of appetite	139
Muscle strain	138
Depression	134
Nausea	132
Difficulty concentrating	128
Skin lacerations	87
Cramps	61
Vomiting	50
Skin puncture	50
Infected skin	45
Confusion	38
Excessive weight loss	22
Total number of health effects	2,180
No known long-term health effects	1,295

Source: GAO analysis of Coast Guard data.

The Coast Guard noted which symptoms occurred during workers' deployment and which occurred post-deployment. (See table 9.)

Table 9: Reported Timing of Symptoms for Health Effects for the Coast Guard, November 2005 to March 2006

Symptoms During and Post Deployment to the Gulf Coast Area	Total
Symptoms while deployed	729
Symptoms post deployment	506

Source: GAO analysis of Coast Guard data.

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Finally, the Department of the Interior reported that 90 workers sustained injuries or illnesses during the response to Hurricane Katrina from August 2005 through April 2006. They included injuries such as falls, slips and trips; strains from lifting; dermatitis from exposure to poison ivy; and reactions from exposures to toxins, dust, gas or chemicals.

We took several steps to assess the reliability and reasonableness of the data the agencies provided. To assess the reliability of the agencies' data, we talked with agency officials about their data quality control procedures and reviewed relevant documentation. For example, we asked about the types of procedures and systems they had in place to ensure that the data were collected and reported consistently. We found the data were sufficiently reliable for the purposes of this report.

Appendix III: Comments from the Department of Health & Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

Office of the Assistant Secretary
for Legislation

Washington, D.C. 20201

FEB 27 2007

Robert E. Robertson
Director
Education, Workforce, and
Income Security Issues
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Robertson:

Enclosed are the Department's comments on the U.S. Government Accountability Office's (GAO) draft report entitled, "DISASTER PREPAREDNESS: Better Planning Would Improve OSHA's Efforts to Protect Workers' Safety and Health in Future Disasters" (GAO-07-193), before its publication.

The Department has provided several technical comments .

The Department appreciates the opportunity to review and comment on this draft.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Kemard".

for Vincent J. Ventimiglia
Assistant Secretary for Legislation

**COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES ON THE
GOVERNMENT ACCOUNTABILITY OFFICE (GAO) DRAFT ENTITLED: DISASTER
PREPAREDNESS: BETTER PLANNING WOULD IMPROVE OSHA'S EFFORTS TO
PROTECT WORKERS' SAFETY AND HEALTH IN FUTURE DISASTERS"**
GAO 07-193

General Comments:

- The fundamental issue that this report brings to the forefront is the vital importance of ensuring that disaster planning and response includes a focus on worker safety and health.
- The World Trade Center and Hurricane Katrina/Rita events were disasters on an unprecedented scale. The types of hazards and environmental risks confronted in such disasters are complex and unique. In these events, the physical injuries to relief workers can be counted, but the impacts on health are often not revealed until much later. The National Institute of Environmental Health Sciences (NIEHS), a component of the National Institutes of Health, through its research centers and other partners, is beginning to obtain information on the relationships between exposures during disaster remediation activities and later morbidity. There is a clear public health and research value that underscores the GAO recommendation to clarify the roles of federal agencies regarding medical monitoring for response workers.

Appendix IV: Comments from the Department of Labor and GAO's Response

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

U.S. Department of Labor

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



MAR -9 2007

Mr. Robert E. Robertson
Director, Education, Workforce and Income Security Issues
United States Government Accountability Office
441 G Street NW, Room 5930
Washington, DC 20548

Dear Mr. Robertson:

The Occupational Safety and Health Administration (OSHA) has received the Government Accountability Office's (GAO's) draft report to congressional committees entitled *Disaster Preparedness: Better Planning Would Improve OSHA's Efforts to Protect Workers' Safety and Health in Future Disasters*, and appreciates the opportunity for advance review and comment.

This GAO report represents many months of investigation over a wide geographic area about newly-created procedures for responding to domestic emergencies and disasters. While GAO accurately captured some of OSHA's actions, the report fails to fairly and adequately reflect OSHA's efforts to prevent occupational injuries and illnesses and work-related fatalities in the Hurricane Katrina response operations. Further, it should be noted that OSHA has resolved many of the issues noted in the GAO study, which focuses on activities through December 2005, and continues to make progress on others.

During OSHA's 12-month involvement in the Hurricane Katrina response, the Agency undertook the following tasks aimed at preventing occupational injuries and illnesses and work-related fatalities:

- Distributed over 4,000 pieces of personal protective equipment on an ad hoc basis;
- Developed a sampling plan and took approximately 10,000 samples to evaluate potential exposures;
- Distributed approximately 200,000 OSHA compliance assistance products;
- Interacted with approximately 16,000 federal and private sector work crews;
- Conducted interventions that covered more than 50,000 workers; and
- Removed more than 20,000 workers from serious hazards.

See comment 1.

See comment 2.

As the report accurately points out, OSHA did not wait for the storm to make landfall before taking action to respond to the anticipated aftermath of the hurricane. For example, OSHA's regional and area offices in Alabama, Georgia, Mississippi, and Louisiana contacted local utilities to assist with occupational safety and health issues they would encounter after the hurricane. This action was undertaken based on lessons learned from earlier hurricane seasons that indicated utility crews are some of the first responders after storms hit, and often face life-threatening hazards when trying to get systems back up and working. OSHA took another proactive step on September 2, 2006, days before the Federal Emergency Management Agency (FEMA) completed the mission assignment, by activating its own National Emergency Management Plan, enabling it to focus the resources of the entire Agency on response operations.¹

Once FEMA completed the mission assignment, thereby providing OSHA with access to additional funds, the Agency continued to take action and deployed over 50 safety and health professionals to the affected region.² The additional professionals aided in the management and coordination of safety and health assistance to federal agencies and others, as outlined in the mission assignment. As part of its assignment, OSHA's responsibilities included:

- Deploying staff to national level coordination centers including the Health & Human Services (HHS) Secretary's Operation Center;
- Developing an overall Health and Safety Plan that guided those designing plans for individual worksites;
- Cooperating with HHS to develop and reproduce psychological first aid materials to help responders, their families, and their home offices deal with the stresses associated with this work; and
- Providing training to responders, delivered by OSHA staff in the field, and through an agreement, by which the National Institute of Environmental Health Sciences (NIEHS) trained an additional 3,500 responders in specialized classes. OSHA also sponsored construction safety conferences for contractors engaged in hurricane recovery work.

In addition to its management and coordination responsibilities, OSHA's staff traveled throughout the disaster area providing technical assistance directly to employers and employees. When OSHA teams identified a dangerous situation,

¹ OSHA's National Emergency Management Plan (NEMP) clarifies procedures and policy for OSHA's national office and regional offices during responses to nationally significant incidents.

² FEMA utilizes mission assignments to specify the tasks the department or agency is to perform during a specific incident. FEMA's mission assignment identifies the specific tasks the department is to perform to support the inter-agency efforts for a specific incident.

they approached work crews and managers to make them aware of hazards and to provide on-site training. To support its field work, OSHA staff developed an array of compliance assistance products, including quick reference materials for people working in hazardous environments.

The details above offer a sampling of the vast and varied occupational safety and health assistance OSHA provided during the Katrina response. As with any domestic emergency or disaster, OSHA enters the situation with the goal of preventing occupational injuries and illnesses and work-related fatalities. This goal is carried-out through a variety of means, including coordinating occupational safety and health assistance for responders, delivering safety and health technical assistance in the field, and developing quick reference materials to keep safety and health at the forefront of responders' minds.

After a review of GAO's draft report, OSHA submits several clarifications to better enable prospective readers to understand the Agency's responsibilities by which to measure its response.

See comment 3.

Number of Responders Deployed: GAO's report notes that no one collected information on the number of workers deployed to the disaster area. OSHA would like to clarify that it was not responsible for tracking the number of workers responding to Hurricane Katrina in the Gulf Coast region.

See comment 4.

Annex vs. Mission Assignment Language: The report focuses on the language in the National Response Plan (NRP) Worker Safety and Health Support Annex (WSHSA), rather than on the mission assignment for the Katrina response. The language in the mission assignment is what directed OSHA's activities in response to Hurricane Katrina, and should be the basis by which the Agency's response is evaluated.

See comment 5.

Training: OSHA repeatedly noted the availability of training through the Interagency Safety Committees in Joint Field Offices (JFO's) in both Louisiana and Mississippi. Under tasking from OSHA, NIEHS, an Annex cooperating agency, made presentations at these meetings informing the federal response community of the training resources available under the Annex. OSHA made a consistent effort to stress the need for and availability of training in the affected region. However, there was a greater response to these efforts in Mississippi than in Louisiana. In total, approximately 3,750 people were trained through the resources made available through the Annex.

Personal Protective Equipment (PPE): There are several issues of concern in the sections of the report dealing with OSHA's responsibilities for PPE.

See comment 6.

4

Availability of PPE: The mission assignment states: "Procure and provide essential PPE to responders and recovery workers on an ad-hoc basis." The mission assignment did not call for OSHA to be responsible for purchasing and distributing all the PPE needed by workers in the disaster zone, which under law is the responsibility of the agency or entity that employs the workers. OSHA's mission was to provide PPE on an ad-hoc basis. OSHA successfully did this by distributing over 4,000 pieces of PPE. Through ongoing daily briefings, we offered assistance to federal agencies concerning PPE programs and respirator fit testing. At no time during the response did federal agencies or their contractors indicate that they could not acquire needed PPE.

PPE Program: The current WSHSA language did not anticipate a PPE program on such a colossal scale as the one experienced in the Katrina response. The Annex was focused on a more compact site. Moreover, a general plan broad enough to encompass the many environments and operations in the Katrina response would not have had value for a specific worksite. Rather, in meeting the mission assignment, OSHA developed and distributed to federal agencies a response-wide Health and Safety Plan (HASP). This included guidance to those who were developing worksite-specific HASPs for what they should include in their plan to address PPE needs. Through JFO interagency safety and health committee meetings, the development of agency HASPs and their content was covered. On the need to include PPE in worksite specific HASPs, the guidance read:

"Personal Protective Equipment (PPE) The use of PPE must be properly assessed. Equipment must be properly selected for the hazard, and properly fitted for the employee. Employees must be trained in the equipment's uses and limitations, as well as proper donning and doffing techniques. Equipment must be inspected before each use and repaired or replaced as needed. PPE shall be maintained and stored in a clean and sanitary manner. Employers shall maintain adequate supplies for timely replacement of lost, worn, or broken PPE."

PPE Distribution: As tasked under the mission assignment, OSHA provided PPE on an ad hoc basis when it encountered workers who lacked it or whose PPE was broken or ineffective.

Source of PPE: The report makes an issue of whether PPE was purchased through FEMA's vendor or through OSHA's Cincinnati Technical Center (CTC). There may have been discussion about how PPE would be acquired, but it had no impact on whether PPE was available for the responders.

See comment 7.

5

Need for Mental Health Services: The report states, "OSHA did not coordinate with them [HHS]..." This statement is not accurate. Within one week of receiving a mission assignment, OSHA sent its Director of Occupational Medicine, a physician, to Louisiana to address the need for mental health services and determine how best to deliver them. Further, OSHA staffed a desk at the HHS Secretary's Operations Center to address worker safety and health issues, providing an industrial hygienist and an occupational physician daily to support this function.

OSHA continually reached out to HHS, FEMA, and other agencies to meet its obligations under the mission assignment. Through regular discussions with FEMA and HHS, it was decided that the mission assignment from FEMA to Federal Occupational Health (FOH), a service unit within HHS, addressed the need for on-site mental health services. This included the need for assistance materials for deployed personnel, their supervisors, and families, concerning psychological resiliency during disaster response and recovery. Under the mission assignment, OSHA coordinated with FEMA and HHS to develop these materials and make them available to federal agencies.

See comment 8.

Agency Unawareness of OSHA's Role in a Large Disaster: OSHA does not believe the report accurately reflects the awareness of the Worker Safety and Health Support Annex among the federal agencies prior to Hurricane Katrina. All federal agencies signed off on the NRP, including the Worker Safety and Health Support Annex. In addition, several of the agencies most involved in Katrina response operations (FEMA, USACE, EPA, HHS, etc.) are cooperating agencies to the Support Annex. While not *all* of the employees of these federal agencies may have known about the Support Annex or the full extent of the resources available through it, the Support Annex was generally recognized among the federal agencies, and agencies were advocating for its implementation. Further, once OSHA was activated to implement the Annex, OSHA personnel staffed the JFOs, established contacts with state and federal agencies, held individual briefings with federal and state entities concerning OSHA's role in Katrina response and recovery, and attended numerous daily meetings that were also attended by federal and state agencies.

What may not be completely understood throughout the federal community was how to implement the Support Annex and to access its resources. This was largely due to the fact that the Worker Safety and Health Support Annex is the *only* support annex that requires a mission assignment to both provide financial resources to an Agency and be implemented. All other support annexes are administrative and process-oriented rather than focused on providing operational support at disaster sites. Since most resources are provided by Emergency Support Functions, it was not clear among the federal agencies how to activate the resources available through the Support Annex.

See comment 9.

Enforcement: OSHA continued to investigate fatalities, complaints, and referrals throughout its response efforts. OSHA did not "suspend" enforcement during the response to Katrina. Rather, the agency delayed planned inspection activities as appropriate to the unique circumstances. Normal enforcement operations continued nationwide except in the specific areas devastated by the storm. Furthermore, OSHA's inspections levels for FY2006 continued at the levels planned for the year. Despite responding to and assisting the recovery of one of the nation's worst natural disasters, OSHA's regular staff in Louisiana conducted 616 inspections for fiscal year 2006, exceeding their inspection goal by nine percent.

OSHA resumed full enforcement in the areas affected by the storms as response operations ended. As of January 25, 2006, normal enforcement operations for planned inspections resumed throughout Florida and Alabama, in Mississippi north of Interstate 10, and in Louisiana outside of the seven parishes in and around New Orleans. On June 28, 2006, normal operations for planned inspections resumed throughout Mississippi. OSHA resumed normal operation for planned inspections throughout Louisiana on September 15, 2006.

Recordkeeping: OSHA agrees with GAO's recommendation that recognizes the benefits of collecting data on injuries and illnesses sustained by workers who respond to disasters as envisioned by the Worker Safety and Health Support Annex. OSHA's existing injury and illness recordkeeping forms (OSHA Forms 300 and 301) and definitions are a good platform on which to build. These forms and definitions provide two major benefits: 1) they are already well known and understood, as all federal agencies currently use these forms, as required by 29 CFR Part 1960 Subpart 1 (effective January 1, 2005); and 2) the forms provide the detailed information needed to evaluate trends and identify problem areas.

See comment 10.

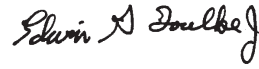
However, as evidenced in this report, emergency and/or disaster conditions present unique challenges not anticipated by OSHA's current recordkeeping rule. These challenges include:

- The need for real time data collection and dissemination;
- The need to identify responsibilities of federal, state, and local government agencies for reporting during a response;
- The need to clarify contractual obligations to report injuries and illnesses in a disaster response; and
- Prioritization of the use of limited man-power.

**Appendix IV: Comments from the Department
of Labor and GAO's Response**

Again, OSHA appreciates the opportunity for advance review and comment on this draft report.

Sincerely,



Edwin G. Foulke, Jr.

GAO's Response to OSHA's Comments

1. We disagree that our report does not fairly and adequately capture the actions OSHA took to prevent occupational injuries and illnesses and work-related fatalities in the Hurricane Katrina response operations. The information on pages 15 through 27 of the report details many of these activities, but the purpose of the report was to provide a broader picture of OSHA's overall effectiveness. While the magnitude of the activities accomplished by OSHA's field staff was noteworthy, the agency's overall effectiveness was hampered by its lack of preparation for implementing its responsibilities under the Annex at the national level. This was also noted by the Department of Homeland Security's National Preparedness Task Force, which stated in its technical comments that, "As a signatory agency, Department of Labor should have anticipated and put in place mechanisms to ensure the success of OSHA in meeting their Workforce Safety responsibilities." In addition, our work focused on OSHA's activities through December 2006, not December 2005.
2. Although OSHA provides more detailed information about its action during the response to Hurricane Katrina, our report mentions many of these same activities. For example, on page 33 of the report, we stated that OSHA distributed personal protective equipment to many agencies and workers; on pages 25 to 27, we noted that OSHA sampled many worksites for hazards; on pages 19 and 20, we provided examples of the quick cards and fact sheets OSHA developed and distributed throughout the Gulf; and on page 21, we discussed the thousands of interventions that the agency's staff conducted.
3. We agree that OSHA, nor any other federal agency, was responsible for collecting information on the number of workers deployed to the Gulf area in response to Hurricane Katrina. In the absence of such information, we attempted to collect it ourselves but, as noted in the report, were not entirely successful because many of the agencies we contacted did not have systems in place for tracking the number of workers deployed.
4. We noted on page 9 of the report that the mission assignment FEMA issued to OSHA implementing the Annex for Hurricane Katrina included all of the activities listed in the Annex except long-term medical monitoring. We measured the effectiveness of OSHA's performance only against those activities included in its mission assignment.
5. Despite OSHA's efforts, as noted on page 32 of the report, other agency officials told us that there still were gaps in the training provided to

workers involved in the response effort and additional information was needed about available training.

6. While we agree that establishing a personal protective equipment program for a disaster response is a difficult and complex task, we continue to believe that the underlying issue is the need for OSHA to define how it will implement and monitor such a program as specified in the Annex. The issues that OSHA raises need to be addressed in developing an incident personal protective equipment program for future disasters, including developing a process for deciding what providing equipment on an "ad-hoc" basis means, what types of equipment will be provided, who will provide it, which workers will receive it, and where will it be stored.
7. We disagree with OSHA's comment that our statement about its lack of coordination with the Department of Health and Human Services is inaccurate. Our statement is based on OSHA's lack of coordination before the disaster in order to ensure that the cooperating agencies were adequately prepared to meet the mental health needs of workers. Furthermore, in technical comments on the report, the Department of Homeland Security's National Preparedness Task Force also noted this lack of coordination. It stated that OSHA did not seek assistance from cooperating agencies that have provided mental health services during major events in the past, such as the Department of Health and Human Services' Substance Abuse and Mental Health Services Administration.
8. We disagree with OSHA's assertion that the report does not accurately reflect the awareness of the Annex among federal agencies before Hurricane Katrina. As noted in the report, many of the agency officials we interviewed who were in charge of day-to-day operations in the Gulf area were not aware of OSHA's role or the services it could provide. We continue to believe that OSHA needs to provide information to federal, state, and local agencies about its role in a disaster, including seeking opportunities to participate in emergency preparedness exercises at all levels of government. Because so many responders are associated with nonfederal agencies, it is particularly important for OSHA to reach out to state and local agencies to provide this information.
9. We used the word "suspend" to describe the fact that, in its press releases, OSHA noted that it had "exempted" large areas of the three affected states from its normal enforcement operations for specific periods and limited its inspections to cases involving fatalities, catastrophic accidents, or complaints, as noted on page 7 of the report. We changed the wording of the report in response to OSHA's technical

comments and no longer use the term "suspend." However, we believe that this is an accurate reflection of the change in OSHA's activities during a disaster.

10. The challenges OSHA recognizes in its comments regarding the use of its standard recordkeeping forms (OSHA forms 300 and 301) to collect data on injuries and illnesses sustained by workers during a disaster correctly identify some of the drawbacks involved in using the forms for this purpose. OSHA's comments also emphasize the need for it to develop a process for collecting needed data that overcomes the challenges identified. We disagree, however, that the forms are a good platform on which to build such a process. They do not contain detailed information on injuries, and employers are not required to include many of the more minor injuries and illnesses sustained by workers, such as those requiring only first aid. In addition, the use of the logs could cause confusion among federal agencies about whether the standard rules for recording injuries and illnesses are to be applied. For example, federal agencies are not normally required to submit their injury and illness logs to OSHA, but OSHA will need to obtain this information on a timely basis during a disaster response in order to monitor injuries and illnesses and identify trends.

Appendix V: GAO Contact and Staff Acknowledgments

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Related GAO Products

September 11: HHS Has Screened Additional Federal Responders for World Trade Center Health Effects, but Plans for Awarding Funds for Treatment Are Incomplete. [GAO-06-1092T](#). Washington, D.C.: September 8, 2006.

Catastrophic Disasters: Enhanced Leadership, Capabilities, and Accountability Controls Will Improve the Effectiveness of the Nation's Preparedness, Response, and Recovery System. [GAO-06-618](#). Washington, D.C.: September 6, 2006.

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