



**LEARNING FROM DISASTERS:
KATRINA RESPONSE SAFETY AND HEALTH TRAINING
REPORT OF A NATIONAL TECHNICAL WORKSHOP**

*March 8-9, 2006
Birmingham, Alabama*

Sponsored by:

Worker Education and Training Program
National Institute of Environmental Health Sciences

Report Issued: May 2006

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EXECUTIVE SUMMARY

The mission of the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) is to provide high quality safety and health training and resources for workers handling hazardous materials or involved in responding to emergencies involving hazardous materials. WETP achieves this, in part, by making awards to a national network of nonprofit safety and health training programs. Many of the WETP national awardees were active participants in the response to the World Trade Center disaster providing personal protective equipment, instructional staff, industrial hygiene support, and developing and delivering the WTC Site Orientation training program. Yet the experience at the WTC was far from positive. The implementation of safety and health training and practice often ran into barriers. To learn from these lessons, the WETP hosted a national technical workshop in the spring of 2002 in Nashville, Tennessee. Using the findings reported from that workshop, the WETP developed and implemented an Emergency Support Activation Plan (ESAP) to improve its future emergency responses under the National Response Plan (NRP) developed by the Department of Homeland Security.

Thus, WETP was ready after the hurricanes hit, immediately implementing its ESAP and later, when the NRP was activated in response to Hurricane Katrina, WETP began working through the NRP Worker Safety and Health Annex as coordinated by the Occupational Safety and Health Administration (OSHA).

It was clear that there were lessons to be learned from the Katrina response. This past workshop, “Learning from Disasters,” therefore examined the first six months of the WETP Katrina response as seen through the eyes of the WETP, WETP awardees, and several federal partners. A consensus emerged that while valuable in its current form, the WETP response still needs improvement. Moreover, the response to the Hurricane showed that the barriers evidenced in the WTC response still exist under the “new” National Response Plan. This amounts to a systems failure that presents serious barriers to the effective deployment of safety and health training in future national responses.

Participants at the workshop identified the following barriers and discussed possible solutions. The findings and suggested actions, grouped into four categories, are summarized below. For more in-depth discussion please refer to the main body of the report.

THE FAILURE OF THE NATIONAL RESPONSE PLAN’S WORKER PROTECTION MEASURES PLACED KATRINA RESPONDERS CONTINUALLY IN HARM’S WAY

The federal government shares with other public and private organizations a responsibility for the safety and health of workers responding to national emergencies. Efforts to include the lessons learned for protecting workers during the World Trade Center cleanup into the new NRP failed. The current NRP Worker Safety and Health Annex needs to be strengthened and should be immediately activated for disasters of national significance. Each government agency that responds – not just OSHA - has some role to play in assuring the safety and health of their own responders. Very few agencies fully integrated the worker safety and health lessons learned during prior disasters into their Katrina response. To prevent or at least minimize worker injuries and illnesses in future responses, this integration must occur within and across all federal, state and local agencies, as well as the private sector.

BARRIERS TO EFFECTIVE KATRINA RESPONSE SAFETY AND HEALTH TRAINING

Safety and health training provides workers responding to a disaster with the knowledge and critical information necessary to protect both themselves and the safety and health of the community. To ensure the safety and health of workers during a disaster, the federal family must address the following barriers to effective safety and health training.

- 1. Delay in the NIEHSWETP activation/mission assignment reduced safety training opportunities throughout the response.** NIEHS awardees are uniquely qualified to provide national disaster training support. Any future NRP response training mission assignments should be assigned directly to NIEHS/WETP by FEMA. In the following report, the Findings discussion details the obstacles faced when the mission assignment goes through OSHA. In addition the current Katrina mission assignment is extremely limited in the population it directs the NIEHS program to train, leaving numerous categories of workers, such as state and local government employees, volunteers, immigrant workers, and returning residents uncovered.
- 2. The lack of a federal focus on protecting responders contributes to a negative safety and health training climate.** To date, worker safety and health and training has not been considered a high priority by most of the responders, contractors and NRP agencies on the ground who have opted largely for only awareness training (briefings) in lieu of the more comprehensive safety and health training needed by most workers.
- 3. Inadequate occupational injury and illness data makes the identification of safety and health training needs more difficult.** The lack of accurate, real-time data left training providers using anecdotal evidence or personal observation in identifying the hazards of most relevance for their training populations. Since providers cannot see or hear about everything over such a vast area, this data is needed in order to identify sources of injuries and illnesses and focus training to address those hazards.
- 4. OSHA's Katrina Health and Safety Plan (HASP) was largely ignored by contractors and response organizations, which reduced training opportunities.** A HASP is a site specific document that includes a health and safety hazard analysis for each site task or operation, comprehensive operations workplan, personnel training requirements, Personal Protective Equipment (PPE) selection criteria, site specific occupational medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefings (tailgate meetings, initial and as needed), pre-operations commencement health and safety conference for all incident participants and quality assurance of HASP effectiveness. The health and safety plan issued by OSHA in response to Hurricane Katrina was and is an excellent document, however it has been underutilized. The HASP should be made part of all federal contracts let during any future activation.
- 5. Safety and health training requirements should be mandated in all federal agency recovery and cleanup contracts.** It is suggested that the safety and health training requirement sections of NRP disaster response contracts be strengthened and that these requirements flow-down more forcefully to all lower tier contracts.
- 6. Local contractors and lower tier contractors lack the knowledge of training requirements and lack funding to deliver effective safety and health training to their workforce.** Prime federal contracts require the contractor to supply workers with both necessary skills and health and safety training. It is assumed that such applies to all lower tier sub contractors, an invalid assumption during a disaster response action. In reality, skills and health and safety training are an added expense for subcontractors - one that is not reimbursed by the government. This is a barrier preventing workers under subcontractors from getting needed training in a large-scale disaster deployment and needs to be addressed.
- 7. OSHA enforcement of current regulations during disaster response will improve both the safety culture and worker protection.** OSHA's position of non-enforcement during national disasters has a detrimental impact on worker safety and health training, if not safety and health in general. Workshop participants reported sub-contractors

who used this as an excuse for not providing needed training. In future disaster responses it is suggested that OSHA refrain from officially announcing that the standards are not being enforced and, instead take the position that enforcement is an option available to each field compliance officer on a case-by-case basis.

TRAINING ISSUES FOR DISASTER RESPONDERS

This section covers the general types of training needed by responders and the appropriate time for each type of training to be delivered.

- 1. There is an important role for both site-specific and comprehensive training before and during a national disaster response.** There is currently a climate that encourages essential just-in-time, site-specific safety awareness briefings at the expense of the often more appropriate comprehensive safety and health and skills training needed by response workers. This issue must be addressed so that workers get all of the training required to properly prepare them for the risks they face before a disaster happens.
- 2. The nation's preparedness gap points to the glaring need for pre-deployment training for disaster responders.** More emphasis is needed on pre-deployment training for all sectors of potential responders. This training is available nationally and needs to be required for those who respond to incidents of national significance. As the Corps of Engineers representative stated during the workshop, "we sent our soldiers unprepared onto the battlefield to deal with the aftermath of Katrina."
- 3. OSHA Disaster Site Worker Course needs to be widely distributed among national disaster responders.** OSHA and NIEHS worked jointly to develop this excellent course for general NRP disaster response *preparedness*. However, it was not delivered to those responding to Hurricane Katrina because none of the responsible entities would allow 16 hours of training to occur. OSHA and NIEHS, along with FEMA and DHS, should work together to expand the Disaster Site Worker course to an all-hazards format that is modularized. OSHA should ensure that the course is delivered to those who respond to the next disaster through inclusion of such a requirement in the response HASP.
- 4. Opportunities must be created for training at-risk and vulnerable populations involved in disaster response.** Populations unreachable through federal mission assignments include returning residents, church volunteers, and immigrant workers. Federal agencies must find a way to reach these largely neglected populations; the potential long-term adverse consequences of failing to do so are unacceptable. The training of state and local employees through FEMA mission assignment funding should also be clarified under the Stafford Act, which the expenditure of funds for disaster response.

TRAINING ISSUES FOR NIEHS WETP

In large part, the purpose of the workshop was to help NIEHS WETP determine what worked and what did not during the first six months of its response to Hurricanes Katrina and Rita. Below are findings that will direct improvements to the NIEHS WETP response.

- 1. Adequate WETP training delivery data needs to be reported from the field.** Data reporting from some awardees in the field to the WETP Response Coordinator was initially insufficient to permit tracking and corrective actions at the program level and specifically in conjunction with other federal partners. WETP had permitted awardees to re-budget their current awards in order to get significant training resources to the devastated area. The initial tracking of these efforts was spotty. However, reporting was sufficient for training provided under the FEMA/OSHA mission assignment.

2. **Perspectives on training challenges vary by the phase of disaster response.** WETP and its awardees have a unique set of issues to consider in their responses under the NRP. These include issues such as which phase of the response they enter in (rescue, recovery or cleanup) which determines their target audience/s and the classification of the responders, i.e., public vs. private sector; federal, state, local or tribal government; full-time or on-call; and paid vs. volunteer. The WETP response protocol may vary depending on the classifications but must be considered.
3. **NIEHS WETP Emergency Support Activation Plan (ESAP) needs to be improved.** While overall the WETP ESAP was a useful and effective pre-response preparedness vehicle, its utility and effectiveness can be improved particularly in the areas of communication and coordination with federal partners, and mission assignment and course development. The WETP must find ways to be more integrated in pre-response planning, building relationships with the field operatives of other agencies, particularly OSHA, FEMA and the USACE prior to future disasters.

ACKNOWLEDGEMENT

The participation of the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) awardees, their partners and NIEHS federal partners is essential to the outcome of the WETP workshop process. Their participation is appreciated and acknowledged. Also acknowledged and appreciated are the contributions made by the NIEHS WETP staff.

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PREFACE

Over 1,500 people died, thousands more were injured, and hundreds of thousands of homes and buildings were destroyed because of Hurricane Katrina. The hurricane left a vast area covered with a mixture of debris containing virtually every hazard a modern, industrial society can produce. For those responding to this tragedy, the question of how to protect yourself while helping others becomes paramount. Consider the list of hazards they face: heat stress, noise, dust, carbon monoxide, chemicals, mold, water-borne, food-borne and blood-borne disease, animals, snakes and insects, falls from heights or ladders, electrical power lines, chain saws, unstable structures and confined spaces, dangerous heavy equipment, traffic and road work safety. Nearly ten months after the hurricane, recovery work with its associated hazards continues. For those whose workplace is literally a disaster site, the need for safety and health training could not be clearer.

This workshop report examines safety and health training issues during the response to Hurricane Katrina as seen by WETP personnel, WETP awardees, and several Federal partners who were “in the field” during the first six months of the response. It identifies what worked and what did not, identifies barriers and hindrances, and suggests actions to improve future NIEHS WETP responses, including actions needed by other federal response entities.

The events of September 11, 2001 and the subsequent anthrax incidents stimulated the Nation to develop and implement a broad range of preparedness and response plans with respect to terrorist attacks and natural disasters. Major results were the creation of the Department of Homeland Security and the subsequent National Response Plan (NRP), a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents, the National Incident Management System (NIMS) which enables all government, private-sector, and nongovernmental organizations to work together during domestic incidents, and related emergency support function annexes (ESFs) such as the Worker Safety and Health Annex.

In-depth participation by the NIEHS WETP in the World Trade Center (WTC) response and the subsequent WETP national technical lessons learned workshop held in Nashville, Tennessee in April 2002 provided the basis for the WETP to develop a national response preparedness plan, termed the Emergency Support Activation Plan (ESAP), to facilitate more effective responses in future national incidents. In addition, a new grants training program area was established and funded, the HAZMAT Disaster Preparedness Training Program (HDPTP), based upon which a large number of awardee instructors and workers have been trained in the OSHA/NIEHS Disaster Site Worker Courses (OSHA 5600 and 7600). These courses train Disaster Site Workers and instructors who provide skilled support services, (e.g. utility, demolition, debris removal, or heavy equipment operation) or site clean-up services in response to natural and man-made disasters. Further, the WETP Minimum Training Quality Criteria, a quality control guidance document for the WETP training grants program and a model for all training providers, was revised to include such All-Hazards training.

Hurricane Katrina triggered the new NRP and the NIEHS WETP safety and health training support annex response through the OSHA-coordinated NRP Worker Safety and Health Annex. Using the approach laid out exploring lessons learned in the September 11th response, WETP has been exploring lessons learned from Katrina and Rita to improve future national disaster responses by the WETP. This workshop was devoted to that endeavor.

The magnitude of the Katrina incident was enormous. Consequently, the response under the NRP involved a large number of federal agencies, state and local governments, and a huge number of response contractors and their employees. While the response of the NIEHS WETP and its awardees has evidenced significant success in some aspects, it has also become evident that improved future response can be achieved if safety and health training systems issues that have arisen are addressed.

ACRONYMS AND ABBREVIATIONS

Advanced Training Technology Program (ATT)	OSHA Office of Training and Education (OTE)
Area Field Office (AFO)	Personal Protective Equipment (PPE)
Automated External Defibrillators (AED)	Process Safety Management (PSM)
Brownfields Minority Worker Training Program (BMWTP)	Skilled Support Personnel (SSP)
Center for Disease Control (CDC)	Small Business Innovative Research (SBIR)
Center to Protect Workers' Rights (CPWR)	Small Business Technology Transfer (STTR)
Deep South Center for Environmental Justice (DSCEJ)	Superfund Amendments and Reauthorization Act (SARA)
Department of Energy (DOE)	Target Capabilities List (TCL)
Department of Health and Human Services (DHHS)	United States Army Corps of Engineers (USACE)
Department of Homeland Security (DHS)	United Steelworkers (USW)
Department of Transportation (DOT)	Universal Task List (UTL)
Division of Extramural Research and Training (DERT)	University of Alabama at Birmingham (UAB)
Emergency Management Agency (EMA)	University of California Los Angeles, Labor Occupational Safety and Health Program (UCLA-LOSH)
Emergency Management Institute (EMI)	Weapons of Mass Destruction (WMD)
Emergency Support Activation Plan (ESAP)	Worker Education and Training Program (WETP)
Emergency Support Function (ESF)	World Trade Center (WTC)
Emergency Operations Center (EOC)	
Environmental Protection Agency (EPA)	
Federal Emergency Management Agency (FEMA)	
Hazardous Materials (Hazmat)	
Hazardous Materials Training and Research Institute (HMTRI)	
Hazardous Waste Operations and Emergency Response (HAZWOPER)	
Hazardous Waste Worker Training Program (HWWTP)	
HAZMAT Disaster Preparedness Training Program (HDPTP)	
Health and Safety Plan (HASP)	
Homeland Security Presidential Directive (HSPD)	
Incident Command System (ICS)	
International Association of Firefighters (IAFF)	
International Chemical Workers Union (ICWU)	
International Union of Operating Engineers (IUOE)	
Joint Field Office (JFO)	
Minority Worker Training Program (MWTP)	
Mission Assignment (MA)	
National Fire Protection Association (NFPA)	
National Incident Management System (NIMS)	
National Institute for Occupational Safety and Health (NIOSH)	
National Institute of Environmental Health Sciences (NIEHS)	
National Response Plan (NRP)	
National Response Team (NRT)	
Occupational Safety and Health Administration (OSHA)	
Office of Domestic Preparedness (ODP)	

CURRENT PRIMARY WETP AWARDEES:

American Federation of State, County and Municipal Employees Training and Education Institute
 The Steelworkers Charitable and Education Organization —Tony Mazzochi Center
 Center to Protect Workers' Rights
 Service Employees International Union Education and Support Fund
 International Brotherhood of Teamsters
 United Auto Workers of America
 Kirkwood Community College/HMTRI
 University of California at Los Angeles/Western Region University Consortium
 International Association of Fire Fighters
 University of Alabama at Birmingham
 International Chemical Workers Union Council
 University of Cincinnati
 International Union of Operating Engineers
 University of Massachusetts, Lowell
 Laborers-AGC Education and Training Fund
 University of Medicine and Dentistry of New Jersey/New Jersey New York Consortium
 OAI, Inc.
 Dillard University Deep South Center for Environmental Justice

BACKGROUND

NIEHS WETP was given major responsibility for initiating a training grants program under the Superfund Amendments and Reauthorization Act of 1986 (SARA). The primary objective of this Program is to fund non-profit organizations with a demonstrated track record of providing high quality occupational safety and health training to workers who are involved in handling hazardous materials or in responding to emergency releases of hazardous materials. These are covered by OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) standard (CFR 1910.120). Since the initiation of the WETP in 1987, the NIEHS has developed a strong network of non-profit organizations that are committed to protecting workers and their communities by delivering this training to target populations of hazardous waste workers and emergency responders. Since 1987, more than 1.6 million workers have received NIEHS supported safety and health training. More information on the NIEHS WETP can be found on the Internet at www.niehs.nih.gov/wetp.

The NIEHS WETP provides support through the following program areas:

Hazardous Waste Worker Training Program (HWWTP)

This program provides model occupational safety and health training for workers who are or may be engaged in activities related to hazardous waste removal, containment or chemical emergency response.

Minority Worker Training Program (MWTP)

This program is focused on delivering comprehensive training to disadvantaged minority inner city young adults in order to prepare them for employment in the fields of environmental restoration and hazardous materials.

NIEHS/EPA Brownfields Minority Worker Training Program (BMWTP)

This program broadens the Minority Worker Training Program to provide comprehensive training of disadvantaged residents in communities impacted by brownfields to foster economic and environmental restoration of their communities.

NIEHS/DOE Nuclear Worker Training Program (DOE)

This program is focused on training workers engaged in environmental restoration, waste treatment and emergency response activities at sites in the Department of Energy's nuclear weapons complex.

Hazmat Disaster Preparedness Training Program (HDPTP)

This program enhances the safety and health training of current hazardous materials workers and chemical responders, trains skilled support response personnel, creates materials and delivers training to weapons of mass destruction response workers and augments prevention and preparedness efforts in a wide variety of high risk settings.

Advanced Training Technology Program (ATT)

This program focuses on the development of Advanced Technology Training (ATT) products for health and safety training of hazardous materials (HAZMAT) workers, emergency responders, and skilled support personnel. This includes the Small Business Innovative Research and Small Business Technology Transfer (SBIR/STTR) program.

National Clearinghouse for Worker Safety and Health Training

The National Clearinghouse supports the work of WETP by facilitating national workshops on safety and health topics and by maintaining a website, which contains all of the important documents developed by WETP as well as curricula created by their awardees. These curricula are focused on OSHA's HAZWOPER standard (CFR 1910.120) and are available at no cost to other training organizations. The Clearinghouse website also contains a database of important worker protection documents organized by subject matter, along with downloadable materials such as the Katrina Power Point awareness presentation and the printable formatted booklet based upon the Power Point. The Clearinghouse was instrumental in developing the Katrina materials.

NIEHS WETP MODEL PROGRAM AND ROLE

The NIEHS WETP training grants program is and has been since inception a “model program” with respect to development and delivery of the highest quality HAZWOPER and HAZWOPER-related training programs on a national basis. While the Program does provide, within its capacity, boots on the ground training, it is not intended for NIEHS WETP to become the safety and health training agency for the federal government. Rather, NIEHS WETP can and does provide model curricula, training standards and methods, and guidance such as the minimum quality control criteria that can benefit public and private responders and recovery workers and their employers. The validity of these activities is field tested, evaluated and modified during responses, through lessons learned workshops, and in WETP Trainers’ Exchanges which bring together many of the best trainers in this country to share new techniques and information. Yet one of the Program’s greatest challenges is how to communicate these insights to all federal partners thereby leveraging WETP’s limited resources and role in seeking improved safety and health practices during major disasters.

EMERGENCY SUPPORT ACTIVATION PLAN

The NIEHS WETP and selected awardees were significant participants in the response to the World Trade Center disaster. In the spring of 2002, the WETP hosted a National Technical Workshop (termed the Nashville Workshop) to develop lessons learned from the WTC response in order to improve future disaster support responses. Among many recommendations arising from the workshop was the development of an Emergency Support Activation Plan (ESAP). The ESAP was developed over the following months, implemented, and coordinated with OSHA to serve as the WETP Worker Safety and Health Training Support Annex to the NRP Worker Safety and Health Annex. In addition, the awardees incorporated appropriate lessons learned in their individual training programs; and WETP worked with OSHA to develop the Disaster Site Worker Training Courses.

THE WETP KATRINA RESPONSE

When Hurricane Katrina struck and devastated the Gulf Coast, NIEHS activated the ESAP in anticipation of its activation through the Worker Safety and Health Annex. The immediate response pending formal activation was the development and issuance of a hurricane specific hazards awareness presentation (September 1, 2005) followed shortly thereafter by a companion booklet entitled “Protecting Yourself While Helping Others” that was published in three languages. Both were made available through the WETP Web site with the booklet available in hard copy as well. Immediately following the hurricane landfall, NIEHS awardees also began putting resources into the field. For example, the International Association of Firefighters began providing direct training on infectious disease, waste water and sludge, and behavioral health; the Service Employees International Union deployed 100 nurses in San Antonio, Baton Rouge, Beaumont, Thibidault, and Gulfport; the American Federation of Teachers began providing mold remediation training for teachers involved in repairing their own schools; and the University of Alabama at Birmingham provided training to members of the Communication Workers of America involved in the response. Thus, when the Annex was activated on October 11, 2005, and the FEMA mission assignment began, NIEHS was already deeply involved. On October 12, the first training team under the mission assignment was put in place in Mississippi, followed on November 8, by a team in Louisiana. In November 2005, NIEHS issued to its 18 major awardees a request for Katrina/Rita supplemental training proposals. This major funding would be the basis for the NIEHS Phase II Response (Cleanup), and after a formal review of the proposals awards were issued in February 2006.



*Destroyed neighborhood, New Orleans East, November 2005.
Photo by Chip Hughes*

NIEHS WETP Phase I Response

Funds for the NIEHS Phase 1 Response came from several sources: first, NIEHS allowed awardees to re-budget their current award to quickly get resources into the disaster area; second, NIEHS provided from its own funds small additional awards to selected awardees; third, FEMA through OSHA provided over \$300,000 for mission assignment supplemental awards.

The Hazardous Materials Training and Research Institute (HMTRI), based at Kirkwood Community College in Iowa and representing over 120 community colleges from across the country, is recognized as a national center of excellence by the Environmental Protection Agency, the National Science Foundation, and NIEHS. HMTRI put in place a team of trainers and curricula developers beginning in early October 2005. Early on, the biggest demand was for the General Hazard Awareness course based on the materials developed by the NIEHS Clearinghouse. Trainers adapted these materials as necessary following their own hazard assessments. By mid-October, numerous incidents made it clear that a course in work zone safety was needed. HMTRI developed this module. In addition they provided CPR/AED and first aid training, forklift training, and Quality Assurance and Inspector Safety awareness training for those who would be working at debris sites or inspecting buildings. They also provided driving hazard awareness and chainsaw safety training and began developing a wet debris removal module. By mid to late November, they were providing asbestos awareness and respirator awareness courses. These courses have been delivered mainly to



Gary Kukul and Dan Synder preparing the Workzone Safety Briefing, Biloxi JFO, Oct. 2005

training. As of late March 2006, they had provided 300 contact hours of training to nearly 800 personnel. CPWR provided training requested mostly by FEMA for their personnel and their contractors. Courses included Public Assistance (PA) Building Inspector Safety Awareness, PA Debris Safety Awareness, Driving Safety, CPR/AED, Safety Orientation for new hires, individual assistance safety awareness for those who provide support to returning residents and a 40-hour HAZWOPER class. CPWR also translated the "Protecting Yourself While Helping Others" PowerPoint and booklet into Spanish.

The **University of Alabama at Birmingham (UAB)** received funding early on to provide training in the Gulf Coast. The UAB Center for Labor Education and Research provides hazard analysis, planning, and training services to industries, agencies, and unions where employees have the potential to be exposed to hazardous substances. UAB provided several one- and two-hour Katrina Safety Awareness briefings to federally deployed personnel in Alabama. They also put together an on-line course that is still being offered. In December they provided an 8-hour train-the-trainer course to employees of the Louisiana Department of Health and

Human Services. They are now gearing up to run at least two 40-hour HAZWOPER courses for federally deployed personnel. In addition, they are adding the safety awareness briefing to previously scheduled classes populated by workers whose work will take them into areas damaged by the hurricanes.

Through its consortium, the **International Chemical Workers Union (ICWU)** provided mold abatement training to teachers who were being asked to help clean up the Louisiana schools that had been flooded by the hurricane. This consortium is based at the Center for Worker Health & Safety Education and includes the International Association of Machinists and Aerospace Workers (IAM), the American Flint Glass Workers (AFG), the Rubber Plastics Industry Conference of the USWA (R/PIC), the Aluminum, Brick and Glass Workers Division of the USWA (ABGWD), the Coalition of Black Trade Unionists (CBTU), the United Food and Commercial Workers Union (UFCW) and the American Federation of Teachers (AFT), the University of Cincinnati and the Greater Cincinnati Occupational Health Center. ICWU plans to begin training federally deployed workers in Mississippi in May.



*Wet debris from Hurricane Katrina, 2005.
Photo by HMTRI Safety and Health Team*

FEMA and USACE contractors and personnel. As of mid-April, 2006, they had provided nearly 600 contact hours of training to nearly 10,000 workers.

Beginning in November, the **Center to Protect Workers' Rights (CPWR)** had a team of trainers on the ground in Metairie, Louisiana. CPWR was created by the Building and Construction Trades Department, AFL-CIO and has become recognized as a leader in applied research and

Additionally, the **American Federation of State, County and Municipal Employees (AFSCME)** provided the Louisiana Department of Transportation with five 8-hour Katrina Safety Awareness/Hazmat awareness courses in November and early December. AFSCME represents over 1.4 million public service and health care workers including road, bridge, water sewer, wastewater treatment, sanitation, public safety and security, and hospitals workers.

After hearing anecdotal and media reports suggesting that working conditions during the cleanup were even more dangerous than "normal" working conditions for day laborers, the **UCLA Labor Occupational Safety and Health Program (UCLA-LOSH)** and the National Day Laborers' Organizing Network undertook a joint project to investigate occupational health and safety issues particular to Latino immigrant day laborers in the region. The result of that joint project is a report entitled "*Health and Safety of Latino Immigrant Workers in the Gulf Coast Hurricane Cleanup & Rebuilding.*" The report finds that in the Gulf Coast, there is a lack of safety equipment, gear and training, lack of capacity among the local community organizations and relief agencies to provide for the needs of immigrant workers; lack of basic services such as housing, food, and medical care; and discriminatory treatment and risk posed by law enforcement for undocumented workers. All of these issues contribute to the fact that



Dr. Beverly Wright, Dillard University Deep South Center for Environmental Justice, and Dr. David Schwartz, Director, NIEHS, inspecting flooded houses, New Orleans, Nov. 2005. Photo by Dan Snyder

the health and safety needs of immigrant workers are not being met. UCLA-LOSH is part of the NIEHS funded Western Region Universities Consortium, which also includes the University of California at Berkeley Labor Occupational Health Program, University of California Davis Extension, Arizona State University, and the University of Washington/Northwest Center for Occupational Health and Safety.

Dillard University's Deep South Center for Environmental Justice (DSCEJ) and the **United Steelworkers (USW)** union launched a project called *A Safe Way Back Home*, an environmental neighborhood clean up initiative and community outreach campaign in March. The project removed tainted soil from properties on one block in New Orleans East replacing the soil with new sod, and disposing of the contaminated dirt in a safe manner. Participants included residents and Steelworkers who have received certificate training in Hazardous Materials handling in programs funded by the National Institute of Environmental Health Sciences (NIEHS). The project was based in part on an analysis of sediment samples taken by the U.S. Environmental Protection Agency (EPA) that showed contamination at higher concentrations than the Louisiana screening levels for residential soil.

Health and Safety training and equipment was provided to all volunteers before starting the *Safe Way Back Home* project. Future training will focus on Hazardous Materials. The program will offer small and disadvantaged businesses and contractors involved in demolition, debris removal, mold remediation, and clean-up in the city of New Orleans the opportunity to obtain certification in hazardous materials remediation.



Immigrant day laborers seeking work, New Orleans, Winter 2006

Phase II Response

NIEHS WETP Phase II Response was funded with supplemental awards made in late February 2006. Through OSHA, FEMA provided \$3,000,000 to fund these awards. The awards are intended to support the longer term Katrina and Rita cleanup efforts and focus primarily on comprehensive traditional classroom training utilizing existing curricula. Many of these programs have been modified to include an additional module on Katrina/Rita hazard awareness. In addition, EPA provided \$800,000 to fund Phase II awards in the NIEHS Brownfields Minority Worker Training Program.

HMTRI's transition between Phase I and Phase II has been relatively seamless. Through its supplemental award, HMTRI is generally continuing with and expanding on the training it began immediately following the hurricanes.

ICWU recently had a cadre of its trainers go through an orientation given by HMTRI trainers. ICWU will utilize their multi-union consortium to deliver training to federal workers and federal contractors through the Biloxi Joint Field Office (JFO) in Mississippi. The JFO is a multi-agency center that provides a central point of coordination for Federal, State, local, tribal, nongovernmental, and private sector organizations involved in the response. ICWU plans to use existing training courses and/or modules to provide at the JFO: 1-hr awareness level modules to be taken from Disaster Site Worker, and a train-the-trainer program. This training will be coordinated with HMTRI, the other NIEHS awardee providing training in Mississippi.

CPWR continues to provide training in New Orleans, managed through its office in Metairie. CPWR is using existing courses and/or modules to provide training in the following courses: General Hazard Awareness, 10-hour Construction, Disaster Site Worker, 40-hr HAZWOPER, and 32 hour Asbestos Abatement.

The International Union of Operating Engineers (IUOE) plans to offer the following courses: 40-hr HAZWOPER; OSHA 10-hr Construction Industry Outreach; OSHA 16-Hour Disaster Site Worker; 1-hr Confined Space; 8-hr topic-specific training; 4-hr Disaster Site Orientation Awareness; and 2-hr Just-in-Time training.

In March, **OAI, Inc.** began providing 40-hour asbestos abatement courses to federally deployed personnel and 8-hour Katrina safety awareness courses covering the National Incident Management System (NIMS), hurricane safety and mold awareness. OAI, Inc. is a non-profit workforce development agency founded in 1976 that works extensively with disadvantaged populations. It plans to conduct several more of these classes, including one train-the-trainer program. Training has occurred in Louisiana, but is expected to also take place in Mississippi, Texas and Alabama. OAI is working with TetraTech,

one of the largest providers of environmental services in the US, to deliver Hurricane Safety, NIMS and Mold Awareness to primarily EPA contractors and their subs in the Gulf Coast area. Through train-the-trainers and direct training, OAI collaborates with Boat People SOS, a non-profit organization formed in 1980 that focuses on domestic programs for Vietnamese refugees and immigrants, in delivering Hurricane Hazards and Mold Awareness training to case managers funded by FEMA under the National Case Management Consortium. OAI is building relationships with federally funded contractors and subcontractors by working through faith-based initiatives such as the Good News Camp, the largest relief center in Orleans parish, and by collaborating with local training providers who have access to contractors.

Through its **Brownfields Minority Worker Training (BMWT)** supplement, OAI has teamed with several local organizations to provide a variety of services for their programs and participants in Dallas, Houston and Port Arthur, Texas. They expect training to begin in May. OAI, Inc. was also responsible for translating the "Protecting Yourself While Helping Others" PowerPoint and booklet into Vietnamese.

Through its Brownfields Minority Worker Supplement, the **Dillard University Deep South Center for Environmental Justice** is pro-

viding 24-hour mold remediation training to 50 returning residents in New Orleans who are planning to start their own small businesses. When Dillard publicized the training they were overwhelmed with calls. They have a project pending in Houston as well, which is expected to begin in June.

Through its Brownfields Minority Worker Supplement, **CPWR** developed a streamlined training plan to recruit, train and track 80 potential workers in Gulfport/Biloxi, Mississippi and Mobile, Alabama. In each community, at least 40 unemployed or displaced individuals will participate in and benefit from environmental awareness education in debris removal and demolition, 40 hr HAZWOPER, OSHA 10, Katrina Orientation, and an abbreviated construction skills training program. The program will prepare them to engage in meaningful, long-term careers in the economic recovery of these cities and surrounding communities, either through the environmental clean-up industry or the construction trades. The training plan interfaces with union apprenticeship programs and local workforce development organizations to provide supportive services. Under their existing training program, they will also conduct training in New Orleans using a similar training program. ♦



Dress out, CPWR Asbestos Course, Ninth Ward, New Orleans, May 2006

A “Stand Down” for Safety

By Gary Kukal and Dan Snyder

“Beginning tomorrow morning there is going to be a safety stand down at two of our debris sites and we would like your help” said Dave Stanton, Field Office Safety Manager with the US Army Corps of Engineers. A safety stand down means that all work stops. And when work stops during a disaster recovery, something very dangerous indeed is happening. So when we received this request from Dave, we were ready for the challenge. We were in Mississippi to provide safety training, and last minute requests like this one were not new to us.

As Carol Hanson, HMTRI* Katrina Safety Team Logistics Coordinator, recalled, “Dave called about a real red flag - large truck “tip-overs” and vehicle wrecks at two sites where hundreds of trucks were dumping tons of hurricane debris. On November 15th it came to a head and the Corps called time out! No one but the Corps and our safety team knew this stand down was going to happen. No work would be conducted, and no debris dumped until everyone went through a safety briefing at the debris sites. And, let me tell you, for contractors paid by the load, this was sending a serious message. But what’s your option? Calling someone’s family to tell them their son was crushed?”

There would be close to 200 people at the site, so our team decided to divide the training into three groups and rotate the groups around three different stations. We set up Station One appropriately in front of a large dump truck

that had tipped over the day before and Dan Snyder, HMTRI safety lead, reviewed driving hazards and tip-overs. At Station Two, Gary Kukal delivered a briefing on workzone and chainsaw safety. And at Station Three, Jim Moore, USACE Safety Manager for Emergency Field Office-North (EFO-N) gave a safety awareness briefing to the inspectors who sit in temporary quality assurance towers checking the size of each truck’s load as it passed directly below them.

When we arrived at the debris site that morning, our team kicked into gear, and in partnership with the Corps operated like a well oiled machine, announcing from the stairs of a tower who we were, why we were there, and what was expected of them. As folks were signing in and picking up safety handouts, we divided the people into three different groups.

Each trainer had a mobile radio to communicate between instructors, and each instructor conducted a 20 minute briefing on their subject. They would then radio ahead to the next trainer as a new group was heading that way. Every minute that these people weren’t using their machines or loading or unloading debris, meant money lost out of their own pockets. This procedure provided efficient and effective



Registering for safety training, USACE Safety Stand-down, Nov. 2005. Photo by HMTRI Safety and Health Team

training and kept the “stand down” time to a minimum, reducing frustration and assuring better cooperation.

As trainers and safety professionals, we realized very quickly that the people we were talking to, needed – and in retrospect, shared with us, that they welcomed the training and information we had to offer. For example, when we first got there, it was apparent from their body language, that this was all a nuisance for them. But by the time we were finished, many people, male and female alike, came up to us to thank us for our concern and our expertise.

Our team went to both debris sites that day, and the responses from the folks were pretty much the same at both locations. At the end of one of the training sessions, a USACE employee came up to us, shook our hands, and said, “You knew how to translate this safety message so everyone could understand it, feel good about it, and apply it immediately – thank you”.

Our team was deployed to the Katrina disaster October 13, 2005. At this writing, May 17th, we have trained over 10,000 people. Just from that one day at the two debris sites, we have had many individuals come up to us at other training sessions to tell us that they remember us, and thanked us for “making them feel like part of the team or family”. For a safety professional, you can’t ask for a better evaluation. ♦

* HMTRI (Hazardous Materials Training & Research Institute) Kirkwood Community College – Cedar Rapids, Iowa



Registering for safety training, USACE Safety Stand-down, Nov. 2005. Photo by HMTRI Safety and Health Team

THE BIRMINGHAM WORKSHOP

The NIEHS WETP initiated efforts that resulted in WETP awardees providing support to the Hurricane Katrina response and recovery efforts. Beginning with the development and dissemination of the *Protecting Yourself While Protecting Others* materials, the NIEHS WETP responded to the devastation that followed in the aftermath of Hurricanes Katrina and Rita. In some cases there were Awardees on the ground immediately following activation of the Worker Safety and Health Annex. First providing just-in-time training and later transitioning to more comprehensive training, NIEHS WETP followed its Emergency Support Activation Plan, developed in the aftermath of 9/11, and was able to respond to this disaster in a thoughtful manner.

Up to this point, the NIEHS WETP, its awardees and the constituencies they represent have been involved in the WTC and anthrax responses, in the Pentagon and Oklahoma City disasters, and now the natural disaster of Hurricanes Katrina and Rita. The program and its stakeholders have gained an enormous amount of experience.

The Birmingham Workshop, held March 8-9, 2006, was intended to capture these experiences, to learn from them, and to look ahead to the types of future responses likely to come, so that the NIEHS WETP community may be more prepared as they face an uncertain future. In order to achieve these objectives, the workshop was organized into an opening session to provide an overview of the Program in general, and an overview of the Program's involvement in the Katrina response. It was followed by several panel sessions that covered the response in Mississippi and Louisiana; working with displaced residents; training partnerships; and working with OSHA. This was followed by four breakout sessions, each of which focused on a sub-topic relevant to the response, a report back session, and a final panel addressing future disaster planning (all-hazards).

The actual workshop proceedings, copies of all Power Point presentations by the panelists, the breakout focus session reports, the breakout focus session "thought stimulators," and breakout focus session detailed notes are included in the Appendices to this report.



NIEHS Awardees, staff and guests, hurricane response meeting, Baton Rouge, LA, February 2006

FINDINGS AND SUGGESTED ACTIONS

The following Findings and Suggested Actions have been developed based upon the workshop plenary presentations, breakout group discussions and recommendations, discussions among participants, and information from the WETP responding awardees with the WETP WTC response report and Nashville workshop findings as a previous disaster experience foundation. In order to provide some organizational focus and a basis for consideration for actions, they have been divided into four major areas or groupings.

THE FAILURE OF THE NATIONAL RESPONSE PLAN'S WORKER PROTECTION MEASURES PLACED KATRINA RESPONDERS CONTINUALLY IN HARM'S WAY

With respect to worker safety and health and related training, the Katrina disaster response is not unlike the WTC response. Once again, there has been a major “systems failure” that underpins the generally ineffective response to worker safety and health and related training. While the NIEHS WETP promptly activated the emergency support activation plan and got quality and experienced safety and health training resources on-the-ground, these resources have largely been underutilized and possibly ineffective. Rather than providing the comprehensive safety and health training that is necessary and required, most of the deployed resources have been devoted to short-term, just-in-time, hazard awareness training. As noted in Recommendation 6.4 of the RAND/NIOSH report *Protecting Emergency Responders, Volume 3*, “...”just-in-time” training is an inadequate substitute for the more complete training...”. WETP can and will improve its disaster response activation plan but this will be a futile exercise until all federal elements of a future response develop operational and deployment plans that require the effective, appropriate, and timely compliance with safety and health standards by employers and appropriate safety and health training of disaster response workers. At least as evidenced by the first six months of the Katrina response, worker safety and health and related training are simply not a priority and are, it appears, only an annoyance that hinders the “production operation” mentality that was also characteristic of the WTC response and cleanup.

“Emergency plans at all levels of government, from small town plans to the 600-page National Response Plan—the Federal government’s plan to coordinate all its departments and agencies and integrate them with State, local, and private sector partners—were put to the ultimate test, and came up short.”

From *The Federal Response to Hurricane Katrina: Lessons Learned*, White House Report, February 2006.

The following findings and suggested actions provide additional perspective of the details behind this “systems failure.”

BARRIERS TO EFFECTIVE KATRINA RESPONSE SAFETY AND HEALTH TRAINING

Safety and health training is an essential tool to ensure that workers responding to a disaster have the knowledge and critical information necessary to protect their safety and health and the safety and health of the community. In order to ensure the safety and health of workers during a disaster, the federal community must address the following barriers to effective safety and health training.

1. Delay in the NIEHS WETP Activation/Mission Assignment Reduced Safety Training Opportunities Throughout the Response

On August 29, 2005 a Presidential Disaster Declaration activating the National Response Plan was issued specific to Hurricane Katrina. More than one month passed between the time the NRP was activated and the time the

Worker Safety and Health Annex was activated. This was the first clue that once again, worker safety and health was not a priority in a response to an incident of national significance. While NIEHS was involved immediately after the hurricane struck by utilizing its existing resources, it was not until October 11, 2005 that NIEHS was activated pursuant to the NRP Worker Safety and Health Annex by FEMA and OSHA. Subsequently, Mission Assignments (MAs) were issued for Mississippi and some three weeks later the MA for Louisiana was issued. MAs, while authorized upon activation of the Worker Safety and Health Annex had to be issued to NIEHS WETP by the appropriate OSHA Regional Office, not the headquarters disaster response coordination office. This created significant delays in the issuance of MAs.

Under the activation order to NIEHS WETP, all training courses to be provided under the MAs had to be submitted to the OSHA Office of Training and Education (OTE) for prior approval in order for funds to be approved. In many cases, this included both approval for holding the course and for the content of the course. Such approvals required significant time. In reality, it appears that many of the Katrina response-specific awareness courses, developed “just-in-time,” were delivered well before OTE “approval” was received as the need was immediate. In essence, if the approval to conduct training is required for WETP awardees involved in the response, the need for the training will have passed before approval is obtained.

NIEHS WETP is a federally funded training grants program with extensive national coverage and a rigorous quality control program based upon a written Minimum Quality Criteria. The WETP has been providing worker training through the grants program since 1987. By congressional mandate the Program has focused on highly hazardous work environments regulated by the OSHA HAZWOPER standard with more recent initiatives associated with the EPA Brownfields program. As such, NIEHS WETP awardees are uniquely qualified to provide national disaster training support.

It was suggested during the workshop by panelists and during the breakout sessions that there is no reason that FEMA could not provide a mission assignment for training directly to NIEHS. As stated in *The Federal Response to Hurricane Katrina: Lessons Learned*, “...those who are responsible for a mission or task must have the authority to act.” (p. 80)

Finally, the mission assignment, which is controlled by the Stafford Act, limits the populations that may receive safety and health training. Unfortunately, the need is much greater than is currently permitted. Volunteers wanting to provide assistance, returning residents, state and local workers, and contractors working for residents or the state are all in need of safety and health training. However, the mission assignment that FEMA/OSHA provided to NIEHS specifically restricts NIEHS activities to targeted populations of federal and federally supported responders.

Recommendations:

- The Worker Safety and Health Annex should be activated immediately upon activation of the National Response Plan so that workers’ safety and health and training needs are addressed immediately.
- Any future NRP response training mission assignments/funding authorizations should be assigned directly to NIEHS WETP by FEMA. Such a MA can be pre-scripted through discussions between FEMA, NIEHS, and OSHA (including OTE) if deemed appropriate by FEMA.
- Given the importance of the previously described hazard awareness presentation and booklet, an all-hazards safety and health awareness presentation and related booklet should be developed immediately. This should be structured in modular format so that upon activation of the NRP, incident-specific modules can be quickly assembled and the products (web-based, Power Point and printable format booklet) made available in multiple languages.
- NIEHS WETP should expand participation in appropriate NRP agency coordination activities with particular regard to worker safety and health, training, and deployment practices and procedures.
- The limitations of the permissible training populations allowed by the FEMA/OSHA mission assignment must be addressed so that all populations that require safety and health training are able to get it.

2. The Lack of a Federal Focus on Protecting Responders Contributes to a Negative Safety and Health Training Climate

To date, the safety and health and related training climate in the Katrina response has been generally poor, thus making the development and delivery of appropriate safety and health training difficult and challenging. It is still evident that worker safety and health and training has not been considered high priority by most of the responders, contractors, and NRP agencies on the ground as they opt for only awareness training (briefings) in lieu of proper safety and health training. Evidence of this was provided at the workshop by Mac Wimbish who supervised safety and health deployment in Mississippi for the Army Corps of Engineers. He commented that the work is moving forward in an expedited time frame - beyond anything he previously experienced; that the workforce is largely inexperienced; that resources were stretched to the limit; and that volunteers do not have the necessary skills to perform their job functions. He compared the worker health and safety situation as the equivalent of “sending soldiers into battle unprepared.” Additionally, Ellen Clas from FEMA, stressed the need to have people on the ground who know how to do hazard assessments and develop curricula to address the relevant hazards. She was concerned that people at headquarters reacting to news reports were overriding decisions made by the people in the field regarding risks and hazards on the Mississippi Gulf Coast.

Recommendation:

- The pressure to get working assets on the ground quickly overshadowed worker safety and health and related training needs. Before meaningful attention to safety and health and the necessary worker training can occur, worker safety and health and related training must become priority matters to all involved. Evidence of the adverse impact on response workers in an inadequate safety and health and training disaster response climate is emerging almost daily related to the World Trade Center response. To date, the Katrina response has been little different than the WTC response with respect to worker safety and health matters. This is a very serious matter that must be addressed before the next national incident by all agencies playing a role in the response.

3. Inadequate Occupational Injury and Illness Data Makes the Identification of Safety and Health Training Needs More Difficult

Development and delivery of disaster response training requires attention to a process that includes identification of and knowledge about the training target audience and work hazards. This process includes analyzing real time injury and illness data in order to identify the sources of injuries and illnesses and focus training to address those hazards. To this end, at the WTC disaster, NIEHS deployed two consultants to conduct a preliminary training needs assessment. No such deployment was made following Katrina, perhaps in part because the affected area was so large.

Juan Alvarez, director of the Latin American Organization for Immigrant Rights in Houston, noted:
“I know men who have gotten so sick with diarrhea, skin inflammations and breathing problems they can’t work...”

*(After the Hurricanes: What’s the Right Way to Protect Workers, Stephen G. Minter
<http://homelandresponse.org>, downloaded January 11, 2006)*

Regardless, NIEHS did not have access to injury and illness data. It is unclear whether or not OSHA saw this data, though the Katrina HASP requires weekly reporting by employers to OSHA on injury and illness data for trend analysis and calculation of injury and illness rates. NIEHS did ask OSHA for this data on more than one occasion. Because no quantitative data was available, HMTRI trainers were left to design training based on anecdotal data, often provided by workers they encountered either while conducting their own hazard assessments or in their training

classes. The HMTRI trainers requested that they be allowed to accompany OSHA personnel as they performed their interventions, however OSHA did not allow this.

Some injury and illness data was shared among the Federal agencies at the interagency safety and health committee meetings. However this too was in the form of anecdotal information and generally OSHA picked one hazard to share with the group.

"...upper respiratory and skin rash symptoms were the most common physical symptoms reported by police officers and firefighters and lacerations and sprains were the most common injuries."

— CDC/NIOSH Morbidity and Mortality Weekly Report, April 28, 2006, *Health Hazard Evaluation of Police Officers and Firefighters After Hurricane Katrina –New Orleans, Louisiana, October 17-28 and November 30-December 5, 2005.*

Recommendation:

- The injury and illness data must be kept, maintained, and reported by employers as required in the OSHA HASP. This data should be evaluated to determine what injuries and illnesses are occurring and from what apparent cause. Such information should then serve as the basis for additional safety and health enforcement and training requirements and should, likewise, be shared with all responding federal, state, local response partners, and response contractors. OSHA must require compliance with its Katrina Health and Safety Plan (HASP) and future HASPs at disaster sites in order to facilitate the delivery of training that addresses hazards faced by workers.
- The above listed data can be supplemented by data that OSHA shares with NIEHS, such as its interventions list.

4. OSHA's Katrina Health and Safety Plan (HASP) Was Largely Ignored by Contractors and Response Organizations, Which Reduced Training Opportunities

A HASP is a site specific document that includes a health and safety hazard analysis for each site task or operation, comprehensive operations workplan, personnel training requirements, Personal Protective Equipment (PPE) selection criteria, site specific occupational medical monitoring requirements, air monitoring plan, site control measures, confined space entry procedures (if needed), pre-entry briefings (tailgate meetings, initial and as needed), pre-operations commencement health and safety conference for all incident participants and quality assurance of HASP effectiveness. The HASP, issued by OSHA as specified in the Worker Safety and Health Annex, is an excellent document. Unfortunately, it appears that it has been underutilized, if used at all, and it has not been incorporated into federal contracts. This was verified during the workshop breakout sessions by workshop participants from the USACE and FEMA. The need for the HASP to be incorporated into federally let contracts was raised in both the NIEHS Training Support Annex/ESAP and Training While in Disaster Mode vs. Pre-deployment Training breakout sessions

The OSHA HASP contains a section on safety and health training that agency and contractor personnel engaged in response operations must have. It includes general training for disaster site workers, site-specific training, task specific training, and pre-deployment and pre-job briefings. It also contains a section on recordkeeping that requires employers to provide injury and illness data to OSHA on a weekly basis for the development of trend analysis and calculation of injury and illness rates.

Recommendation:

- OSHA should develop a generic HASP that can be quickly tailored to a specific incident. This HASP should be made part of all federal contracts let during any future NRP activation. This action would contribute substantially to improved worker safety and health while establishing an essential, and currently absent, foundation upon which to base worker safety and health training. The HASP would also provide a foundation upon which to make timely revisions to the training based upon analysis of the required injury and illness data in order to better target emerging hazards and evaluate training effectiveness.

5. Safety and Health Training Requirements Should be Mandated in All Federal Agency Recovery and Cleanup Contracts

It was noted during the workshop that lower tier contractors (sub contractors, sub-sub contractors, and lower) are often small employers not as familiar with the typical contract requirements as are experienced FEMA and USACE contractors. Further, the worker safety and health and training requirements embodied within even some prime contracts were inadequately addressed. The safety and health and training requirement sections of NRP disaster response contracts should be strengthened and these requirements should flow-down the subcontracting ladder to all lower tier contracts. Integrating the OSHA HASP into contract requirements for all levels of contractors would provide clear and uniform requirements for all contractors and would better ensure that all workers covered under these contracts are protected.

Don Ellenberger of CPWR expressed frustration during his workshop presentation in dealing with contractors who have not committed to having training delivered to their employees and in addressing federal contracts that lack worker training clauses.

Some very limited progress on this issue began on January 1, 2006 in Mississippi when the USACE and its prime contractor in Mississippi, Asbritt, began requiring that their employees complete specific NIEHS-provided awareness training prior to beginning work. The requirement on the part of Asbritt flows down to all of its subcontractors. All trained workers receive a training card that verifies their successful completion of the required safety and health training and lists the specific course completed. OSHA is aware of the cards but does not require workers to have them. The training requirements are:

USACE:

- Asbestos Awareness 2 hours.
- Disaster Driving 2 hours.
- Flagger/Workzone Awareness 2 hours.
- Safe Tree Removal 2 hours.

Asbritt:

- Asbestos Awareness 2 hours.
- Flagger/Workzone Awareness 2 hours.
- Safe Tree Removal 2 hours.

Recommendation:

- This pre-deployment training and carding may serve as a model approach for the cleanup phase of Katrina and Rita if extended to encompass the required safety and health training and for future national incident responses.

6. Local Contractors and Lower Tier Contractors Lack the Knowledge of Training Requirements and Lack Funding to Deliver Effective Safety and Health Training to Their Workforce

Prime federal contracts, such as those issued by FEMA and USACE, require the contractor to supply workers with both necessary skills and health and safety training. It is assumed that such applies to all lower tier sub contractors, which is an invalid assumption during a disaster response action. In reality, skills and health and safety training are an added expense for subcontractors - one that is not reimbursed by the government. This was discussed at length during the workshop breakout session on Training While in Disaster Mode vs. Pre-deployment Training and was noted as one of the barriers to effective training.

Recommendation:

- In planning for future NRP-specific disaster responses, approaches should be explored that recognize this problem and suggest ways to overcome this obstacle to worker safety and health training.

7. OSHA Enforcement of Current Regulations During Disaster Response Will Improve Both the Safety Culture and Worker Protection

OSHA announced an emphasis on consultation and technical assistance in the Katrina response and that enforcement actions would not be exercised. This formal position may have some internal justification, however, it has a detrimental impact on NIEHS' ability to provide the necessary training to workers. For example, as told by HMTRI trainers to NIEHS staff and at the workshop, when contractors were approached by NIEHS awardees about training, the standard response was "OSHA isn't enforcing and we have a job to do, so we're not going to take the time for training." Based upon both the WTC and Katrina experience, it is clearly detrimental to worker safety and health for OSHA to publicly state that it will not enforce safety and health standards. The enormous adverse worker health consequences from the WTC response presents such powerful evidence in this regard that it is surprising that OSHA has yet again failed to enforce its standards for a protracted period of time in the Katrina response.

Recommendation:

- In future NRP disaster responses, OSHA should take the position that enforcement is an option available to each field compliance officer on a case-by-case basis.

TRAINING ISSUES FOR DISASTER RESPONDERS

This section covers the general types of training needed by responders and the appropriate time for each type of training to be delivered. As mentioned above, the OSHA HASP outlines the different types of training workers may require.

- **General training for disaster site workers** should be given in advance of a worker's deployment to a disaster site (preparedness training) or prior to actual deployment (pre-deployment training) at a disaster site.
- **Site-specific training** includes an overview of conditions specific to the worksite where the employee will be deployed
- **Task specific training** includes items such as hazard communication, PPE, use of tools, safety at elevations, etc. Training that is mandated by various agencies such as OSHA, EPA, U.S. Coast Guard, Department of Transportation, etc., should be provided in accordance with those agencies' standards or guidelines.
- **Pre-deployment and pre-job briefings** are conducted on a daily basis by the worker's immediate supervisor to cover the day's work plan.

1. There Is an Important Role for Both Site-Specific and Comprehensive Training Before and During a National Disaster Response

At the workshop, the definitions of the various types of training varied slightly from those laid out in the OSHA HASP. For instance, when participants talked about pre-deployment training they were generally referring to training that workers should have before they are even sent to the work site, such as the OSHA Disaster Site Worker course. This same course, as an example, is also disaster response preparedness training that can be provided well in advance of any disaster response deployment although the content should be more extensive covering all-hazards in that instance.

It was evident to NIEHS WETP, responding awardees and other workshop participants that there is a serious impediment to providing the necessary comprehensive training to response workers, while there is a major reliance on just-in-time, site specific awareness briefing sessions of very short duration, sometimes only 10-15 minutes. While WETP awardees had planned to provide more in-depth training, even in the early phases of response, they were literally not permitted to. Dan Snyder, HMTRI described how upon arriving in Mississippi his training team planned to provide 2-4 hour training sessions, but that none of the officials there would allow workers to be kept from work for that long. Instead, Mr. Snyder's team regrouped, identified the training constituency's needs, and pitched the just-in-time approach. He made clear that the only way to reach the workers was with brief, dynamic, to-the-point and frequent tailgate and tool box style training.

Workshop participants understood the need for site-specific training. However, they generally felt that site-specific training should be provided only after a worker has received the requisite skills and comprehensive safety and health training that provides a broader understanding of the safety and health hazards they may face, the risks these hazards pose, and the types of PPE and proper decontamination procedures to use to mitigate the hazards (i.e., pre-deployment training). Because of the large influx of cleanup workers - and the employment of local area residents - in such capacities that were not their previous occupation, this requisite skills training and safety and health training was missing, placing workers at risk. As previously mentioned, Mac Wimbish, Army Corps of Engineers remarked on the inexperience of the workforce .

While the NIEHS WETP site-specific hazard awareness presentation and booklet have served a critical "awareness" function, it is important to consider how to overcome the barriers to delivery of appropriate comprehensive training as cleanup progresses.

Recommendation:

- The current climate encourages very short awareness briefings at the expense of more appropriate comprehensive safety and health and skills training needed by response workers. All agencies must address this internally and with their contractors so that workers get all of the training required to properly prepare them for the risks they face.

Note: There is a need to develop a common lexicon for the various types of training that may be required during an incident of national significance.

2. The Nation's Preparedness Gap Points to the Glaring Need for Pre-deployment Training for Disaster Responders

The workshop participants, and the RAND/NIOSH *Protecting Emergency Responders Volume 3* report previously cited, concur that there should be more emphasis on pre-deployment training for all sectors of potential responders. Recommendation 4.8 from the Rand *Protecting Emergency Responders Volume 3* report states the need to “develop minimum standards for safety and health training for all responders involved in disaster response operations.” The report lists the following topics that any pre-deployment training should include:

- The ICS approach to disaster response
- Common terminology for safety and health issues
- An “all-hazards” perspective on the range of hazards that could be encountered during disaster response activities
- Relevant protective equipment, and when and how to use it
- Decontamination and rehabilitation processes
- An overview of the diverse organizations that are likely to become involved in major disaster response

During the workshop, April Sells, Tribal Emergency Management Coordinator for the Poarch Band of Creek Indians, whose reservation is just north of Mobile, Alabama, discussed how they received training from UAB (an NIEHS awardee) prior to Hurricane Ivan that prepared them for the responses to both hurricanes. Only because of the training they received in advance of the emergency were they able to properly respond. In her concluding remarks, Ms. Sells said that in order to be ready for the next hurricane season, planning must begin at the end of the last hurricane season. This definitely applies to worker training.

Many agencies, including NIEHS, have appropriate training courses already available. FEMA's Emergency Management Institute (EMI) has many courses available for government responders, EPA has many courses, and DOE has extensive training available pertinent to radiological responses to name but a few. In addition, OSHA offers a wide range of safety and health training programs appropriate for workers, supervisors, employers, and professionals either directly from OTE or through the OSHA Regional Educational Centers.

Recommendations:

- More emphasis is needed on pre-deployment training for all sectors of potential responders. This training is available nationally and should be required for those who respond to incidents of national significance.
- An ad hoc group composed of FEMA, USACE, OSHA, and NIEHS should address this matter so that at a minimum, during recovery operations there is always a team leader with full safety and health training certification. More appropriately, all workers responding to a disaster should have a minimum of 16 hours of disaster site worker training prior to being deployed to the disaster site.

3. OSHA Disaster Site Worker Course Needs to be Widely Distributed Among National Disaster Responders

The OSHA Disaster Site Worker course (OSHA 7600) and the companion instructor course (OSHA 5600) are excellent courses for general NRP disaster response *preparedness*. However, the Disaster Site Worker course was not delivered to those responding to Hurricane Katrina because none of the entities would allow for 16 hours of training to occur. Numerous comments arose during the workshop with respect to expanding this course to an all-hazards format modularized to permit prompt incident-specific pre-deployment training in any future response.

Ample, quality training resources are nationally available to address this pre-response training need. Individuals so trained, especially workers and supervisors potentially employed in cleanup, should also have appropriate training course completion credentials so they can serve in a site-specific training capacity or as work team leaders.

Recommendation:

- OSHA and NIEHS should work together to expand the Disaster Site Worker course to an all-hazards format that is modularized. OSHA should ensure that it is delivered to those who respond to the next disaster as a pre-deployment training course through inclusion of such a requirement in the response HASP. In addition, the WETP and OSHA Education Centers should continue to deliver this course, modified to address all-hazards, as a disaster response preparedness course.

4. Opportunities Must be Created for Training At-Risk and Vulnerable Populations Involved in Disaster Response

Following Hurricane Katrina, there are a vast number of people engaging in cleanup activities that are potentially hazardous to their health and well being with no training and little if any protective equipment. Examples include returning residents, volunteers, and immigrant workers. These populations need various degrees of training and information about appropriate protective measures they need to take during cleanup activities. Mission assignments and funding generally cover only federal employers and federally funded work. One possible exception is the OSHA Harwood grants. The Harwood grants cover largely the same population as the NIEHS awards, although they allow for the training of state, local and privately funded contract workers. They do not allow for training of state or local government workers who are not covered by the OSHA Act in any of the Gulf Coast states nor do they allow for training of volunteers.

"In the few cases where training was provided, workers only partially understood the information due to language differences. Language issues were even more complicated for some workers from indigenous areas of Mexico and Central America, for whom Spanish was their second language. A few organizations had Spanish-language handouts and flyers on the dangers of mold but, with few exceptions, workers had not seen them." *Health and Safety of Latino Immigrant Workers in the Gulf Coast Hurricane Cleanup & Rebuilding*, Draft, UCLA-LOSH and National Day Laborers Organizing Network, May 2006.

The workshop highlighted these hard to reach populations and in some cases shed light on some ways to reach them. For example, Hien Phan from Boat People SOS (BPSOS) discussed his organization's efforts to work with the Vietnamese population. BPSOS opened three disaster relief centers to assist Southeast Asian evacuees in Bayou La Batre, Louisiana, Biloxi, Mississippi and New Orleans, Louisiana and partnered with OAI to provide a series of hurricane hazard awareness training.

During the workshop, Tomas Aguilar presented the findings of the UCLA-LOSH/National Day Laborers' Organizing Network's report on Latino Immigrant Workers in the Gulf Coast after Katrina. He reported high hazard jobs, inadequate protection and training and poor living conditions for the workers. He also reported on the climate of fear among immigrant workers who were afraid of being fired if they complained about unsafe conditions, of being deported and of being harassed by authorities.

“Almost universally, basic health and safety training was not accessible to workers I interviewed. In some cases, workers had been given protective equipment but received little or no training on how to use it properly. Some assumed that one piece of equipment they were given would provide ongoing protection; they did not realize masks and protective suits were not meant to be used repeatedly.”

— *Health and Safety of Latino Immigrant Workers in the Gulf Coast Hurricane Cleanup & Rebuilding*, Draft, UCLA-LOSH and National Day Laborers Organizing Network, May 2006.

Another population in dire need of training is volunteers. In Mississippi alone, hundreds of volunteers report daily to help clean up waterlogged buildings. (*Washington Post*, Bush Urges Mississippi to Improve Stead, May 12, 2006) In New Orleans, students on spring break and soon summer break come to help. Yet few if any of these groups get the safety and health training they need.

Pablo and a coworker were hired to work on a crew picking up debris from the streets and loading it onto a large truck. They had not been provided any PPE. Only when they arrived at the materials “dump” did they realize they were handling dangerous materials. The workers there classified the material in their load as toxic – chemicals, asbestos, and other toxic material.”

— *Health and Safety of Latino Immigrant Workers in the Gulf Coast Hurricane Cleanup & Rebuilding*, Draft, UCLA-LOSH and National Day Laborers Organizing Network, May 2006.

Government representatives report volunteers working in areas where demolition is in progress. They are not always properly protected with personal safety equipment.

“Even with our best efforts to maintain respiratory protection quite a few students experienced allergy-type symptoms (headache, stuffy and/or runny nose.) Half masks purchased on their own by group members were equipped only with VOC cartridges. Sad to see many other volunteers in the area wearing only dust masks or no respiratory protection at all. Almost none of the residents I saw wore any type of PPE (personal protective equipment) other than maybe leather gloves on their hands. Stepping on nails and/or glass buried in the mud was another hazard we encountered. The people of the gulf coast areas desperately need help in the form of labor. Hard to turn away willing hands, but unprepared and unprotected volunteers simply add to the totals of adversely affected people.”

— Curtis Reddington, RS, Environmental Quality Specialist who went to New Orleans with a group of volunteers. Student Volunteers at Risk in Gulf Coast, <http://www.healthy-kids.info/index.lasso> (downloaded April 4, 2006).

Recommendation:

- A plan to reach immigrant workers, returning residents and volunteers must be devised to provide training and information to these largely neglected populations; the Nation cannot afford the potential long-term adverse consequence of failing to do so. The still emerging and worsening adverse human health consequences associated with the deficient World Trade Center response simply cannot be permitted to occur yet again.

TRAINING ISSUES FOR NIEHS WETP

1. Adequate WETP Training Delivery Data Needs to be Reported from the Field

While the NIEHS WETP response to Katrina based upon the ESAP was generally prompt and effectively executed, data reporting from some awardees in the field back to the WETP Response Coordinator with respect to courses developed, delivered, training target audience, and the like have been insufficient to permit tracking and corrective actions at the Program level. This was confined to awardees that did not specifically receive a supplemental award from NIEHS, but were using other program money to respond. The primary reason for the lack of reporting was confusion as to what needed to be reported and the fact that NIEHS did not put out a uniform formal request for immediate information to its awardees regarding involvement in Katrina response.

Recommendation:

- This has been remedied in the subsequent Katrina response supplemental awards. It also needs to be addressed in the revisions to the ESAP and in the revision to the preliminary WETP disaster response training deployment plan.

2. Perspectives on Training Challenges Vary by the Phase of Disaster Response

When planning for future emergency responses, WETP should consider the development and delivery of worker safety and health training from many of the following perspectives:

Response phases:

- Rescue: previously trained and experienced emergency responders
- Recovery: mix of trained responders and others
- Cleanup: contractors, construction workers, volunteers, private citizens

Responder classification:

- Public vs. private sector
- Federal, state, local, tribal government
- Employment type: full-time or on-call
- Pay status: paid or volunteer

Recommendation:

Organizations, such as NIEHS WETP and its awardees, responding to NRP disasters need to carefully consider several matters:

- 1) Current organizational capabilities with respect to training specific target audiences, existing curriculum, instructional staff experience and competencies, and curriculum development expertise including availability of subject matter experts.
- 2) The ability to field appropriate training programs in a timely and sustainable fashion.
- 3) The relevance of the current training mission to the training needs in the disaster response. (keyed to response phases noted above)
- 4) Ability to be activated under the NRP.
- 5) Ability to identify from among the responder classifications above the appropriate training target audience and the funding issues associated with each.
- 6) Ability to quickly modify existing curriculum or develop quality new curriculum within the scope of the training mission.

- 7) Ability to field an appropriate coordinator within the JFO(s) and/or other established support and management field operations.
- 8) Ability and willingness to participate in appropriate pre-incident federal response organization committees/subcommittees in order to develop and foster awareness and effective communication.
- 9) Ability to effectively stimulate a timely transition from awareness briefings to traditional safety and health training.
- 10) Ability to provide training materials and instruction in the languages required in an individual response including the ability to identify available translators.

3. NIEHS WETP Emergency Support Activation Plan (ESAP) Needs to be Improved

In general, it appears that the NIEHS WETP ESAP served as a very useful and effective pre-response preparedness vehicle. It should be maintained. Additional attention to several issues was suggested to enhance the utility and effectiveness of the ESAP in future NRP responses.

Recommendations:

- Enhancing communication and coordination with other NRP federal partners.
- Working with applicable NRP agencies to address the more effective assignment of training Mission Assignments and training curricula approval.
- Finalizing a generic training deployment plan including training development and delivery data.
- Adapting and streamlining existing courses to serve the broad range of responder classifications.
- Working with OSHA OTE to reexamine the Disaster Site Worker course.
- Developing an all-hazards modular awareness presentation and downloadable booklet based thereon. Such to be developed in a variety of languages.
- Expanding the courses currently available in the Hazmat Disaster Preparedness Training Program (HDPTP) to a modular all-hazards format in anticipation of utilization in future responses.

APPENDICES

Please Note: Appendices are located on the Workshop CD and www.wetp.org/wetp/1/06SpringMeeting/Appendices/

- A. Workshop Participants List
- B. Workshop Agenda
- C. Workshop Proceedings
- D.
 1. September 1, 2005 NIEHS WETP Katrina Response Power Point Briefing
 2. Current version NIEHS WETP Katrina Response Power Point Briefing
- E. Plenary Presentations
- F. Breakout Session Thought Stimulators
- G. Breakout Session Notes
- H. Breakout Sessions Report-back
- I. Closing Plenary Presentations
- J. NIEHS WETP Safety and Health Training Support Annex (ESAP)

*This publication was made possible by contract number 273-05-C-0017 from the
National Institute of Environmental Health Sciences (NIEHS), NIH.*