



# ***National Institute of Environmental Health Sciences Worker Education and Training Program***



## **FY 2005 Accomplishments and Highlights: (September 1, 2005 – July 31, 2006)**

Department of Health and Human Services | National Institutes of Health  
National Institute of Environmental Health Sciences | Worker Education and Training Branch

# Background

The National Institute of Environmental Health Sciences Worker Education and Training Program (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 the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standard (CFR 1910.120).

Since the initiation of the NIEHS WETP in 1987, the program 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, nearly two million workers have received NIEHS WETP supported safety and health training. This includes training under five NIEHS WETP training programs: Hazardous Waste Worker Training Program, Department of Energy/NIEHS Nuclear Worker Training Program, Brownfields and Minority Worker Training Programs, and the Hazmat Disaster Preparedness Training Program.

More information on the NIEHS WETP can be found on the Internet at [www.niehs.nih.gov/wetp](http://www.niehs.nih.gov/wetp).



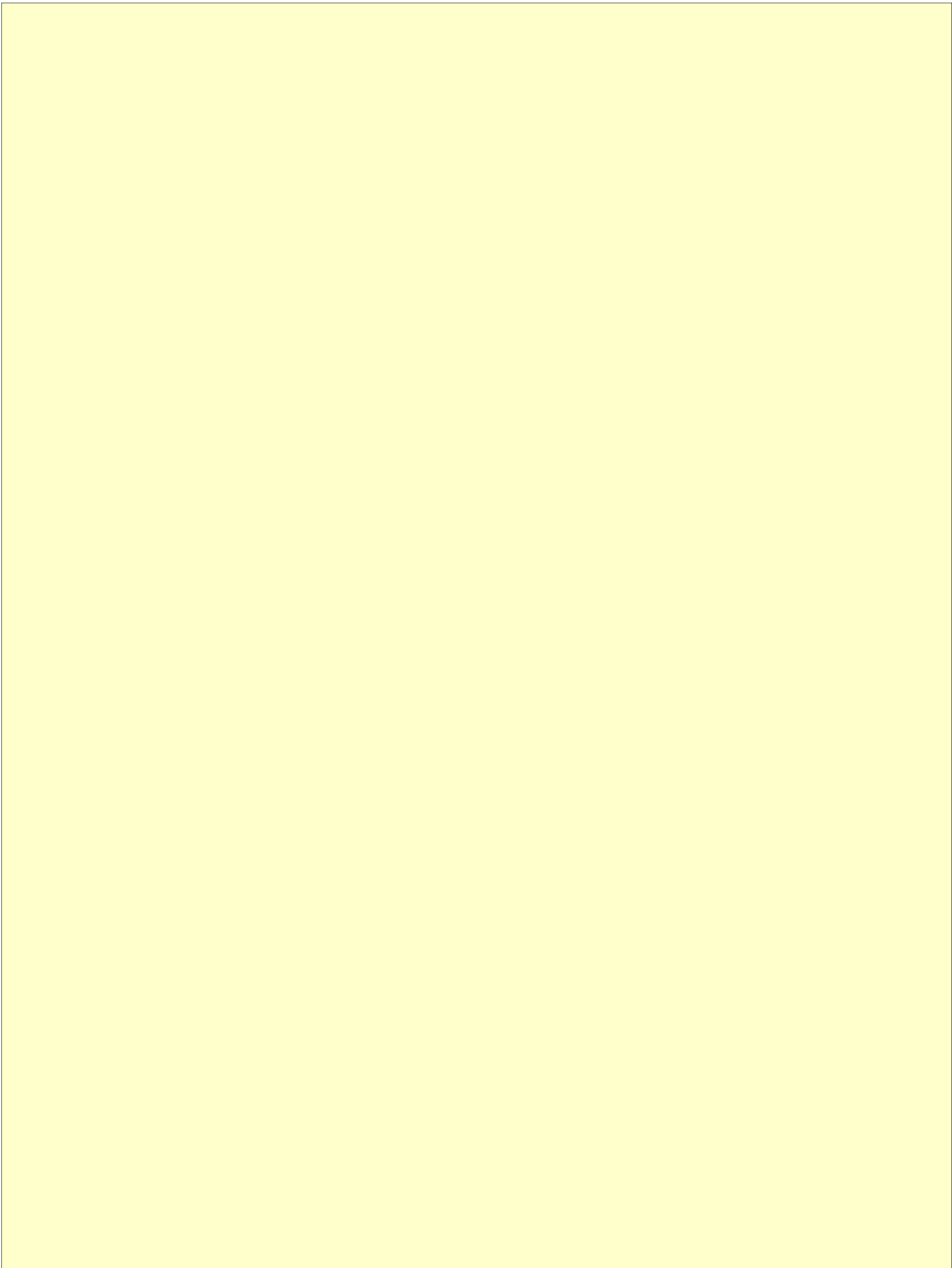
International Association of Firefighters conducting emergency response training.

# Table of Contents

<b>Section One:</b>	<b>Page</b>
Introduction and Content Description _____	5
NIEHS WETP Program Areas _____	6
NIEHS WETP Role in the National Response Plan _____	7
Minimum Training Criteria _____	8
Update on Mold Training _____	10
NIEHS WETP National Clearinghouse for Worker Safety and Health Training Update _____	11
<b>Section Two:</b> Four State Training Profiles _____	14
<b>Section Three:</b> Hazardous Waste Worker Training Program Summary _____	20
<b>Section Four:</b> Minority Worker Training Program Summary _____	41
<b>Section Five:</b> HazMat Disaster Preparedness Training Program Summary _____	54
<b>Section Six:</b> Advanced Training Technologies Program Summary _____	69



Decontamination during Western Region Universities Consortium training.



# **Section One**

**Introduction and Content Description**

**NIEHS WETP Program Areas**

**NIEHS WETP Role in the National Response Plan**

**Maintaining Training Quality**

**Update on Mold Training**

**National Clearinghouse for Worker Safety and Health  
Training Update**

# Introduction and Content Description

This report is about the accomplishments of the National Institute of Environmental Health Sciences Worker Education and Training Program (NIEHS WETP) and its 18 grantee consortia in training thousands of men and women who handle hazardous materials or respond to emergencies involving hazardous materials. Of the 18 consortia, 17 are funded under several program areas, one is funded only under the Minority Worker Training Program. *The report is divided into the following sections.*

**NIEHS WETP Program Areas:** A brief description of the program areas through which awards are made.

**NIEHS WETP Role in the National Response Plan:** An explanation of the basis for NIEHS safety and health training during natural and man-made disasters.

**Training Criteria:** Last year NIEHS WETP took a long, intense look at its core mission: safety and health training and at its minimum criteria for such training. As a result NIEHS WETP published an updated version of the "*Minimum Health and Safety Training Criteria: Guidance for Hazardous Waste Operations and Emergency Response, HAZWOPER-Supporting and All-Hazards Disaster Prevention, Preparedness, and Response.*" This section provides an overview of these criteria.

**Update on Mold:** In May 2005, NIEHS WETP published "Guidelines for the Protection and Training of Workers Engaged in Maintenance and Remediation Work Associated with Mold." The mold training conducted under these guidelines by NIEHS WETP grantees is documented here.

**National Clearinghouse for Worker Safety and Health Training:** Funded by NIEHS WETP, the National Clearinghouse for Worker Safety and Health Training is the primary communications channel through which the NIEHS WETP distributes technical reports, news updates, and training information to its awardees, interested members of the hazardous waste worker-training community, and the public.

**State Training Profiles:** As a new feature, a summary of the training funded by NIEHS WETP in California, Kansas, Arizona, and West Virginia is included in this report. These state summaries are useful in showing the breath of the overall program and the coverage this national network of training organizations can provide. Other state profiles will be featured in future reports.

**Hazardous Waste Worker Training Program Summary:** This report will visit each of the 17 awardee consortia in this program, reviewing their training accomplishments, and through anecdotes and photographs attempt to show how their program benefits individual workers, employers and communities.

**Minority Worker Training Program Summary:** How can disadvantaged young people develop the skills to begin a career of environmental service? This report documents such a process and reports on its remarkable results.

**HazMat Disaster Preparedness Training Program Summary:** This report details both the NIEHS WETP response to Hurricanes Katrina and Rita, including the training of more than 20,000 responders, and the ongoing training conducted under this program. Also described are two new preparedness Initiaves - avian flu and radiological dispersion devices.

**Advance Training Technology Program Summary:** This summary primarily details the most recent "e-learning" awards made by NIEHS WETP to small businesses.

# NIEHS WETP Program Areas

The NIEHS WETP funds training through competitively awarded cooperative agreements. The recipients are non-profit organizations with demonstrated access to appropriate worker populations and experience in implementing and operating worker health and safety education training programs. The training awards are divided into a number of program areas including:

## Hazardous Waste Worker Training Program

**(HWWTP)** – Provides model occupational safety and health training for workers who are or may be engaged in activities related to hazardous waste removal or containment or chemical emergency response. 17 of the primary awardee consortia are funded for this program.

## Hazmat Disaster Preparedness Training Program (HDPTP)

- This new program is to enhance the safety and health training of current hazardous materials workers and chemical responders, to train skilled response personnel, to create materials and deliver training to weapons of mass destruction response workers and to augment prevention and preparedness efforts in a wide variety of high risk settings.

**Minority Worker Training Program (MWTP)** – Focuses on delivering comprehensive training to disadvantaged urban youth in order to prepare them for employment in the construction and environmental cleanup fields. One of the primary consortia (Dillard University) is funded entirely under this program.

**Brownfields Minority Worker Training Program (BMWTP)** - Broadens the MWT Program to provide comprehensive training to disadvantaged residents and to foster economic and environmental restoration to communities impacted by brownfields. *A separate report on this program is issued annually.*

**Department of Energy/NIEHS Nuclear Worker Training Program (DOE/NIEHS NWTP)** - 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. *A separate report on this program is issued annually.*

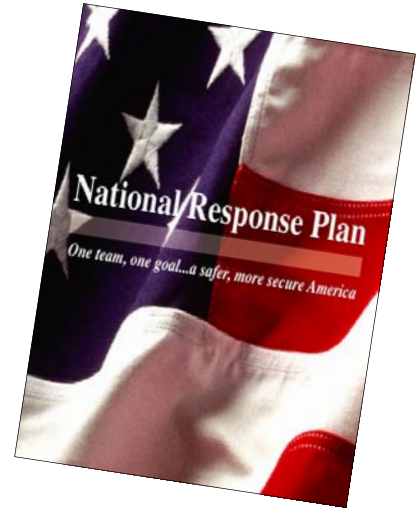
**Advanced Training Technology Program (ATT)** - This program focuses on the development of Advanced Technology Training (ATT) products for health and safety training of hazardous materials workers, emergency responders, and skilled support personnel. This includes the Small Business Innovative Research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

## 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

# *The Role of NIEHS WETP in the National Response Plan*

The National Response Plan (NRP) is an all-discipline, all-hazards plan that establishes a single, comprehensive framework for the management of domestic incidents. It provides the structure and mechanisms for the coordination of Federal support to State, local, and tribal incident managers and for exercising direct Federal authorities and responsibilities. The NRP assists in the important homeland security mission of preventing terrorist attacks within the United States; reducing the vulnerability to all natural and man-made hazards; and minimizing the damage and assisting in the recovery from any type of incident that occurs.



The plan incorporates best practices and procedures from incident management disciplines—homeland security, emergency management, law enforcement, firefighting, public works, public health, responder and recovery worker health and safety, emergency medical services, and the private sector—and integrates them into a unified structure.

The Department of Health and Human Services, which includes the National Institutes of Health and the NIEHS is a signatory to the NRP. Upon the activation of the National Response Plan (NRP) NIEHS may be activated by the Occupational Safety and Health Administration (OSHA) under the NRP's Worker Safety Health Annex to provide:

- Training technical assistance such as instructional staff, curriculum development experts, subject-matter experts, and professional staff.
- Safety training to worker target populations with respect to the nature and location of the incident and the particular hazards.
- Assistance and support in the development and delivery of site-specific health and safety training through appropriately qualified WETP awardee instructional staff.

- Assistance such as respirator fit-testing and distribution of Personal Protective Equipment (PPE).



**NIEHS WETP awardees conducting training after Katrina.**

**Top Left: Hazardous Materials Training and Research Institute team conducting briefing at dawn.**

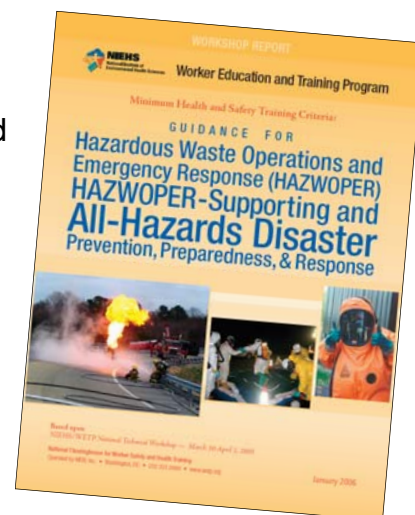


**Bottom Left: Center to Protect Workers' Rights asbestos remediation training.**



## Maintaining Training Quality

In January 2006, NIEHS WETP issued its updated Minimum Criteria for Worker Health and Safety Training for Hazardous Waste Operations and Emergency Response. This was the result of a national technical meeting conducted by NIEHS WETP in 2005. It was the third such training quality workshop conducted by the program since its creation in 1987; the initial workshop, conducted in 1990, produced the “Minimum Criteria for Worker Health and Safety Training for Hazardous Waste Operations and Emergency Response” followed by the “Interpretive Guidance” to the Minimum Criteria conducted in 1994. The initial “Minimum Criteria” served as the basis for the non-mandatory Appendix E to the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) standard at 29 CFR 1910.120.



The Minimum Criteria are available online at [WETP.ORG](http://WETP.ORG).

A revision of the Criteria was needed because there have been significant advances in the development and application of advanced training technologies and substantial recent attention to all-hazards preparedness training for the emergency response community since 9/11 and the creation of the Department of Homeland Security.

The revised guidance document recognizes advances in adult education in the hazardous waste operations and emergency response sector, particularly advanced training technologies application and integration, requirements for additional training programs to support HAZWOPER work, and post-9/11 all-hazards preparedness training including that for skilled support personnel.

The guidance emphasizes the principles of adult education, establishes minimum criteria for designing training programs, establishes quality control requirements for training programs, and provides generic guidelines for training curriculum. The latter addresses the three primary sectors established in the HAZWOPER standard: hazardous waste operations [29 CFR 1910.120 (b)-(o)], RCRA Treatment, Storage, and Disposal (TSD) operations [29 CFR 1910.120(p)], and emergency response operations [29 CFR 1910.120(q)].

In addition, training grant program awardees are required to annually conduct quality control audits and certify that their programs comply with this guidance.

*The following are broad, overarching principles that were used to frame the more detailed guidance of the document.*

1. 29 CFR 1910.120 provides the needed framework for protecting hazardous waste workers and emergency responders. It is the most proactive OSHA standard for protecting workers who respond to disasters, both natural and manmade. In the latter category, OSHA has indicated that terrorist acts involving chemical, biological, radiological, and nuclear weapons would be covered by the standard. Acts involving explosive agents may also be covered, depending on the types of exposures generated by the acts.

2. The guidance is primarily intended for organizations that provide hazardous waste worker and emergency response training under grants from NIEHS, but may likewise prove valuable to any organization that provides similar occupational health and safety training.

3. The document draws upon and references other guidance materials that provide excellent recommendations for training the intended target populations. Of particular note are the National Fire Protection Association guidelines and the FEMA "Guidelines for Haz Mat/WMD Response, Planning and Prevention Training: Guidance for Hazardous Materials Emergency Preparedness (HMEP) April 2003 Edition. The FEMA guidance has been fully adopted by reference in this document.

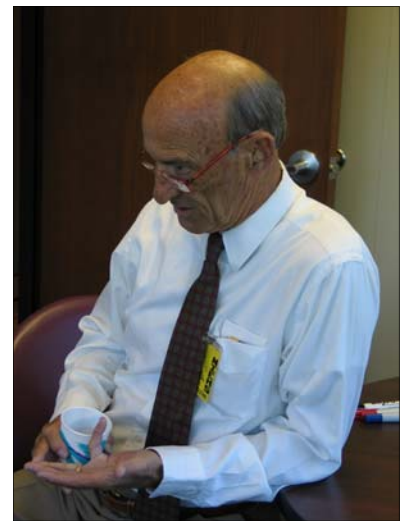
4. Whenever there was doubt about the appropriate category of training, the document advises that the more comprehensive and protective should be applied.

5. Peer-to-peer training with hands-on activities is recognized as the most effective model for worker training. The guidance recommends that hands-on training should fill at least one-third of the training program hours.

6. The Criteria recognize that computer-based training methods can greatly augment the effectiveness and reduce the cost of hazardous waste worker training, but should not be the sole form of training when workers' health and safety are at risk especially with respect to skills training.

7. Proven adult-learning techniques should be the core of all worker training under the Criteria.

8. Worker safety and health training must be preceded by a needs analysis to ensure the appropriate knowledge, skills and attitudes are being transmitted. The training must be followed by a proper evaluation to document the knowledge, skills or attitudes were acceptably transmitted and that the worker possesses the necessary abilities to perform the tasks.



Senior Consultant John Moran discussing training criteria revisions.



NIEHS WETP Technical Advisory Committee debating revisions to the Minimum Criteria document.

9. Post-disaster training must be tailored to the specific hazards presented by each disaster and should be revised as often as significant new hazard information becomes available or the stage of the disaster changes.

10. The original 1991 Minimum Criteria guidance was the basis of the OSHA non-mandatory appendix on training in the 1910.120 standard (Appendix E, Training Curriculum Guidelines). This update of the Minimum Criteria maintains most of the original recommendations; changes are intended to make the original material more clear, relevant, or protective of workers.

## Mold Training One Year Later...

Before the 2005 hurricane season, the control of mold was an important public health issue. After hurricanes Katrina, Rita, and Wilma, the control of mold and the health and safety of workers involved in mold remediation became a critical recovery issue. But long prior to this, NIEHS WETP had set out to discover, through an evidence-based process, the criteria upon which the training of mold remediation workers should be based. NIEHS WETP engaged in this process, involving over sixty experts representing governmental agencies, industrial hygiene firms, abatement contractors, labor unions, universities, and trade associations, to both protect the health of workers and the public but also to provide employers with a set of guidelines that they could use to evaluate the training programs they were considering for their employees.

First Year of Mold Training September 1, 2005—July 31, 2006			
WETP Program	Classes	Students	Contact Hours
HWWTP	34	681	5980
HDPT	5	46	108
MWTP	12	241	4698
BMWTP	11	160	2160
<b>TOTAL</b>	<b>62</b>	<b>1128</b>	<b>12,946</b>

The outcome of this process was published as minimum-training criteria in May, 2005 as the hurricane season began. The criteria were and are intended to serve as initial guidance to governmental agencies, trade organizations, labor unions, professional associations, and NIEHS WETP awardees in the development of mold worker protection training programs. The training recommendations are based on a review of all major existing guidance. The intent is for this guidance to be a “living document” to be revised in the future as our understanding of mold issues continues to grow and mature.



*The Guidelines for the Protection and Training of Workers Engaged in Maintenance and Remediation Work Associated with Mold are available on-line through the National Clearinghouse for Worker Safety and Health Training at <http://www.wetp.org/wetp/>*

## ...And During the Response to Katrina.

During the past year, NIEHS WETP funded mold training was concentrated in Louisiana, Mississippi, Texas, and Alabama. This was in response to hurricanes Katrina and Rita. This training was conducted, often under extreme conditions, by Dillard University; OAI, Inc.; ICWU, CPWR, and HMTRI.

Mold hazard awareness was covered in the general Katrina awareness classes for responders in the Gulf. There were 99 of these classes that reached 2060 students.

In addition, over 50,000 copies of the booklet “Protecting Yourself While Helping Others” which includes mold hazard awareness information were distributed along the Gulf coast. The booklet is available in English, Spanish, and Vietnamese.



Mold in a hospital after Katrina.

# *NIEHS WETP National Clearinghouse for Worker Safety and Health Training Update*

## ***A National Resource:***

Worker Safety and Health Training (Clearinghouse), operated by MDB, Inc. under the direction of Deborah Weinstock, is a national resource for members of the worker education and training community. It serves workers and trainers who are involved in the handling of hazardous waste or in responding to emergency releases of hazardous materials and terrorist actions.

Funded by the NIEHS WETP, the National Clearinghouse is the primary communications channel through which the WETP distributes technical reports, news updates, and training information to its awardees, interested members of the hazardous waste worker-training community, and the public.

The NIEHS National Clearinghouse for



## ***During Katrina:***

During FY06, the Clearinghouse activities have been expansive and targeted, especially efforts resulting from Hurricane Katrina. The Clearinghouse produced several Hurricane Katrina training materials utilized by various federal agencies and training programs. These materials include the Katrina briefing PowerPoint and accompanying booklet in English, Spanish and Vietnamese. The Clearinghouse also created a dedicated web page for worker safety and health issues related to Hurricane Katrina. This web page and the aforementioned documents can be found by visiting <http://www.wetp.org/wetp/index.cfm?Current=391>.



More so, the Clearinghouse achieved a major success in providing support to the NIEHS Worker Education and Training Program in preparing to respond under the National Response Plan (NRP). The Clearinghouse helped WETP develop an Emergency Support Activation Plan that was tested in WETP's response to Hurricane Katrina. The Clearinghouse played a large role in that effort, opening a temporary field office in Baton Rouge to provide information related to post-Katrina cleanup to NIEHS awardees, other federal agencies, contractors, workers, and the public. The field office acted as a liaison between NIEHS awardees and federal agencies, state and local government agencies, contractors and community groups. Nearly 1,000 workers were trained

in courses directly coordinated through the field office.

The Clearinghouse also prepared *Learning From Disaster: Katrina Response Safety and Health Training*—a report that provides a detailed account of the lessons learned during the first six months of NIEHS WETP emergency response activities to Hurricane Katrina.

In September 2006, WETP held its Fall Awardee Meeting and Workshop in New York City, to honor the five-year anniversary of September 11th. The workshop, titled *Disaster Response Training: From WTC to Katrina – Five Years of Lessons Learned*, reflected on the lessons learned from participation in two major national disasters, and began to plot a course forward toward better program-wide preparedness.

**Top Photograph:** Clearinghouse Director Deborah Weinstock. **Bottom:** Baton Rouge Office Director Aaron Kissler.

# Clearinghouse Update Continued

## Support for the Minority Worker Training Program:

WETP actively participates in the EPA Brownfields Conferences. This provides an opportunity for the WETP Brownfields Minority Worker Training Program to showcase program activities and useful resources related to brownfields redevelopment. This year, for the conference, the Clearinghouse was instrumental in preparing a brochure, banner display, and outreach materials. The Clearinghouse also coordinated the NIEHS WETP Brownfields Minority Worker Training Program Grantee Dinner Meeting, moderated by Sharon Beard of NIEHS. The Grantee Dinner Meeting provides an opportunity for grantees to collaboratively address issues and identify solutions related to worker training.



The Clearinghouse also addressed training needs for an emerging threat: avian and pandemic influenza. During FY 2005 the Clearinghouse staff and WETP staff developed an initiative to prepare workers for avian and pandemic influenza. The Clearinghouse spearheaded the initiative by conducting an extensive review of current Avian and Pandemic influenza preparedness guides to develop a content outline that provided guidance on the most relevant training issues. The Clearinghouse will later use the document as guidance in developing an avian and pandemic influenza awareness booklet and PowerPoint presentation for skilled support personnel. The Clearinghouse has also scheduled the NIEHS Worker Education and Training Program's first briefing on Avian and Pandemic influenza. Officials from both the public and private sector and WETP awardees involved in preparation and training activities for avian and pandemic influenza will be invited to participate in the briefing. The event will give both WETP and WETP Awardees the opportunity to learn about current preparedness and training activities being conducted by other agencies, discuss their new related activities and products, build stronger partnerships with other federal agencies involved in avian influenza preparedness activities, and gain valuable feedback on important issues with preparing workers for avian and pandemic influenza.

**National Clearinghouse**  
for Worker Safety & Health Training

The primary source for hazardous waste worker training curricula and information.

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The National Clearinghouse is funded by the National Institute of Environmental Health Sciences' (NIEHS) Worker Education and Training Program (WETP) and is the primary national source for hazardous waste worker curricula, technical reports, and weekly news. View our [factsheet](#) (583 KB) for additional information on the WETP National Clearinghouse.

**Weekly e-Newsbrief**  
View the e-newsbrief

The National Clearinghouse [e-newsbrief](#) is a free weekly electronic newsletter focusing on the world of worker health and safety.

This Week's Headlines:

- Hanford Funding Faces Budget Ax
- Workers Could Win Cancer Compensation
- Report Cites Toxic Plume at Old Plant Site
- More

**Key National Clearinghouse Documents**

- Presentation on DOE's Worker Safety and Health Program Rule (10 CFR 851) (4.4 MB)
- Fact sheet on DOE's Worker Safety and Health Program Rule (10 CFR 851) (86 KB)
- Learning From Disasters: Katrina Response Safety and Health Training (2.5 MB)
- Hazardous Waste Worker Labor Market Study (544 KB)
- Final Version of the Minimum Health and Safety Training Criteria: Guidance for Hazardous Waste Operations and Emergency Response. HAZWOPER-Supporting and All-Hazards Disaster Prevention, Preparedness, and Response, January 2005 (1.4 MB)
- NIEHS Worker Safety and Health Training Support Annex (117 KB)
- NIEHS Training Guidance for Workers Exposed to Mold (410 KB)

Screenshot of the homepage for the National Clearinghouse Webpage.



## **Section Two**

### **State Profiles:**

# **NIEHS WETP Funded Training in West Virginia, Arizona, Kansas, and California**

# West Virginia

**Five Awardees:** Five NIEHS Worker Education and Training Program grantees conducted training during FY2006 in West Virginia. The International Union of Operating Engineers (IUOE), Laborers-Associated General Contractors (L-AGC), Center to Protect Workers Rights, University of Alabama at Birmingham, and the United Steel Workers conducted 18,227 contact hours of training in 58 classes for 961 students. Of this, IUOE accounted for 27 classes, 515 students, and 9508 contact hours of training.

Last year these classes included Asbestos Abatement Supervisor Refresher; Superfund Site Worker Refresher; General Construction Safety, Miner Basic Safety, General Industry Safety, Basic Superfund Site Worker, and Emergency Response Awareness.

NIEHS WETP and its grantees strive to achieve "gold standard" safety and health training. This means meeting or exceeding our published minimum standards for training; having highly skilled trainers and worker-trainers; having excellent facilities; and having an appropriate blend of hands-on and classroom activities based upon principles of adult learning including the use of small group activities and case studies.



"Gold Standard" Laborers-AGC West Virginia Training Facility.

**The following two examples give additional insight into NIEHS WETP training in West Virginia.**

**A Highly Skilled Trainer:** one of IUOE's master trainers is Jesse Wagner, a 22-year IUOE member and a Stationary Engineer. He was trained through their Train-the-Trainer Program and has been a Master Instructor for approximately 12 years. When IUOE began conducting Homeland/Energy Security and Infrastructure Protection classes, Jesse developed Plexiglas models to demonstrate to students how buildings are vulnerable. The first Plexiglas model Jesse designed and built helped students to visualize and understand airflow and how HVAC systems can be used to protect or cause harm to a facility and its occupants.

On January 2, 2006, the Sago Mine near Buckhannon, West Virginia, had explosions which led to the death of 12 miners. West Virginia Governor Manchin appointed a special advisor to conduct an investigation into the disaster. This advisor, being familiar with IUOE and Jesse's work, contacted him to design and build models to demonstrate air flow through the Sago Mine. Jesse constructed hundreds of pieces for one model in order to show air flow to scale, the ribs in the mine and the air flow through the mine. These models were said to have been of immeasurable importance during the investigation.

**Serving West Virginia and the Nation:** part of the L-AGC consortium, the West Virginia Laborers' Training Fund has provided hazardous waste, radiation and disaster preparedness training to its core constituency of Construction Craft Laborers and apprentices and to the West Virginia Department of Environmental Protection, West Virginia State Health Department, U.S. EPA Region 3, Metro Washington DC Police Department, U.S. Marshals, Federal Protective Services, U.S. Secret Service, U.S. Capital Police, and the U.S. Department of Energy. The training fund has training partnerships with many civic groups in the state of West Virginia including the Helmets to Hardhats, Women's Work for West Virginia, Work for West Virginia Centers and the numerous vocational high schools located throughout the state.

After the attacks of 9/11, instructors from the West Virginia Laborers Mobile Unit were dispatched to New York City to train construction workers who were courageously clearing the wreckage of that day. They provided hazardous waste and site specific training to dozens of 9/11 workers. These instructors have been recognized by the New York Port Authority, the WV Governor's Office and the Laborers' International Union of North America for their efforts during the aftermath of the 9/11 attacks.



***Eight Awardees:*** Numerous NIEHS funded awardees have conducted safety and health training in Arizona. Last year, Arizona State University (ASU), for example, trained --- 704 workers in 44 courses for a total of 11,008 contact hours. Overall last year, a total of 61 courses were conducted in Arizona for 912 workers representing 16,989 contact hours of training. Over the past five years, 11,602 workers received 170,265 contact hours of training in 728 different classes. In addition to ASU, the International Association of Firefighters (IAFF), Community and Colleges Consortium for Health and Safety Training, American Federation of State, County and Municipal Employees Training and Education Institute (AFSCME), International Union of Operating Engineers, International Brotherhood of Teamsters, Center to Protect Workers Rights, and the United Steelworkers have recently conducted training in Arizona.



IAFF conducting hazardous response training on the U.S. - Mexican border.

***Serving the Underserved:*** Yet numbers alone cannot fully describe the NIEHS effort in Arizona. Arizona is a vast, diverse state with large Hispanic and Native American populations. Different languages, levels of literacy, and culture represent opportunities to communicate that NIEHS awardees have enthusiastically seized. Most courses can be offered in Spanish, many in Navajo. ASU has a special emphasis on underserved populations including one program targeting Navajo Nation personnel. Another example: in 2005, AFSCME provided hazardous materials training to several hundred school custodial workers in Tucson. Primarily Hispanic, these workers could choose to participate in either Spanish or English versions of the class. They also participated in a carefully designed evaluation study of the course conducted independently by the University of Massachusetts Lowell Department of Work Environment. To quote from the evaluation:

*"One of the participants, a Mexican woman, was having a difficult time expressing herself. When she was told she could speak in Spanish, she became very animated and talked about how she had gotten together with other Spanish speakers at work and really pushed for having safety sheets in Spanish. She also talked about how she was using the information at home. She understood English very well, and had purposely taken the course in English, but she was obviously much more comfortable speaking in her native language. She said that she liked the class because she felt respected and felt for the first time that she had support. "Because we are a small group, you know and ah we feel better because we understand more and we can ask any questions we want and we learn more like that."*

## Kansas

The NIEHS Hazardous Waste Worker Training Program has conducted extensive training operations in Kansas. From September 1, 2005-Feb 2007, three awardees conducted 179 courses for 3756 students for a total contact hours of 88,919. The United Steelworkers, International Union of Operating Engineers and the Hazardous Materials Training and Research Institute - the Community College Consortium conducted all of the training in Kansas. The courses included HazMat Transportation Awareness, Gen. Industry Safety, Hazwoper- Basic Superfund Site Worker, Awareness of Radiation Hazards for Emergency Response, Medical Basic/Advanced, Domestic Preparedness Operations and HazMat Transporter/Basic.

### **Barton County Community College:**

Based in Fort Riley Kansas, the college is one of the most active and successful members of the NIEHS Community College Consortium for Health and Safety Training. Last year, the college provided 2,836 students with over 86,000 contact hours of training. In addition to their HazMat training, they are also able to tailor specific training programs to meet the needs of local industry and employers.

According to William Nash, Associate Dean at BCCC: *“we service the state of Kansas as well as the military community at Fort Riley, Kansas National Guard and the Army Reserve. So we not only provide training for business and industry but we have used NIEHS curriculum as part of the training we conduct for the military. The training allows the soldier to work safer and provides marketable skills for their civilian careers.”*



Their success rests on this flexibility in combination with a very experienced core of professional instructors. The Community and College Consortium, with over 100 members, is a true national resource with skilled trainers located in nearly every state. These trainers played an important role during the NIEHS response to Hurricane Katrina.

**Tony Mazzocchi Center:** The training arm of the United Steelworkers, the Tony Mazzocchi Center, also conducts training in Kansas, primarily in the Topeka area. Last year they conducted 32 courses for 907 workers. The United Steelworkers represent workers in the paper, petroleum, chemical, rubber, plastics and primary metals industry groups, all of which contain large quantities of hazardous waste, and experience large quantities of toxic releases. They also play a key role in addressing man-made and natural threats to large chemical facilities.

The Center is named in memory of Tony Mazzocchi who began his career in the labor movement when he became active in the CIO following his service as a combat soldier in WWII. He served as President of Oil Chemical & Atomic Workers (OCAW) Local 8-149, Vice-President of the Nassau-Suffolk, N.Y., CIO Council and the Long Island Federation of Labor. He was elected International Executive Board member of OCAW District 8, and he was the union's Citizenship-Legislative Director, leading the legislative struggles of the 1960s and 1970s. Mazzocchi became known as "the Ralph Nader of industrial safety," and he played a key role in the passage of the Occupational Safety and Health Act (OSHA).

**Port Security:** California's seaports, where vast quantities of dangerous materials are stored or shipped, are vulnerable to both accidental and intentional hazardous incidents. Yet guidelines and training for addressing hazardous materials, emergency response, and port security have often not reached frontline dock and transport workers. Last year the NIEHS WETP Western Universities Consortium began addressing this gap. Working with labor, management, port authorities and government agencies in Los Angeles, Long Beach, and Oakland, the Consortium developed Ports Hazardous Materials and Security Concerns Awareness - a course that has been delivered to several hundred longshore men, watchmen, marine clerks, foremen, and port security officers. This current year, the Consortium expects to train an additional 1600 workers. Is it worth it? As one participant stated: *"A very important class. It is very helpful for our safety and for other workers. The towns around will also benefit."*



**Eleven Awardees:** Eleven NIEHS WETP funded consortium did training in California between September 1, 2005 and July 31, 2006 conducting 323 courses that reached 4721 students with 72,869 contact hours of training. These consortia were the Western Region Universities (WRUC), OAI, Inc.; United Steel Workers, Hazardous Materials Training and Research Institute, Service Employee International Union, Center to Protect Workers' Rights (CPWR), International Chemical Workers Union, International Brotherhood of Teamsters (IBT), Laborers-AGC, University of Alabama at Birmingham (UAB) and the International Union of Operating Engineers (IUOE).

These courses included Basic Superfund Site Worker, Lead Abatement Worker, Asbestos Abatement Worker, Confined Space, Emergency Response for Specific Hazards, Superfund Site Worker Refresher, General Construction Safety,

General Industry Safety, HazMat Training for Infectious Diseases, Emergency Response Basic Operations, among others.

CPWR, in partnership with the Oakland Private Industry Council/Cypress Mandela WIST Center, also provided 12,040 contact hours of training in 22 courses for 25 students under the NIEHS Minority Worker Training Program. This intense program includes courses on General Construction Safety, Confined Space, Life Skills, Mentoring/Career Guidance, Physical Fitness, Basic Math Skills, Asbestos Abatement Worker, Lead Abatement Worker, and Basic Superfund Site Worker. The 23 graduates of this program were placed in construction jobs earning an average of \$16.64 an hour. As a result, the U.S. Department of Labor made CPWR/WIST the recipient of their National Exemplary Public Interest Contribution Award honoring organizations "that are typically formed to help individuals with the least opportunities find and retain employment and are often aligned with federal contractors to further EEO in the workplace."

Photographs:WRUC Port Security Training.

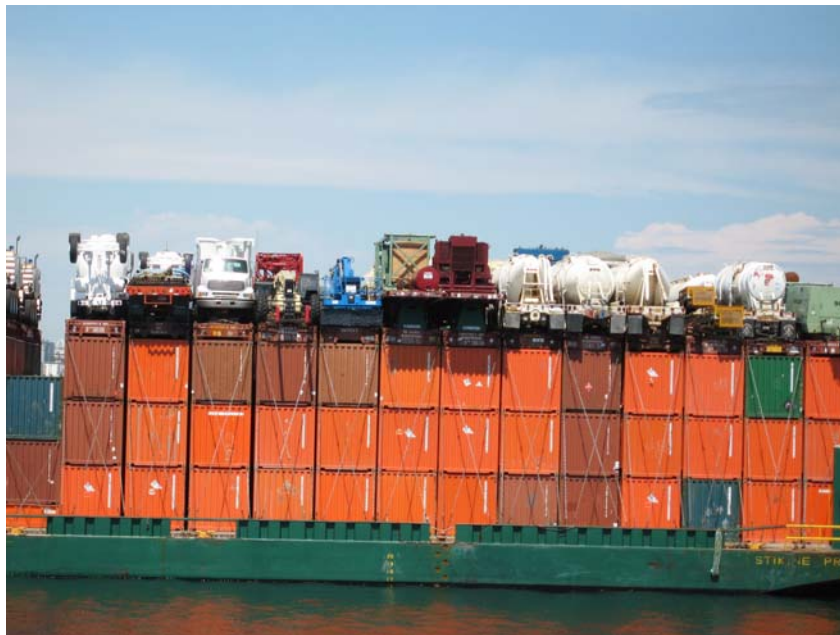
## ***Four additional examples of training in California:***

- For Western Region Universities Consortium (WRUC) member UC Berkeley's Labor Occupational Health Program (LOHP) a primary target is Spanish-speaking workers. LOHP has maintained a strong relationship with a number of businesses which employ such workers: electroplating, municipal waste and landfill, drum recycling industries who continue to send such employees to their courses.

- CPWR, the national training organization for the Building Trades, works to tailor its training and curricula for specific needs. An example of this is their California-specific Lead Abatement Worker training. CPWR has adapted the California-specific material into a 4-day program that provides sufficient time for important hands-on activities (including the use of HEPA vacuum-equipped power tools, heat guns, and state-of-the-art infra-red scrappers) along with personal protective equipment (including PAPRS) and decontamination activities.

- The George Meany Labor College, a member of the IBT Consortium, provided HazMat Awareness level training to 126 rail workers representing track, signal and electrical workers contracted by Metro Link Rail, a commuter line in the Los Angeles area which runs on and adjacent to freight lines. These training programs, taught by rail peer trainers, focused on gaps in prior training, gaps important for protecting oneself from hazardous materials exposures.

- UAB continues to provide training to Communications Workers of America (CWA) members throughout the United States. In California, UAB conducted 9 Emergency Response Awareness classes for 193 CWA law enforcement members through the California Organization of Police and Sheriffs (COPS).



**A complicated load? WRUC port security training photograph.**





## **Section Three**

# **Hazardous Waste Worker Training Program Summary**

- ***Consortium Summaries:***
  - ***OAI, Inc. Consortium (OAI)***
  - ***New Jersey/New York Consortium (NJ/NY Consortium)***
  - ***Hazardous Materials Training and Research Institute (HMTRI)***
  - ***New England Consortium (TNEC)***
  - ***International Union, United Auto Workers (UAW)***
  - ***University of Alabama at Birmingham (UAB)***
  - ***Service Employees International Union (SEIU)***
  - ***International Brotherhood of Teamsters (IBT)***
  - ***United Steelworkers (USW)***
  - ***Laborers/Associated General Contractors Education and Training Fund (Laborers-AGC)***
  - ***International Union of Operating Engineers (IUOE)***
  - ***International Chemical Workers Union (ICWU)***
  - ***Midwest Consortium for Hazardous Waste Worker Training (Midwest Consortium)***
  - ***International Association of Firefighters (IAFF)***
  - ***Center to Protect Workers' Rights (CPWR)***
  - ***Western Region Universities Consortium (WRUC)***
  - ***American Federation of State, County, and Municipal Employees (AFSCME)***
- ***A Portfolio of Charts on the Hazardous Waste Worker Training Program***



**Who They Are:** OAI, Inc. heads up a consortium that includes the Maine Labor Group on Health.

**Who Benefits:** The Consortium's HWWT Program was delivered in the states of Illinois, Indiana, Kentucky, Maryland, Georgia, California, Maine and New Mexico.

**How Many:** During this program year, the OAI Consortium trained a total of 2,841 workers through the delivery of 169 courses, which have generated 41,572 hours of training.

**A Model Collaboration in Chicago:** As part of their ongoing collaboration with the International Association of Fire Fighters (IAFF), Illinois Fire Service Institute (IFSI) and the Chicago Fire Department Training Academy, OAI began a proposed 4-5 year project to provide 40-Hour Hazardous Materials Technician Level A training to approximately 5,000 members of *Chicago Firefighters Union Local 2*.

This project showcases a model collaboration, which leverages expertise and resources from each of the partners. Local 2 provides a training space and has undertaken facility modifications specifically for this project. IAFF provides three Master instructors per week. OAI coordinates the project and provides two local Chicago Fire Department instructors per week. IFSI proctors weekly tests and processes paperwork required by the State Fire Marshall's Office. IAFF and OAI provide all necessary equipment for the stationary training site, small group exercises, table-top scenarios and hands on scenarios.

In the monthly membership newsletter for IAFF Local 2, the Local president John Chwarzynski wrote,

**For More Information:**

OAI, Inc.  
180 North Wabash Avenue, Suite 400  
Chicago, Illinois 60601

Phone: (312) 528-3504  
Fax: (312) 528-3501

Website: <http://www.oaiinc.org>

*“The reviews [of the program] have been outstanding. The training provided can be best described as exceptional. Those that are going to participate, be prepared to be “challenged.” This is the largest and most comprehensive training program attempted by both the IAFF and Local 2, and I am absolutely confident that this program will prove to be a resounding success. I urge all members to take advantage of this opportunity. Not only will you receive training that will enhance your skills and knowledge as a Fire Fighter, but this certification will also allow you to receive an additional five percent in specialty pay – a definite win-win situation.”*



## New Jersey/New York Consortium (NJ/NY Consortium)

**Who They Are:** The NJ/NY Consortium consists of the University of Medicine and Dentistry of New Jersey (UMDNJ); Hunter College, City University of New York; New Jersey State Police; New York Committee for Occupational Safety and Health; New York District Council of Carpenters Labor Technical College Health and Safety Department; University at Buffalo; and Universidad Metropolitana, Puerto Rico. The NJ/NY Consortium also receives funding under the Minority Worker Training Program and the Brownfields Minority Worker Training Program reported on separately.

**Who Benefits:** Private sector and city, state, and federal employees in New York, New Jersey, and Puerto Rico. These include police officers, environmental investigators, OSHA compliance inspectors, carpenters and carpenter apprentices, subway workers, radiation workers, emergency medical responders, and hazardous materials remediation workers.

**How Many:** A total of 1,056 courses were conducted this year, reaching 18,350 workers, in 139,800 hours of training.

### **Hazard Recognition and Personal Protective Equipment - Two Recurring**

**Themes:** UMDNJ conducted qualitative interviews of students nine months after their training. The recurring themes that emerged from the interviews were that hazard recognition and personal protective equipment were essential elements of the training, and those topics had an impact on the way students conducted their work. Participants felt they were better able to recognize situations in which hazards might be present. The training program stresses hazard recognition, which prepares individuals to identify unsafe areas or work conditions, and to select methods to control such hazards. One student stated:

*“For me the most important thing I took from the training was to look at the packaging of the materials. When you go into a site, look at the state of the drums, or the other containers, how they might react with other chemicals, or are the drums rusting? In entering a hazardous environment we need to be aware of other things besides the primary concern going in. For me it was dealing with explosives but I learned that we need to look at the whole scenario and not go in blindly.”*

#### **For More Information:**

University of Medicine & Dentistry  
of New Jersey  
School of Public Health  
683 Hoes Lane West, Room 229  
Piscataway, New Jersey 08854

Phone: (732) 235-9700  
Fax: (732) 235-9755

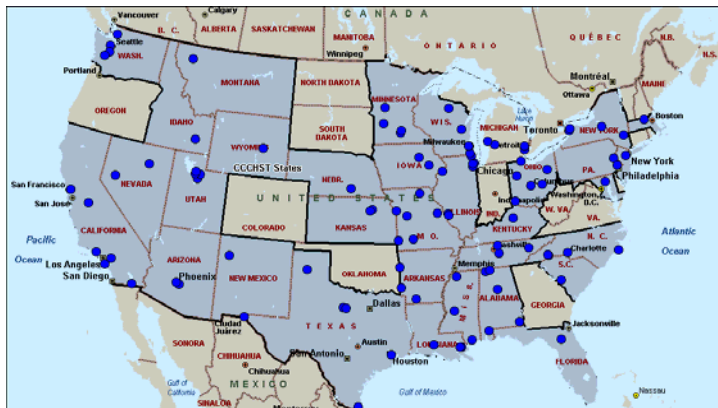
Website: <http://ophp.umdj.edu>



**Personal  
protective  
equipment  
training at  
UMDNJ.**

# Hazardous Materials Training and Research Institute (HMTRI)

**Who They Are:** This consortium is led by Kirkwood Community College's Hazardous Materials Training and Research Institute (HMTRI) and includes the Community College Consortium for Health and Safety Training (CCCHST). There are 77 colleges and universities, seven community-based organizations, nine governmental units, 24 independent trainers and private companies, and one union in CCCHST, representing 34 states and one territory.



A national resource: 34 states including Alaska and one territory.

**Who Benefits:** Workers, technicians, and supervisors exposed to hazardous materials encountered during hazardous waste site clean-up, Brownfields redevelopment, transportation of hazardous materials, and in response to spills and releases of hazardous materials.

**How Many:** 54 CCCHST members in 21 states delivered 226,070 contact hours of training through 1,354 courses for 19,735 workers.

**A Letter of Support:** During HMTRI's response to Hurricane Katrina, they received the following letter.

*"I will repeat what I have told FEMA and our own management over the past 3 weeks I have been here:*

*The magnitude of this disaster has required the Corps of Engineers to bring in help from all 4 corners of the world and the same goes for our contractors. Many of these people are coming from outside the construction world and as such have little or no field safety training. Your firm has been side by side with us, out in the field with the folks on the ground, providing valuable and most importantly, effective training.*

*Your training programs and support are an integral part of our mission successes. The training your staff has been providing is timely, practical, and directly related to our work. You have helped us immensely in getting Mississippians back on their feet."*

## For More Information:

Hazardous Materials Training and Research Institute  
Kirkwood Community College  
6301 Kirkwood Boulevard, SW  
P.O. Box 2068  
Cedar Rapids, Iowa 52406

Phone: (319) 398-5667  
Fax: (319) 398-1250

Website: [http://www.hmtri.org/ccchst/ccchst\\_index.html](http://www.hmtri.org/ccchst/ccchst_index.html)

Safety Manager - Corps of Engineers

## New England Consortium (TNEC)

**Who They Are:** The New England Consortium (TNEC) is headed by the University of Massachusetts, Lowell and includes the Massachusetts Coalition for Occupational Safety and Health (MASSCOSH), Connecticut Committee for Occupational Safety and Health (ConnectiCOSH), Rhode Island Committee for Occupational Safety and Health (RICOSH), Western Massachusetts Coalition for Occupational Safety and Health, and the New Hampshire Coalition for Occupational Safety and Health.



**Who Benefits:** TNEC has been working since 1987 to provide top quality participatory hands-on health and safety training to workers throughout the region including. In addition to labor unions and community organizations, examples of organizations whose members received TNEC training include the New England Native American Tribes, OSHA Inspectors Region 1, Boston Environmental Strike Team, U.S. Geological Service, Public Service of New Hampshire, Narragansett Bay Authority, Boston Public Health Department, Covanta Energy, OSHA Region 1 Compliance Officers, Region 6 HAZMAT Team, JFY Networks (formerly Jobs for Youth), and the Essex Agricultural Technical High School (MA).

**How Many:** During the current grant year TNEC has conducted ninety courses for 1,223 workers involving 20,446 hours of instruction in its core HAZWOPER training program.

### **Student Comments About TNEC Participatory and Hands-on Instruction:**

*“The organization of the day was good and there was sufficient time for questions and problem-solving I am burned-out from reading materials and I’m not a fan of lectures. You did a good job of mixing it up – 8 hours of training can be tough.”* – Government Agent, 8-hour Site Worker Refresher

*“The presentation, activities and participation made the class interesting and motivated learning. The hands-on activities were particularly beneficial. They allow time for everyone to share their life experiences.”* - Environmental Responder and Sampler, Penobscot Tribe, Indian Island (Old Towne), Maine, 8-hour Site Worker Refresher

*“Instead of a classroom exercise, we were able to do a ‘walking risk map tour’ of our facility. We identified 185 items, put them on a list and prioritized them in importance in two ways: 1) life-threatening and 2) easiest to fix right away. We intend to repeat this down-the-road and measure improvements and progress.”* - Industrial Emergency Responder, 24-hour ER course

*“I think that the most important things that we were able to learn were to work together as a team and to use air monitoring to determine if you are at a safe distance to perform your job.”* – Emergency Response Team member, 8-hour ER Awareness Training

*“I learned how to apply a cap to a leaking rail car by doing it with a real demonstration tank car.”*

- Industrial Facility Personnel, PSNH Merrimack Station, ER Refresher

**Photograph:** Training on the demonstration tank car.

#### **For More Information:**

Center for Public Health Research  
and Health Promotion

University of Massachusetts Lowell  
3 Solomont Way - Weed Hall, 305  
Lowell, Massachusetts 01854

Phone: (978) 934-3291  
Fax: (978) 934-2012 or  
(978) 934-3025

Website: <http://www.uml.edu/>

## International Union, United Auto Workers (UAW)

**Who They Are:** The International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) is one of the largest and most diverse unions in North America, with members in virtually every sector of the economy.

**Who Benefits:** Their primary target sector is 3,000 smaller establishments with about 375,000 members, emphasizing the automobile, metal-working, and transportation industry. In addition UAW represents public sector employees with wastewater treatment and transportation assignments and works with minority and underserved community residents who work in or live near hazardous waste sites or industrial facilities.

**How Many:** The UAW conducted 115 programs and delivered training to 1,794 participants with 10,140 contact hours between September 1, 2005 and July 31, 2006. This included three 40-hour Technician Level Industrial Emergency Response (IER) courses for 37 trainees, totaling 1,480 contact hours.

**Local Union Discussion Leaders:** A key feature of the UAW project is the role of worker-trainers, referred to as Local Union Discussion Leaders (LUDLs). Currently, 43 LUDLs are active in presenting a number of workshops and classes, and in conducting emergency response training and refresher programs. They conduct training in pairs or with project staff, identify training needs of local unions or worksites, recruit participants for training programs, assist project staff in revising curricula and apply principles of hazard control in their own workplaces.

Each LUDL who facilitates a training program, first participates in one or two days of preparation, training and skill development. Evaluations continue to indicate that LUDLs feel confident about presenting UAW training programs using the materials provided, and that the peer-training model is effective.

### For More Information:

International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW)  
8000 East Jefferson Avenue  
Detroit, Michigan 48214

Phone: (313) 926-5563  
Fax: (313) 926-5755

Website: <http://www.uaw.org>



Feedback from participants in the training programs consistently remark on the positive benefits of the peer trainer method.:

*"The classes here are head and shoulders above other health and safety classes I have taken because you have instructors that come from academia and instructors that come from the workplace. You get something from all different backgrounds. The classes are structured and there is still time for discussion with the people who live it."*

Photograph: "Body mapping" exercise for UAW Puerto Rican trainers in training.

## University of Alabama at Birmingham (UAB)



**Who They Are:** The University of Alabama at Birmingham (UAB) Center for Labor Education and Research (CLEAR)

**Who Benefits:** Communications Workers of America (CWA), Native American tribal members and employees, and Fire and Rescue Service members, emergency medical service personnel, law enforcement officers, environmental regulatory personnel, public health officials, and other public sector emergency responders

**How Many:** During the 2006 grant year, 895 members of CWA, Native American tribes, and

public safety agencies were directly trained by UAB/CLEAR in grant-funded classes, for a total of 10,212 contact hours of direct training. Also peer trainers trained 3,470 workers at local unions, fire departments, police departments, Native American tribal settings, and other workplaces for a total of 15,122 hours. CLEAR also provided supplemental training to support the recovery from Hurricanes Katrina and Rita during the year. The supplemental training was provided directly to 418 trainees, with peer training provided to another 799 trainees, for a total of 1,217 hurricane responders trained in 5,422 contact hours of safety and health training. This resulted in a grand total of 5,582 trainees and 30,756 contact hours of NIEHS-funded training for FY 2006.

**Training for Native Americans:** UAB was very successful last year in providing training to Native Americans through a partnership with the Native American Fish and Wildlife Society (NAFWS). A total of 24 courses in First Responder Awareness Level, First Responder Operations Level, Incident Management Systems, Clandestine Drug Lab Awareness, Weapons of Mass Destruction Awareness, and Radiological Nuclear Awareness were provided. To the maximum extent possible, courses at locations that were within a reasonable distance were combined into a single trip to reduce air travel and maximize training funds. Training was provided in all geographic regions of the United States and, in some cases, at locations that were remote and difficult to access. For every tribe requesting training, UAB either provided training this year or scheduled training for the next grant year.

The vast majority of Native American trainees are tribal members, including tribal employees of natural resource, law enforcement, emergency medical, fire service, and public works agencies. A small number of non-Native employees of tribal or federal agencies also attend. The Native American trainee population continues to be very interested in preparation for hazardous materials emergencies that may occur at locations such as transportation corridors crossing tribal lands.

Photograph: Training “under pressure” at UAB.

### For More Information:

University of Alabama at Birmingham  
Center for Labor Education  
and Research

1044 11th Street South  
Birmingham, Alabama 35294-4500

Phone: (205) 934-8752

Fax: (205) 975-5087

Website: <http://www.uab.edu/clear/>

## Service Employees International Union (SEIU)

**Who They Are:** SEIU represents approximately 285,000 workers in acute care hospitals, 10,000 workers in highway maintenance and 7,500 workers in wastewater treatment.

**Who Benefits:** Health care and public sector workers primarily in Maine, New Hampshire, New York, Nevada and California. This includes registered nurses and other health care workers, home care workers, employees of a state department of transportation and other state workers.

**How Many:** SEIU trained a total of 1,343 participants in 93 classes for a total of 11,834 hours of training.

### **Significant Training for Health Care Workers:**

Acute-care hospital workers report during SEIU training sessions that they use a wide variety of hazardous substances on a day-to-day basis, and Project staff have observed a wide range of materials in workplace inspections. Substances include: drugs (antineoplastic agents, waste anesthetic gases), infectious medical waste (body parts and bloodborne infectious waste), radiological materials (therapeutic radioactive materials and radiological human waste), mercury, incinerator fly ash, cleaners and germicides (ethylene oxide, glutaraldehyde), solvents (xylene, paint thinner, lab specimens), and pesticides.

Health care workers also treat patients contaminated with hazardous materials. Emergency medical technicians and emergency room personnel are exposed to a wide variety of hazardous materials, including: pesticides, acids and bases, organic solvents, asbestos, and any other hazardous materials that are transported through or manufactured in their geographic areas.

Thus, this workplace environment must address hazardous materials emergencies. Yet, SEIU training has made a difference in hospital emergency response.

For example, during the past grant year, idamycin, a chemotherapy drug, was spilled at a medical center in Northern California. Initially, the department called housekeeping. However, staff who had completed the ESF course recognized that this was a hazardous substance and should not be treated lightly. The scene was then isolated and trained personnel were brought in to assess the situation.

#### **For More Information:**

SEIU Education and Support Fund  
1313 L Street, NW  
Washington, D.C. 20005

Phone: (202) 898-3385  
Fax: (202) 898-3403

Website: <http://www.seiu.org>



**Photograph: Donning and doffing training for Health Care Workers.**

## International Brotherhood of Teamsters (IBT)



**Who They Are:** This consortium includes the International Brotherhood of Teamsters and the National Labor College. The Teamsters represent 1.4 million working men and women in dozens of occupations throughout the United States.

**Who Benefits:** Remediation and construction workers and supervisors at hazardous waste sites; and truck and railroad workers involved in the transportation of hazardous waste and hazardous materials for training

**How Many:** During the current budget period, the consortium conducted 273 classes that provided 44,933 contact hours of training for 3682 workers.

**An Example of Trainee Follow-Up:** The IBT Worker Training Program tracks workers who were able to acquire employment on a hazardous waste site or were involved in the transportation of hazardous materials after training provided by the program. For example, 118 recent trainees from the Construction Teamsters Training and Upgrading Fund of Southern California acquired employment on hazardous waste sites, construction sites contaminated with hazardous waste, or were involved in the transportation of hazardous materials:

- 29 workers were employed at the Fort Irwin Clean-Up
- 32 workers were employed at the Port of Long Beach Clean-Up
- 3 workers were employed at a TSD site in Costa Mesa, California
- 3 workers were emergency response personnel with the Fullerton Fire Department
- 1 worker was employed by the County of Santa Clara as an emergency response worker
- 2 workers were employed by Disney Land
- 1 worker was employed at a San Jose, California TSD facility
- 1 worker was employed as an emergency response worker with the Victorville Fire Department
- 1 worker was employed by the town of Apple Valley, California as an emergency response worker
- 17 workers were employed by the San Bernadino, California Fire Department as emergency response personnel
- 2 workers were employed by Univar at a TSD facility in Commerce, California
- 12 workers were employed at a TSD facility in Castroville, California
- 12 workers were employed at a TSD facility in Gardena, California
- 1 worker was employed at a TSD facility in El Segunda, California
- 1 worker was employed at a TSD facility in Wilmington, California



Photographs: IBT conducting 40 hour HazWoper class.

### For More Information:

Safety and Health Department  
International Brotherhood of  
Teamsters  
25 Louisiana Avenue, N.W.  
Washington, D.C. 20001

Phone: (202) 624-6960

Fax: (202) 624-8125

Website: <http://www.teamster.org>

## United Steelworkers (USW)

**Who They Are:** The USW and its Tony Mazzocchi Center (TMC) for Health, Safety and Environmental Education was created in 2005 as a result of a merger between the Paper, Allied-Industrial, Chemical and Energy Workers International Union (PACE) and the United Steelworkers of America (USWA).

**Who Benefits:** Approximately 336,000 USW members are concentrated in the paper, petroleum, chemical, rubber, plastics and primary metals industry groups, all of which contain large quantities of hazardous waste, and experience large quantities of toxic releases. These workers who are engaged in production and maintenance crafts form the primary targets of their training.

**How Many:** The USW conducted 558 regional and site-hosted classes in twenty nine different states this grant year, reaching 8,980 workers, for a total of 73,797 contact hours.

**Systems of Safety:** The USW uses a Systems of Safety approach in its training. This proactive method studies the various safety systems within a workplace and incorporates these into site specific training.

USW was able to implement such a program in a tire manufacturing facility in Texas. Company and USW safety representatives received a combination of training that prepared them to train all the workers in the facility on chemical hazard recognition. Over the past six years, accident and incidents have been reduced and the manufacturer has expanded the program to its nation-wide network of facilities.



### For More Information:

United Steelworkers of America  
The Tony Mazzocchi Center  
Five Gateway Center, Room 902  
Pittsburgh, Pennsylvania 15222

Phone: (412) 562-2586  
Fax: (412) 562-2584

Website: <http://www.steelworkers-usw.org/usw/program/content/2608.php>

In a large aluminum manufacturer located in Kentucky, USW staff provided training on a continued basis over a four-year period to every worker in that facility. This too resulted in a significant reduction of accidents and incidents. This program is ongoing.

In preparing for training, the systems of safety method helps USW to identify hazards of which both workers and management were unaware. A recent example is a facility where USW discovered that the management and workers were unaware of the hazards of amorphous silica.



# Laborers/Associated General Contractors Education and Training Fund (Laborers-AGC)

**Who They Are:** This consortium is administered by the Laborers-AGC Education and Training Fund (Laborers-AGC). Laborers-AGC is a joint labor-management training trust fund formed by a partnership of the Laborers' International Union of North America (LIUNA) and the Associated General Contractors of America (AGC), who provides comprehensive education and training programs to individuals and organizations within the LIUNA marketplace.

**Who Benefits:** The consortium targets skilled Construction Craft Laborers and other construction craft workers engaged in environmental remediation. Laborers-AGC conducted their training at 18 regional centers and three mobile units. These centers are located in New York, Indiana, West Virginia, Missouri, New Jersey, Pennsylvania, Michigan, Connecticut, Kentucky, Louisiana, Washington, Illinois and Hawaii. The mobile units are based in Southern California, West Virginia and Iowa.

**How Many:** Laborers-AGC conducted 345 courses for 3,725 trainees under the Hazardous Waste Worker Training Program (HWWTP) (including any applicable supplemental awards). A total of 214.45 weeks were provided under the program. This accounts for 94,150 contact hours of training.

**Vocational English for Speakers of Other Languages:** Laborers-AGC's Vocational English for Speakers of Other Languages (VESOL) is an initiative to provide job skills training for limited or non-English speaking workers while simultaneously helping the worker improve and increase English language capabilities. The first portion of the program focuses on teaching instructors how to conduct training for workers who speak limited or no English. The training program includes the following learning units:

1. Language awareness
2. The learner, the instructor and the teaching/learning context
3. Planning for effective teaching of adult learners of English
4. Classroom management and teaching skills for teaching construction English to adults
5. Resources and materials for teaching construction English
6. Integrating language and content to meet technical objectives and to promote English language development



During the year, Laborers-AGC conducted 2 VESOL Instructor training sessions and pilot tested 1 VESOL worker course. Instructor training consisted of four weeks (two 2-week sessions) of classroom instruction. Ten instructors participated in all sessions, nine of whom received final certification.

During training, instructors learned how to help learners develop language skills while meeting technical skills objectives. They received hands-on teaching practice, observed experienced teachers in the classroom, and completed practically focused written assignments. Instructors were assessed throughout the program on their teaching practice and written assignments. They also completed a portfolio which related VESOL teaching practices to the particular needs of their training fund.

These nine instructors are now putting their learning into practice in the classroom. Laborers-AGC and SIT professionals are available to provide advice and assistance and will periodically monitor classroom presentations when VESOL techniques are used to assess the instructors' progress and effectiveness



## For More Information:

Laborers-AGC Education and Training Fund  
37 Deerfield Road  
Pomfret Center, Connecticut 06259

Phone: (860) 974-0800  
Fax: (860) 974-1459

Website: <http://www.liuna.org/>

## International Union of Operating Engineers (IUOE)

**Who They Are:** The International Union of Operating Engineers National Training Fund (NTF) is dedicated to the improvement of workers' job skills through apprenticeship and journeyman skill-based training, and to improve safety and health in the work environment through safety and hazard awareness training. The mission of the NTF is twofold, first to improve all aspects of safety and health for America's workers, and second to supply a more employable, competitive, and safe workforce.

**Who Benefits:** From Alaska to Florida, Maine to Hawaii, IUOE conducts training for its members, its contractors, government agencies, and other organizations. The primary target audiences are:

- 294,000 hoisting and portable (H&P) engineers skilled in operating and maintaining heavy construction equipment who are potentially involved in hazardous waste site activities.
- 100,000 stationary (building) engineers responsible for maintaining heating, ventilation, and air-conditioning (HVAC) systems; water treatment systems; and other critical infrastructure in large commercial, industrial, institutional, and residential structures.
- Workers nationwide in critical infrastructures such as ports and waterways, pipelines, hospitals, hotels, refineries, petrochemical plants, stadiums and arenas, and power-generating facilities, among others.

**How Many:** Between September 1, 2005, through July 31, 2006, the NTF has provided training to 15,867 workers. Through the 40-Hour Basic Site Worker Course 1,705 members were trained, 21 members trained in the 24-Hour Basic Site Worker Course, and 8,929 members refreshed their basic site worker training through the 8-hour Site Worker Refresher Course.

During this fiscal year, 3,720 individuals received Completion Cards in the OSHA 10-Hour Construction Course, an additional 109 were trained under OSHA's General Industry program, and 1,383 students were trained in other courses appropriate to this project.

**Trainee's Comments About Three IUOE Courses: Asbestos Awareness:** "I have learned awareness of asbestos and the use of respirators to prevent dust inhalation. One operator would not use a respirator to prevent dust inhalation because he had trouble communicating while wearing a respirator. I stressed the importance of respirator use for his own good."

**HAZWOPER Training:** "I work with radioactive materials and am aware that many contractors are required to demonstrate to their clients that the workers on sites have been provided with the OSHA 10-hour Outreach course. We've even sent the books that we use to the steward and he can show the client's representatives the training that the Operating Engineers have received. We are generally working when no one else is around so if there is an inspection out there, it has really raised our people's awareness about trenching, excavation and confined spaces. They are often times down in a bell hole and years ago most of them didn't have trench boxes or cave-in boxes. Now they do. In some of the incidents that have happened with confined space, it really raised our people's awareness."

### For More Information:

IUOE Training Fund  
1125 17th Street, NW  
Washington, DC 30336

Phone: (202) 778-2643  
Fax: (202) 778-2691

Website: <http://www.iuoeiettc.org>



Wearing "Level A" protection during training.

**Personal Protective Equipment (PPE):** "Prior to my HAZMAT training, I did not know about PPE in chemical plants. The training here is very advanced. Due to my training, I have learned to question unsafe practices. At one site, the job had to be shut down until operators were properly trained. I also learned to use eye protection around asphalt fumes."

# International Chemical Workers Union (ICWU)

**Who They Are:** This consortium is based at the Center for Worker Health & Safety Education which is operated by the International Chemical Workers Union (ICWU) in cooperation with the United Steelworkers of America (USWA), 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 consortium also includes the University of Cincinnati and the Greater Cincinnati Occupational Health Center.

**Who Benefits:** With training held both in Cincinnati and in various regional centers, workers throughout the country receive training.

**How Many:** This consortium delivered 24,736 person hours of training in 166 classes to 2,421 workers in a wide range of hazardous materials training and rank and file trainer development.

**Toxic Plume Mapping:** When is less of something more of something? Consider a damaged railroad car releasing a cloud of chlorine gas - how concentrated is the gas? what direction is it moving? how much time do responders have to take action?

The National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) have developed sophisticated software to assist emergency planners and responders in answering these questions. This plume modeling software is based upon technical exposure guidelines that tie the concentration of the chemical to the length of a person's exposure.

The ICWU Center staff and trainers prepared a plume modeling class that teaches the fundamentals of this software and the basic principles of occupational and environmental shelter in place from both intentional and unintentional events. In developing this class, ICWU director John Morawetz identified a fundamental flaw in the software: the exposure guidelines were based upon the wrong exposure time limits. This gave users the false impression that they were below a hazardous exposure when they might not be. ICWU informed NOAA and EPA of this and changes were made: lower exposure values are now more protective of responders and the community, less of something is more of something.

## For More Information:

International Chemical Workers Union Council  
1799 Akron-Peninsula Road  
Akron, Ohio 44313

Phone: (330) 926-1444  
Fax: (330) 926-0816

Website: <http://icwuc.org/>



First receivers in training.



ICWU Plume Mapping Class for Detroit Firefighters.

ICWU informed NOAA and EPA of this and changes were made: lower exposure values are now more protective of responders and the community, less of something is more of something.

The ICWU Center has conducted this class in Ohio, Washington, Pennsylvania, New York, and Michigan.

## Midwest Consortium for Hazardous Waste Worker Training (Midwest Consortium)

**Who They Are:** Headed by the University of Cincinnati, the consortium includes Southeast Michigan Coalition on Occupational Safety and Health, Greater Cincinnati Occupational Health Center, University of Illinois, University of Kentucky, Michigan State University, Indiana University, University of Tennessee, University of Minnesota, University of Louisville, Lakeshore Technical College, Detroiters Working for Environmental Justice, Citizens for Environmental Justice, Ohio Environmental Council, Fisk University - Environmental Justice Program, and the Three Affiliated Tribes.

**Who Benefits:** Workers in Illinois, Indiana, Kentucky, Michigan, Minnesota, Ohio, Tennessee and Wisconsin.

**How Many:** The Midwest Consortium for Hazardous Waste Worker Training delivered 920 programs to 18,988 persons between September 1, 2005 and July 31, 2006.



**When Partnerships Work:** NIEHS WETP funding often provides a stable foundation on which to build lasting safety and health training centers. Part of the NIEHS Midwest Consortium, Lakeshore Technical College, in Cleveland Wisconsin, is an example of this. It was not built with federal or state funds. Rather, the bricks and mortar of this state of the art facility were paid for by local tax dollars and local industry who saw a need and an opportunity. Federal training and equipment dollars from NIEHS and Homeland Security were therefore "leveraged", more than matching the federal dollars invested there.

And the training? Just one example, after an Ammonia Response course for an American Dairy Brands facility, the company sent the following comment: *"We had an ammonia release right after this training was completed. Because of the skills my team members had, we were able to isolate and abate the ammonia leak efficiently and we were able to keep anyone from getting hurt. It is difficult to talk about training and to complete drills when nothing ever happens and its always hypothetical. In this case, the training proved its value to our team members and we'll know now in the future that we'll have the confidence to address them more effectively."*

### For More Information:

University of Cincinnati  
Midwest Consortium  
Department of Environmental Health  
316 Wherry Hall  
P.O. Box 670056  
Cincinnati, Ohio 45267-0056

Phone: (513) 558-1751  
Fax: (513) 558-1722  
Website: <http://w.uc.edu/mwc/>

### Photographs:

Top: Lakeshore Technical College Demonstration and Training Area.  
Middle: Incident Command Center Training, Lakeshore Technical College.  
Bottom: HazMat Incident Training, Lakeshore Technical College.



# International Association of Firefighters (IAFF)

**Who They Are:** The International Association of Fire Fighters (IAFF) has more than 2,700 affiliates, representing 263,000 fire fighters and paramedics in more than 3,500 communities in the U.S. and Canada.

**Who Benefits:** IAFF continues to address the hazardous materials training needs of emergency responders in those geographical areas with the greatest densities of Superfund sites. The IAFF local affiliates help to determine training needs, allow access to students (i.e., emergency responders) and establish opportunities for repeat courses in their communities.

**How Many:** The IAFF HazMat Training Department had trained 456 students at 22 locations for a total of 35,520 contact hours.

**Some Features of IAFF Training:** The IAFF training plan is designed to bridge the gap between the availability of response equipment and its effective use. Department of Homeland Security (DHS) funds have made equipment available, but many first responders lack the skill to use it properly. The IAFF customizes HazMat Technician course delivery to meet the specific training needs of target emergency responder groups and creates new formats that minimize the financial burden incurred by host fire departments. To ensure the responders “know” the equipment they have in their department, the IAFF will train fire fighters on only the equipment they have in their department.

IAFF HazMat classes vary in difficulty and so does the experience of the students. Forty-three percent of the students who participated in a course have been on the job less than one year, while 44% of the trainees have been on the job between one and 10 years. The final 13% of the students have between 11 and 20 years of experience.

IAFF trainees are part of the most active response organizations in the country. Three-fourths of the trainees respond to more than

40 emergency calls per month and 11% respond to between one and 30 calls per month. The final 14% respond to between 31 and 39 calls per month.

## For More Information:

1750 New York Avenue,  
NW  
Washington, D.C. 20006

Phone: (202) 737-8484  
Fax: (202) 637-0839

Website: <http://www.iaff.org/academy/content/hazmat.html>

**Photographs: IAFF Training Held at the HAMMER Training Facility, Hanford, Washington.**



## Center to Protect Workers' Rights (CPWR)

**Who They Are:** The Center to Protect Workers' Rights (CPWR) and its Construction Consortium for Hazardous Waste Worker Training includes the following international construction unions: Insulators & Asbestos Workers, Iron Workers, Boilermakers, Painters, Bricklayers, Plasterers & Cement Masons, Carpenters, Plumbers & Pipe Fitters, Electrical Workers, Sheet Metal Workers. These unions represent over 2,000,000 workers. CPWR also receives funding under the Minority Worker Training Program and the Brownfields Minority Worker Training Program reported on separately.



CPWR site monitoring exercise.

**Who Benefits:** Thousands of CPWR trained workers are found at Superfund sites throughout the country.

**How Many:** CPWR's consortium has conducted 153 courses for 2,340 workers representing 49,258 contact hours of training.

**An Example of a Program Self-Audit:** NIEHS WETP requires that every grantee conduct an annual self-audit of their training program. In the case of CPWR, this is an extensive effort based on their concern for the quality of training they deliver annually, for the value of the training and the educational experience received by the participants, and for the continual replenishing of an ever-changing instructor corps. Quality training has been the lynchpin of the Building Trades' organizations for decades, and this emphasis and focus carries over into all programs conducted under the auspices of the Building Trades and their affiliated organizations.

CPWR subscribes to the principles and characteristics of excellence as described by the Minimum Health and Safety Training Criteria (described earlier in this report under Training Criteria, page 7). To CPWR, quality training not only reflects well on the sponsoring organization, it contributes to a reduction in injury and illness of their affiliates' members. They developed their self-audit around the characteristics of accuracy, credibility, comprehensiveness, clarity and practicality, as described in the Minimum Criteria.

As an independent evaluator noted, the results have been impressive:

### For More Information:

1750 New York Avenue, NW  
Washington, D.C. 20006

Phone: (202) 737-8484  
Fax: (202) 637-0839

Website: <http://www.iaff.org/academy/content/hazmat.html>

*"For nearly every category behavior improved, sometimes significantly, from the onset of CPWR data collection in 2000 through 2005. And, trainees said that in most cases they themselves were more likely to take action than those at their work-site generally. For example, in 2000 while 37 percent of responding trainees said they were likely to stop work if conditions were unsafe, those willing to take action rose to 64 percent in 2005. Similarly, less than half of trainees in the 2000 – 2001 training year said they were likely to report unsafe conditions to their foremen, but 5 years later, two-thirds reported that they were likely to report unsafe conditions."*

## Western Region Universities Consortium (WRUC)

**Who They Are:** The Western Region Universities Consortium consists of UCLA's Labor Occupational Safety and Health (LOSH) Program as lead agency; University of California Extension at Davis (UCDE); Arizona State University East's Office of Environmental Technology (ASU); UC Berkeley's Labor Occupational Health Program (LOHP); University of Washington's Northwest Center for Occupational Health and Safety (UW).

### For More Information:

University of California Los Angeles  
Labor Occupational Safety &  
Health Programs/IIR  
Box 951478  
Los Angeles, California 90095-  
1478

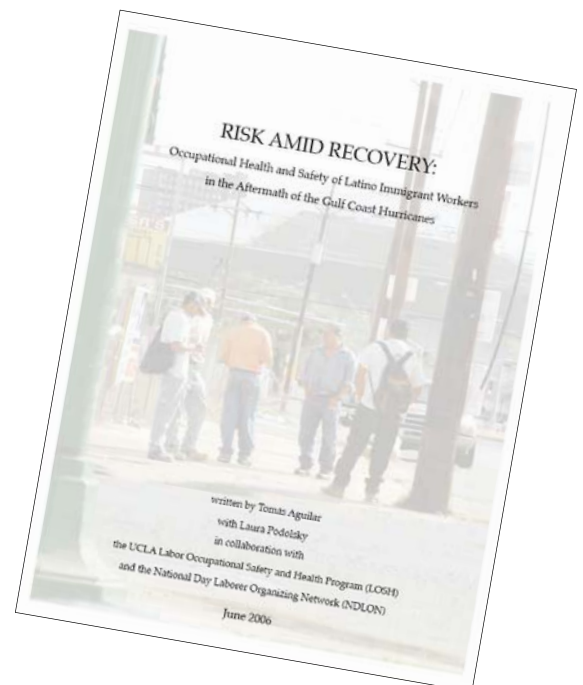
Phone: (310) 794-5964  
Fax: (310) 794-6403

Website: <http://www.losh.ucla.edu>

**Who Benefits:** Public and private sector workers and supervisors throughout California and Arizona in addition to Alaskan Natives; workers in the Pacific Trust Territories and Hawaii, Spanish-speaking day laborers and janitors, and a significant cohort of Navajo workers through the Bureau of Indian Affairs. These workers are engaged in hazardous waste handling and treatment, air monitoring, hazmat transport and manifesting, site assessment/investigation and supervision, facility inspection, regulatory compliance, firefighting, emergency response, Superfund and military base cleanup, and a number of other related tasks.

**How Many:** During the grant period September 1, 2005 to July 31, 2006, the Western Region Universities Consortium trained 3163 workers in 203 courses for a total of 41,684 contact hours. Courses offered cover the spectrum of hazardous waste site, TSD, emergency response, haz/mat transportation and hazard communication courses as well as other courses specific to particular occupations. Courses were offered throughout EPA Regions IX and X including the Pacific Islands and along the US/Mexican border. The trainee population was approximately 46% white, 12% Hispanic/Latino and 17% Native American/American Indian.

**A Report on Latino Immigrant Labor During the Katrina Response:** The NIEHS Western Region Universities Consortium (WRUC) has long had an emphasis on reaching Spanish speaking workers. After Katrina, this perspective helped NIEHS address the health and safety concerns of Latino immigrant day laborers on the Gulf Coast. NIEHS provided supplemental funding to WRUC investigator Tomás Aguilar who, in collaboration with UCLA and the National Day Laborers' Organizing Network (NDLON), assessed hazards facing these day laborers; developed recommendations for health and safety initiatives including training programs, and provided this information to NIEHS and other agencies, including the Mexican consulate. The report, in Spanish and English, has been posted on the NIEHS National Clearinghouse website and distributed to NIEHS grantees and collaborators and to organizations interested in addressing the health and safety needs of Latino immigrant workers. The report can be found at [http://www.wetp.org/wetp/public/hasl\\_get\\_blob.cfm?ID=3867](http://www.wetp.org/wetp/public/hasl_get_blob.cfm?ID=3867)



# American Federation of State, County, and Municipal Employees (AFSCME)



AFSCME trained collapsed structure team.

**Who They Are:** The American Federation of State, County, and Municipal Employees (AFSCME) represent over 1.4 million public service and health care workers.

**Who Benefits:** Road, bridge, water sewer, wastewater treatment, sanitation, other public works, public safety and security, health care workers, social services, schools and higher education employees, administrative staff.

**How Many:** Between September 1, 2005 and July 31, 2006 ATEI delivered 111 courses to 1695 trainees for 9280 total contact hours. They have conducted training in 12 different states, from Hawaii to

Louisiana to New York. They continue to offer a broad selection of courses ranging from basic Hazard Communication classes (in both English and Spanish) to 40-hour HazMat Technician programs with extensive hands-on training. They also address the demand for training in related support topics such as confined space entry, trenching and excavation, and work zone safety and traffic control.

**Confined Space Training in New York:** Confined space refers to a space which has limited openings for entry and exit, unfavorable natural ventilation which could contain or produce dangerous air contaminants, and/or physical hazards related to engulfment or collapse. Scores of workers die every year in confined spaces. In addition, there are numerous examples of co-workers and emergency response workers becoming overwhelmed when trying to rescue workers in confined spaces.

AFSCME trainers had a unique opportunity to witness changes that were made by the NY Dept. of Environmental Conservation (DEC) as a result of training they provided. Trainers conducted a confined space awareness course in October, 2005 for employees in several of DEC's regions in the eastern part of New York. The same trainers returned six months later to conduct hands-on training using confined space entry equipment for the same employees.

Participants described how the October program had enabled them to understand and correct the deficiencies in their confined space program. By April, DEC staff had sent air monitors to the manufacturer for recalibration helping to assure their proper operation; recertified retrieval devices for rescue as required by the manufacturer; purchased additional entry equipment; and revised their written program.

The training combined with these DEC actions helps to ensure that safe and adequate equipment is available for use during confined space entry and that affected employees know how to use it. This is critical for protecting workers in confined spaces.

## For More Information:

AFSCME Training and Education Institute  
1625 L Street, NW  
Washington, D.C. 20036

Phone: (202) 429-1233  
Fax: (202) 223-3255

Website: <http://www.afscme.org/issues/73.cfm>

**NIEHS Hurricane Response Initiative**  
**Hazard: Confined Spaces**

**What is a Confined Space?**

- Space with limited access
- Large enough for bodily entry
- Not designed for occupancy
- Example: sewers/storm drains

**What are the hazards?**

- Oxygen deficiency
- Entrapment
- Engulfment
- Hazardous atmosphere

**Your Safety Officer Must Approve Confined Space Entry!!!!**

**WORKER EDUCATION & TRAINING PROGRAM**  
Version 11 - 10/27/05

**NIEHS Hurricane Response Initiative**  
**Hazard: Confined Spaces**

The following must be done before you enter a confined space. Your supervisor must:

- Make sure you and the attendant are trained.
- Ventilate and monitor for hazardous atmosphere.
- Lock out or tag out all power equipment in the space.
- Issue appropriate PPE, possibly including self-contained breathing apparatus (SCBA).
- Establish barriers to external traffic such as vehicles and pedestrians.
- Provide ladders or similar equipment for safe entry and exit in the space.
- Provide good communications equipment and alarm systems.
- Have rescue equipment and trained rescue personnel nearby.

**WORKER EDUCATION & TRAINING PROGRAM**  
Version 11 - 10/27/05



## *A Portfolio of Charts About the Hazardous Waste Worker Training Program*

<b>Hazardous Waste Worker Training Program Nineteen-Year Training Summary for Budget Period 09/01/1987- 07/31/2006</b>			
<b>Year</b>	<b>Total Courses</b>	<b>Total Workers</b>	<b>Total Contact Hours</b>
1988	623	12,319	261,542
1989	1,353	29,827	551,832
1990	5,175	123,358	2,120,390
1991	2,794	58,637	878,673
1992	3,173	65,000	1,100,381
1993	2,751	56,000	789,226
1994	4,083	65,716	1,102,234
1995	4,682	81,245	1,391,440
1996	4,778	73,724	1,087,919
1997	4,231	79,976	1,041,792
1998	4,840	84,261	1,091,932
1999	3,981	74,013	956,251
2000	4,124	75,155	984,350
2001	4,806	79,710	1,031,394
2002	5,298	93,996	1,098,503
2003	5,586	95,265	1,132,682
2004	7,054	124,127	1,222,333
2005	7,663	130,837	1,211,824
2006	6,696	111,872	1,159,651
<b>TOTAL</b>	<b>83,691</b>	<b>1,515,038</b>	<b>20,214,349</b>



**IUOE HazMat Training.**

<b>NIEHS Worker Education and Training Awards</b>					
<b>For Budget Period 09/01/2005-08/31/2006</b>					
<b>AWARDEE</b>	<b>HWWTP 9/05 AWARD</b>	<b>HDPT 9/05 AWARD</b>	<b>SBIR 9/05 AWARD</b>	<b>MWTP 9/05AWARD</b>	<b>9/05 TOTALS</b>
University of Alabama Birmingham	535,380				535,380
International Chemical Workers Union Council	2,027,311	130,278			2,157,589
International Association of Fire Fighters	728,437	280,812			1,009,249
International Brotherhood of Teamsters	1,617,780	250,747			1,868,527
University of Massachusetts, Lowell	1,079,551				1,079,551
Western Region Universities Consortium	1,187,357	217,103			1,404,460
Laborers-AGC Education and Training Fund	3,462,210	362,445			3,824,655
United Steelworkers of America	1,374,156	459,515			1,833,671
HMTRI Kirkwood Community College	612,745				612,745
Service Employees International Union	507,901				507,901
University of Medicine & Dentistry of New Jersey	994,934	191,412		560,000	1,746,346
International Union, United Auto Workers	735,258				735,258
International Union of Operating Engineers	1,083,662	171,540			1,255,202
University of Cincinnati	1,645,806				1,645,806
Center to Protect Workers' Rights	1,549,962	434,353		759,435	2,743,750
Dillard University				1,240,000	1,240,000
AFSCME Training and Education Institute	624,820				624,820
OAI, Inc.	674,106			940,565	1,614,671
Y-Stress, Inc.			200,000		200,000
CHI System			99,953		99,952
Metamedia			99,992		199,990
Advanced Technologies & Laboratories International			199,990		96,728
Cyntelix, Inc.			96,728		100,000
Amethyst Research			100,000		99,592
<b>TOTAL</b>	<b>20,441,376</b>	<b>2,498,205</b>	<b>796,263</b>	<b>3,500,000</b>	<b>27,235,844</b>



IBT training photograph.

<b>HWWTP COURSE DATA BY EPA REGION FOR BUDGET PERIOD 09/01/2005 - 07/31/2006</b>			
<b>EPA REGION</b>	<b>COURSES COMPLETED</b>	<b>WORKERS TRAINED</b>	<b>CONTACT HOURS</b>
Region 1	270	4,940	65,733
Region 2	1,621	26,601	228,402
Region 3	356	5,677	90,256
Region 4	774	11,958	110,053
Region 5	1,881	35,551	313,286
Region 6	332	5,137	34,716
Region 7	643	9,705	144,928
Region 8	123	1,947	19,144
Region 9	440	6,886	107,000
Region 10	254	3,404	45,077
Region 12	2	66	1,056
<b>TOTAL</b>	<b>6,696</b>	<b>111,872</b>	<b>1,159,651</b>

<b>NIEHS WORKER EDUCATION AND TRAINING AWARDS TOTAL TRAINING FOR BUDGET PERIOD 09/01/2005-07/31/2006</b>			
<b>AWARDEE</b>	<b>COURSES COMPLETED</b>	<b>WORKERS TRAINED</b>	<b>CONTACT HOURS</b>
Western Region Universities Consortium	203	3,163	41,684
International Association of Fire Fighters	22	456	35,520
University of Medicine & Dentistry of New Jersey	1,056	18,350	139,800
International Union of Operating Engineers	778	15,432	193,182
United Steel Workers of America	558	8,980	73,797
University of Massachusetts, Lowell	90	1,223	20,446
International Chemical Workers Union Council	166	2,421	24,736
University of Cincinnati	920	18,988	111,230
University of Alabama Birmingham	251	5,368	28,563
Laborers-AGC Education and Training Fund	384	4,061	97,606
International Brotherhood of Teamsters	273	3,682	44,933
Service Employees International	93	1,343	11,834
International Union, United Auto Workers	115	1,794	10,140
Center to Protect Workers' Rights	153	2,340	49,258
HMTRI Kirkwood Community College	1,354	19,735	226,070
OAI, Inc.	169	2,841	41,572
AFSCME Training and Education Institute	111	1,695	9,280
<b>TOTAL</b>	<b>6,696</b>	<b>111,872</b>	<b>1,159,651</b>



# **Section Four**

## **Minority Worker Training Program Summary**

### **TRAINING A NEW ENVIRONMENTAL WORKFORCE**

**Introduction and Overview**

**Our Commitment to New Orleans**

**Dillard University Historically Black Colleges  
and Universities Consortium (Dillard HBCU Consortium)**

**OAI, Inc. (OAI Consortium)**

**New Jersey/New York Consortium**

**Center to Protect Workers' Rights (CPWR)**

**A Portfolio of Charts on the  
Minority Worker Training Program**

**Brownfields Minority Worker Training Program Summary**

## Introduction and Overview

**Introduction:** In our effort to increase the number of under represented minorities in the environmental and construction industries, the NIEHS WETP has achieved remarkable results in communities across the United States. Here, the WETP Brownfields and Minority Worker Training Programs (BMWTP and MWTP) connect local residents who live near contaminated industrial sites, often called Brownfields, with valuable job training, and local community based organizations and developers with these now highly-trained workers. The training has reached more than 6,200 people - workers who are now licensed and qualified to work on hazardous cleanup sites in approximately 22 cities - from Los Angeles to Boston. Their skills range from basic construction to air monitoring to asbestos and lead abatement. By providing the technical and life skills courses that can lead to a stable career, this program has given these trainees an opportunity to change their lives and their communities. And with the overwhelming majority now working, paying taxes, and contributing to their neighborhoods, they are taking full advantage of this opportunity. Since inception, the MWTP awardees have successfully trained 3,499 young adults over the eleven years in worker health and safety for construction and environmental cleanup work. The overall job placement rate is 67% for a total of 2,346 trainees employed. The majority of the trainees are male at 82% with females at 18% . The BMWTP has successfully trained 2,751 trainees over a nine year period. The overall job placement rate is 67% for a total of 1,840 trainees employed. Highlights of the MWTP and a summary of the BMWTP program are detailed in this report.

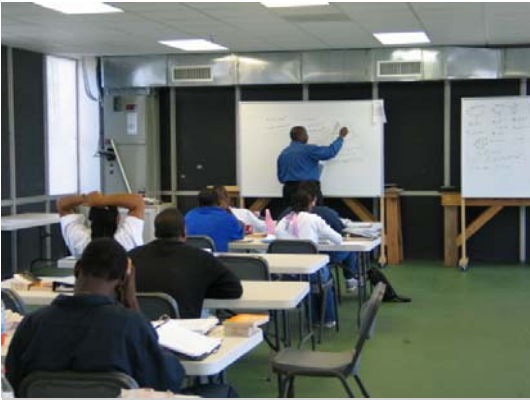


OAI Chicago asbestos training.

### **Minority Worker Training Program – Eleven Years of Training New Environmental Workers:**

The awardees for the Minority Worker Training Program have just completed their first year of new 5 year award cycle. The Dillard University Historically Black Colleges and Universities Consortium (Dillard HBCU Consortium), the Center to Protect Workers' Rights, OAI Consortium, and the New Jersey/New York Consortium trained individuals in New Orleans and Baton Rouge, LA; Savannah, GA; Biloxi/Gulfport, MS; Oakland, CA; Baltimore, MD; New York, NY; Chicago, IL; Washington, DC; Houston, TX. New programs have been started in Biloxi/Gulfport, MS; and Savannah, GA under the Dillard HBCU Consortium. Each of the 10 programs offered a diverse array of environmental remediation, life skills and construction courses to assist each individual in obtaining jobs in the environmental remediation and construction industries. For this period, a total of 333 individuals were trained and 236 of them obtained employment for a job placement rate of 71%. The program awardees conducted 222 courses and a total of 107,815 contact hours of training. As compared to previous years of job placement at 84% in 2004 and 74% in 2005, the lower job placement rate this year is attributed to the Dillard HBCU and OAI Consortium programs in Biloxi/Gulfport, MS and Houston, TX. These programs experienced significant challenges due to devastation of Hurricane Katrina and the problems with recruitment and retention of Katrina victims. Remarkably the Baton Rouge and New Orleans, LA programs achieved excellent job placement primarily because of the strong leadership of the principal investigator and the program managers of those sites.

The major accomplishments of each awardee are described in the following section.



Photographs: Dillard HBCU Consortium and USW training and rebuilding after Katrina.

## ***OUR COMMITMENT TO NEW ORLEANS***

NIEHS WETP Commitment to New Orleans is ongoing. Shortly before Hurricane Katrina, NIEHS WETP made a five year Minority Worker Training Program award to the Dillard University Deep South Center for Environmental Justice, located in New Orleans and part of the Historically Black Colleges and Universities Consortium (HBCU). Minorities are under represented in the fields of environmental cleanup and construction. The program seeks to change this by recruiting and training low income residents, often young men and women, so that they can successfully pursue such careers. This effort continues. Yet after Katrina, many residents were displaced, their homes and neighborhoods destroyed or severely damaged. NIEHS WETP was able to provide additional supplemental funding to HBCU members Dillard, Southern University in Baton Rouge, and Texas Southern to train displaced New Orleans residents. In addition, in New Orleans, workers from small, minority-owned businesses conducting cleanup activities and community residents who are in the process of rebuilding their homes received training. What does it mean to rebuild? It means not only addressing house remediation issues but also addressing the very soil, contaminated soil, upon which the house sits. In a unique "bootstrap" program entitled Safe Way Home, Dillard in collaboration with the United Steelworkers Union, trained local residents to undertake such tasks - their safety and health training supported with NIEHS WETP funds.

Another example of individual success comes from a former graduate of the Dillard program which was originally housed at Xavier University. Shortly after Katrina, Tracy Johnson, a graduate from year 2 of the program, applied for and received his contractor's license and formed his own company, Shantra, LLC and Cut Masters, LLC, hiring some of his fellow trainees to make up his work crew. He began to solicit work and to compete for contracts. One of the contracts he secured was for the clean up of a local university's campus – Xavier University, where his dream for a better life began. Tracy put his effort into making that job one of his best. It was with great pride that he told his former instructors at the DSCEJ about securing that contract and completing the work for Xavier.



**Shantra and Cut Masters: A Small Business Success Story!**

# Dillard University Historically Black Colleges and Universities Consortium (Dillard HBCU Consortium)

The Deep South Center for Environmental Justice (DSCEJ) at Dillard University in New Orleans in partnership with the Environmental Justice Resource Center at Clark Atlanta University (CAU/EJRC) in Atlanta, GA, and in collaboration with Southern University in Baton Rouge (SUBR), the Citizens for Environmental Justice (CFEJ) in Savannah, GA, the Center for Environmental and Economic Justice (CEEJ) in Biloxi, MS, and minority-owned and institutional based training providers, implemented the first year of the five year award. Each of the 4 program sites targeted 20 students for a total enrollment of 80 students. Specific training accomplishments for each program site are described below.



## East Baton Rouge (EBR) Minority

**Worker Training Program:** They targeted East Baton Rouge parish residents, including those displaced from the greater New Orleans area. Six weeks of basic skills training was followed by technical training in Mold Remediation (24 hours), Hazardous Waste Worker (40 hours), Lead Abatement (24 hours), Asbestos Abatement (32 hours) and Construction (40 hours) with an additional 8 hours of OSHA Construction Safety. Construction was conducted at DSCEJ's training facility. All other technical training was conducted on Southern University's campus. All training was hands-on training that emphasized OSHA regulations and focused on safe work practices.

**Savannah Minority Worker Training Program:** Residents were targeted from the predominately African American communities in the Hudson Hill area. Five weeks of basic skills training were conducted at CFEJ's training facility, followed by technical training that consisted of Hazardous Waste Worker (40 hours) with an additional 8 hours of Confined Space, Lead Abatement (24 hours), Asbestos Abatement (32 hours), Mold Remediation (24 hours) and Construction (40 hours). All training was hands-on training that emphasized OSHA regulations and focused on safe work practices.



Dillard student donning PPE.

## Biloxi/Gulfport Minority Worker Training Program:

The program targeted residents from Ward 2 in Biloxi and District 4 in Gulfport, both of which are situated in close proximity to military installations, and both of which have sustained negative environmental impact through the years from those facilities. Four weeks of basic skills training (abbreviated due to Katrina) were followed by technical training that included Hazardous Waste Worker (40 hours), Lead Abatement (24 hours), Asbestos Abatement (32 hours), Mold Remediation (24 hours) and Construction (40 hours) with 8 hours of OSHA. All training was hands-on training that emphasized OSHA regulations and focused on safe work practices.



**Mississippi River Chemical Corridor (MRCC) Minority Worker Training Program:** They targeted displaced residents from the greater New Orleans area living in the Baton Rouge area. Six weeks of basic skills training was held at the DSCEJ training facility. Technical training included Hazardous Waste Worker (40 hours), Lead Abatement (24 hours), Asbestos Abatement (32 hours), Mold Remediation (24 hours) and Construction (40 hours) with an additional 8 hours of OSHA. All technical training segments were held at the DSCEJ's training facility, and included hands-on training that emphasized OSHA regulations and focused on safe work practices.

At each site, a job developer, under the supervision of job placement specialist Jerry Magee, worked to place graduates. Placement was targeted to contractors Boh Brothers, Eagle Environmental, Philip & Jordan, and EE & G because of their Katrina cleanup contracts. For example, Philip & Jordan and EE & G hired trainees as debris monitors as well as environmental technicians, and Boh Brothers, a major local construction company, has proved itself to be the most reliable source of employment in the construction field.

**Program Job Placement Rates:** In Baton Rouge, seventeen (17) of the twenty-one (21) trainees were placed in jobs ranging from laborer at \$6.50 per hour to asbestos abatement worker at \$22.92 per hour (81% placement rate). In Savannah, sixteen (16) of the twenty-one (21) trainees were placed in jobs ranging from general construction at \$8.00 per hour to heating/air conditioning installer at \$15.00 per hour (81% placement rate). In Biloxi/Gulfport, thirteen (13) of the twenty-three (23) trainees were placed in jobs ranging from construction worker at \$10.00 per hour to mold abatement worker at \$12.00 per hour (57% placement rate). (In Biloxi/Gulfport, there were extenuating circumstances surrounding placement due to difficulty in staffing their job developer position and competition for workers from the resurgent gaming industry.) In New Orleans, eighteen (18) of the twenty (20) trainees were placed in jobs ranging from laborer at \$8.00 per hour to hazmat technician at \$11.00 per hour, for a ninety percent (90%) placement rate. The overall placement rate for all programs is seventy-seven percent (77%).



A practical math class in Baton Rouge.

## OAI, Inc. (OAI Consortium)

The OAI Consortium is composed of OAI, Inc. (OAI), the primary grantee, and program operator in Chicago and New York City (Bronx); Wheeler Creek Community Development Corporation (WCCDC) in Washington, DC, and Make Ready, Inc. (MRI), in Houston. The overall goal of the OAI Consortium's is to foster economic improvement, environmental awareness and stewardship in individual participants as well as in the community by providing sustainable employment. While adhering to the MWTP model, courses are customized to the region and industry needs. The program gives participants an opportunity to engage in lifelong learning as well as prepare for career track positions, apprenticeships, and entrepreneurship. The Consortium links minority-led environmental and community-based organizations with union-based apprenticeship programs, and academic and technical training programs, as well as with local employers and contractors.



Chicago Construction Shop Class.

During this eleven-month reporting period, the Consortium members collectively enrolled 137 students, graduated 99, and placed 85 in environmental remediation, construction, and other fields. New training courses such as construction hands-on and ecological restoration, additional life skills, professional development workshops and expanded employer connections with local unions highlighted the year. Graduates currently working earn an average of \$15.00/hour. Benefits vary depending on the position. The minimum wage earned is \$11.00/hour, while the maximum is \$17.09/hour.

**Chicago:** Through a partnership with the Chicago Department of Environment, all MWTP graduates were offered paid on-the-job training and an opportunity to acquire additional skills in electronic recycling and computer refurbishing at the new state-of-the-art, City-of-Chicago Goose Island Recycling facility. 19 graduates received an hourly rate and support services totaling \$11.00 an hour at this facility. 9 students have been placed in lead abatement, construction and environmental remediation jobs. An additional 19 other students have also acquired employment for a total of 37 students placed (80% of enrollees).

**New York City:** OAI initiated a strategic partnership with the New York City Housing Authority (NYCHA) and successfully launched an exclusive outreach, recruitment and enrollment effort to Bronx public housing residents. In its first year, the NYCHA Resident Employment Services (RES) division participated in the outreach and recruitment component and audited training flow and placement results. NYCHA agreed to provide pre- and post-support services, suitable program training space, office furniture, equipment and supplies for OAI's program and administrative staff, and placement assistance through its Construction Management Build Apprenticeship Program. NYCHA contributed additional support by providing office and training space and administrative support, instructional supplies and student transportation. The outreach, recruitment and training of 21 NYCHA residents resulted in 15 completing the program. All 15 of enrollees are currently placed. New York City's strong local economy is expected to result in favorable future placements. The overwhelming success of this year's training culminated with a VIP graduation at NYCHA's Headquarters, attended by NYCHA and City of New York officials, building trade union leaders, families and friends, all of whom pledged to fully support and help the MWTP.

**Washington:** The OAI Consortium engaged the Wheeler Creek Community Development Corporation (WCCDC), as a new partner in 2005-2006. WCCDC is a non-profit agency serving residents with the greatest need in Southeast Washington, DC through the development of social, economic and affordable housing opportunities. The program met its enrollment goal of 30 and graduated 20. Placement activities are still in progress though 7 graduates are currently placed in companies that participate in Department of Labor-approved apprenticeship education and training programs, mostly with the Sheet Metal Workers and Laborers, and 3 students are working in additional fields.

**Houston:** During this first year as a member of the OAI Consortium, Make Ready, Inc (MRI) recruited and enrolled 40 community residents in two training cycles. Through two cycles of training, a total of 40 students were enrolled, 33 students completed training and 20 are placed in work. Most of the trainees (16) are employed in the hazardous materials, environmental and construction industries. The Houston Area Safety Council, a 40,000 sq. ft state-of-the-art licensed training facility, and NATEC of Texas, a leading certified trainer with multi-state licensing and training capacity, conducted the Environmental Health & Safety training for the program.



NYC recruitment class.

## UMDNJ New Jersey/New York Consortium

Headed by the University of Medicine and Dentistry of New Jersey - School of Public Health, the specific goal of the consortium is to recruit young adults from economically disadvantaged communities in New York City for a 17-week pre-apprenticeship program in the fields of environmental remediation and construction skills. The program, further, seeks to provide comprehensive ongoing social and academic support through partnerships with four community-based organizations. Lastly, the program works with its graduates to secure meaningful, living-wage employment in the environmental and construction fields. The primary training provider and administrator for this program is the New York City District Council of Carpenters Labor Technical College. The consortium is also comprised of several community based organizations that participate in recruitment, mentoring and counseling. The program also addresses the academic, social, interpersonal, and professional challenges faced by their students so that they are not only trained to enter the workforce, but also to succeed in it.



**Hazardous Materials Training New Jersey/New York Consortium.**

The consortium uses a competitive testing and try-out method for admitting students into the program. This year, 117 potential students were tested of whom 82 were qualified to participate in the try-outs. 31 students were enrolled in the program and of these, 28 graduated, a rate of 90.3%. The participants completed a total of 16,985 contact hours of training. Thirteen students have been accepted into the New York City Carpenters Union; eight have been accepted into Laborers Locals 12A and 78, which specialize in hazardous materials abatement. Other graduates are employed as a mail handler supervisor for FedEx as a manager, and two are working in retail operations. A total of 24 students were employed.

Several curricular enhancements were also made during 2005-2006 that developed into innovations in training:

- As part of their physical fitness program, five sessions of nutritional guidance were added.
- An Introduction to Construction series of workshops was added to the Life Skills/Career Guidance component, which exposed students to more in-depth information about workplace practices in the building trades.
- A 35-hour blueprint reading course was included to enhance the shop component of the class.
- The environmental justice curriculum was expanded by adding a full-day environmental justice workshop.
- A full-day diversity awareness workshop was added to the life skills curriculum.
- A 35-hour introduction to welding class was added as a post-graduation supplement for students.

## Center to Protect Workers' Rights (CPWR)

The Center to Protect Workers' Rights (CPWR) administered the program in cooperation with three community-based: East Baltimore Community Corporation, Baltimore, MD; Louisiana Regional Carpenters Apprenticeship Trust Fund, New Orleans, LA; and Oakland Private Industry Council/Cypress Mandela WIST Center, Oakland, CA. Each year, the consortium targets 70 disadvantaged individuals for training to become gainfully employed environmental remediation workers and general construction workers. This year the consortium trained 80 residents for approximately 22,046 contact hours of training including life skills, construction and environmental remediation courses. Seventy-eight (78) trainees graduated and 62 graduates were gainfully employed in construction, construction-related and environmental cleanup jobs earning an average wage of \$13.48/hour. Of the 62 job placements, 10 were environmental, and 45 were construction.



CPWR respirator training exercise.

Each site accomplished the following: Baltimore: trained 24, graduated 24, placed 19; New Orleans: trained 31, graduated 29, placed 20; Oakland: trained 25, graduated 25, placed 23.

Average wages earned among 62 job placements were \$13.48 per hour with Baltimore at \$9.19/hour, New Orleans at \$14.60/hour, and Oakland \$16.64/hour.

Through the First Source Hiring Initiative, the Baltimore MWTP secured 10 jobs with Johns Hopkins' new construction project and with the East Baltimore Development Inc.'s Bio Tech Redevelopment Project.

New Orleans MWTP developed a truncated training plan in response to the unique circumstances of the Post-Katrina work environment. Two training tracks were established to allow trainees to move quickly into available environmental and construction jobs. Track I was established as a one-week environmental training. Track II was designed as a three-week training which included environmental and construction components. Two training cycles of the truncated model were successfully implemented. New Orleans MWTP also met its goal to outreach beyond Orleans parish. Students were enrolled from Orleans, East Baton Rouge, Jefferson, Houma, St. Tammany and Terrebonne parishes.

In Oakland, the Cypress Mandela WIS Training Center (Cypress Mandela) was the recipient of the National Exemplary Public Interest Contribution (EPIC) Award from the U.S. Department of Labor. This award honors organizations "that are typically formed to help individuals with the least opportunities find and retain employment and are often aligned with federal contractors to further Equal Employment Opportunity in the workplace." This was followed by local television coverage of the center and its trainees. This publicity created recognition of the program outside of the West Oakland area and applicants applied to the training center from numerous cities in northern CA.

## A Portfolio of Charts on the Minority Worker Training Program

NIEHS MINORITY WORKER TRAINING PROGRAM EIGHT-YEAR SUMMARY OF TRAINING FOR BUDGET PERIOD 09/01/1996-07/31/2006			
YEAR	STUDENTS TRAINED	PLACED IN JOBS	PERCENTAGE OF STUDENTS PLACED IN JOBS
1996	368	246	67%
1997	310	193	62%
1998	240	154	64%
1999	360	233	65%
2000	364	244	67%
2001	342	204	60%
2002	334	222	66%
2003	310	190	61%
2004	261	219	84%
2005	277	205	74%
2006	333	236	71%
<b>TOTAL</b>	<b>3,499</b>	<b>2,346</b>	<b>67%</b>



CPWR training in New Orleans after Katrina.

**NIEHS MWTP  
WORKER EDUCATION AND TRAINING AWARDS  
TOTAL TRAINING FOR BUDGET PERIOD 09/01/2005-07/31/2006**

<b>AWARDEE</b>	<b>COURSES COMPLETED</b>	<b>STUDENTS TRAINED</b>	<b>CONTACT HOURS</b>
University of Medicine & Dentistry of New Jersey	15	31	16,985
Center to Protect Workers' Rights	51	80	22,046
OAI, Inc.	82	137	35,271
Dillard University	74	85	33,513
<b>TOTAL</b>	<b>222</b>	<b>333</b>	<b>107,815</b>

**NIEHS/EPA MINORITY WORKER TRAINING PROGRAM:  
DEMOGRAPHICS  
FOR BUDGET PERIOD 09/01/2005-08/31/2006**

<b>STUDENTS</b>	<b>333</b>					
<b>AGE</b>	<u>18-25</u> 179	<u>26-35</u> 89	<u>36-45</u> 40	<u>46-55</u> 20	<u>56+</u> 5	
<b>ETHNICITY</b>	<u>BLACK</u> 294 (88%)	<u>HISPANIC</u> 24 (7%)	<u>ASIAN</u> 6 (2%)	<u>AMERICAN INDIAN</u> 0 (0%)	<u>PAC. ISLANDER</u> 1 (0%)	<u>Other</u> 8 (2%)
<b>GENDER</b>	<u>MALE</u> 272 (82%)			<u>FEMALE</u> 61 (18%)		
<b>EDUCATION</b>	<u>HS DIPLOMA</u> 194 (58%)		<u>GED</u> 90 (27%)		<u>NO GED</u> 49 (15%)	
<b>UN OR UNDER EMPLOYED<sup>1</sup></b>	<u>UN</u> 284 (85%)			<u>UNDER</u> 49 (15%)		

<sup>1</sup>Employment status at entry into the program

**NIEHS MWTP  
SUMMARY OF TYPE AND NUMBER OF COURSES  
FOR BUDGET PERIOD 09/01/2005-07/31/2006**

<b>COURSE NAME</b>	<b>NUMBER OF COURSES</b>
Adult CPR	6
Asbestos Abatement Supervisor	1
Asbestos Abatement Worker Basic	13
Asbestos Abatement Worker Refresher	3
Basic Construction Skills	16
Basic First Aid	8
Basic Math Skills	17
Basic Reading/Writing Skills	10
Basic Superfund Site Worker	18
Basic Welding Skills	1
Blueprint Reading	1
Computer Skills	10
Confined Space	5
Environmental Justice	7
Environmental Preparation	4
Environmental Sampling	1
Gen. Industry Safety	4
General Construction Safety	10
HazMat Training for Infectious Diseases	1
Industrial Emerg. Resp. Awareness	2
Katrina Safety Awareness	8
Lead Abatement Worker Basic	14
Lead Abatement Worker Refresher	3
Life Skills	17
Mentoring/Career Guidance	13
Microbial Remediation: Mold and Mildew	12
Physical Fitness	12
Scaffold	3
Site Worker Refresher	2
<b>TOTAL</b>	<b>222</b>



# Brownfields Minority Worker Training Program Summary

The Brownfields Minority Worker Training Program (BMWTP) broadens the MWT Program to provide comprehensive training to disadvantaged residents and to foster economic and environmental restoration to communities impacted by brownfields. A separate report on this program is issued annually and can be found at [www.niehs.nih.gov/wetp](http://www.niehs.nih.gov/wetp).



The following is a short summary of the program's progress. Currently, there are four BMWTP awardees: OAI, Inc.; Center to Protect Workers' Rights; New Jersey/New York Consortium; and the Hazardous Materials Research and Training Institute.

Since 1998, the BMWTP has successfully trained 2,751 students and secured employment for 1,840 or 67% of the graduates. The Brownfields awardees have done this while continuing outreach to other communities to provide this much needed training opportunities. Wages earned by these workers ranged from \$8.50/hour to an impressive \$35.00/hour. Trainees prior to entering this program were all unemployed or chronically under employed. Now these individuals are employed and giving back to their communities in taxes and community service.

**What is a Brownfield?** As defined by the U.S. Environmental Protection Agency (EPA), Brownfield sites are "abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination." In June 1995, GAO estimated that there were between 130,000 and 450,000 Brownfield sites that will cost more than \$650 billion to clean up. Others have estimated that there are currently 500,000 or more Brownfield sites across the United States and that the cost to clean up these sites is \$600 billion. Additional information on the Brownfields Initiative can be found at <http://www.epa.gov/brownfields/>.

During this period, the four BMWTP awardees provided in depth life skills and environmental training to 303 local residents in 12 Brownfields communities including several communities harmed by Hurricanes Katrina and Rita. Those cities are Boston, MA; Baltimore, MD; East Palo Alto, CA; St. Paul, MN; Kansas City, KS/MO; St. Louis, MO; Dallas, Houston, Port Arthur and El Paso, TX; Glen Cove, NY; and Newark, NJ. Of these, 184 participants are now employed, a 60% employment rate. Overall, a total of 207 courses were offered providing 94,694 contact hours of training. Courses included adult cardiopulmonary resuscitation (CPR), basic math, mold remediation, 40 hour Hazwoper and environmental sampling.

The BMWTP, a collaborative effort between the NIEHS and the US Environmental Protection Agency (EPA) via an Interagency Agreement (IAG), has continued to promote the goals of the EPA Brownfields Program: "to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. "

Support in the amount of \$2,000,000 for the period of September 1, 2005- August 30, 2006 from the US EPA was provided to the NIEHS to administer the program. NIEHS also received \$800,000 through the existing IAG to conduct and fund brownfields and minority worker training activities targeting Hurricane Katrina/Rita communities in Louisiana, Alabama, Mississippi and Texas during 2006.

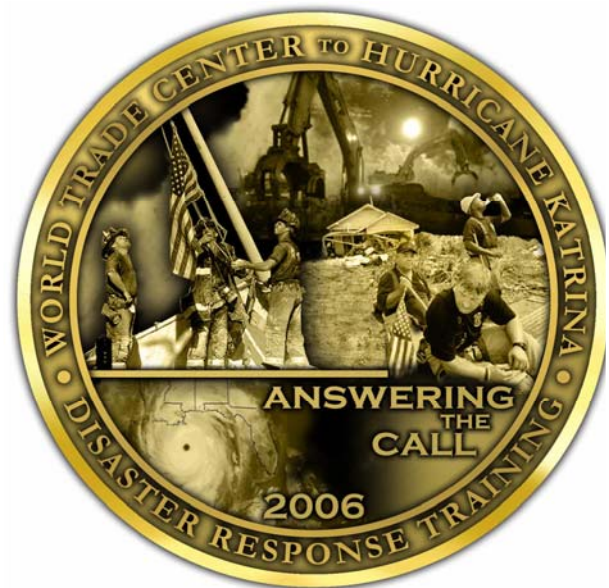


NJ/NY lead abatement exercise.



## Section Five

# HazMat Disaster Preparedness Training Program Summary Including Hurricane Katrina/Rita Emergency Support Activation Plan Training



NIEHS WETP medallion honoring those most responsible for disaster safety and health training from the World Trade Center to Hurricane Katrina.

**Background:** 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 became paramount. Consider the list of hazards they faced: 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 two years 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.

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




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

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.

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.

**In the following section, Katrina/Rita response training conducted under the ESAP will be discussed first, followed by a summary of HDPTP training conducted by each awardee.**



**Worker Safety and Health Training  
Support Annex to the  
Worker Safety and Health Annex.**

**Agency Listing**

Primary Training Support Coordination Agency:

DHHS, National Institutes of Health, National Institute of Environmental Health Sciences (NIEHS), Worker Education and Training Program (WETP).

1. Provides training technical assistance such as instructional staff, curriculum-development experts, subject matter experts, training facilities and professional staff.
2. Provides safety training to worker target populations.
3. Provides assistance and support in the development and delivery of site-specific safety and health training.
4. Provides technical assistance such as respirator fit testing and distribution of PPE.
5. Provides technical information through the National Clearinghouse for Worker Safety and Health Training.

**I. Introduction**

**A. Background**

Upon activation of the National Response Plan, this Worker Safety and Health Training Support Annex is activated in support of the Worker Safety and Health Annex and other Emergency Support Annexes as established by the National Response Plan (NRP) and the National Incident Management System (NIMS). The objectives of the Worker Safety and Health Annex are to address pre-incident planning, guidance, asset coordination, and reach-back capabilities during the response and after-action activities, and to ensure that response command entities, responding organizations, and responders receive appropriate safety and health information and technical assistance.

Responses to WMD incidents involving chemical, biological, and radiological hazards require compliance with the Hazardous Waste Operations and Emergency Response standard codified at 29 CFR 1910.120 while explosive/energetic incidents may require compliance, depending on the hazardous materials to which responders may be exposed. 29 CFR 1910.120 has extensive training requirements for workers and supervisors engaged in activities within the scope of the standard. Three categories are addressed: hazardous materials clean-up operations at 29 CFR 1910.120 (e), RCRA/TSDF sites at 29 CFR 1910.120 (p), and emergency response at 29 CFR 1910.120 (q). In addition, many other potentially applicable OSHA standards may apply.

Worker Safety and Health Training Support Annex to the Worker Safety and Health Annex 1

### **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 disaster site hazards awareness orientation Katrina Power Point presentation (September 1, 2005) followed shortly thereafter by a companion booklet targeting response worker populations 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 WETP worked to activate its training network including initiating supplemental awards to selected grantees during Phase I of the Katrina response (Recovery). When the Annex was activated on October 11, 2005, NIEHS was ready to respond and deployment began. On October 12, the first training team was put in place in Mississippi followed by a team in Louisiana on November 8. A request for supplemental proposals was issued by NIEHS WETP for its Phase II response (Cleanup) in November 2005 and awards were issued in February 2006.



**NIEHS WETP Phase I Response:** The Hazardous Materials Training and Research Institute (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 Power Point briefing developed by the NIEHS Clearinghouse. Trainers adapted that briefing and changed it as necessary following their own hazard assessments. Later it became clear following numerous incidents 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, QA and Inspector Safety awareness training for those who would be inspecting buildings, as well as driving hazard awareness, chainsaw safety and wet debris removal. By mid to late November, they were also providing asbestos awareness and respirator awareness courses. Courses were delivered mainly to FEMA and USACE personnel, as well as their contractors.

Beginning in November, the Center to Protect Workers' Rights (CPWR) had a team of trainers on the ground in Metairie, Louisiana. CPWR provided training requested mostly by FEMA for their personnel and their contractors. Courses included PA (Public Assistance) 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. 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. In December they provided an 8-hour train-the-trainer course to employees of the Louisiana Department of Health and Human Services. They also provided 40-hour HAZWOPER courses for federally deployed personnel.

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. ICWU also trained federally deployed workers in Mississippi .

Additionally, AFSCME provided the Louisiana Department of Transportation with five 8-hour Katrina Safety Awareness/Hazmat awareness courses.

After hearing anecdotal reports as well as media coverage from the Gulf Coast cleanup effort suggesting that working conditions there were even more dangerous than “normal” working conditions for day laborers, the University of California Labor Occupational Safety and Health 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 was 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 contributed to the fact that the health and safety needs of immigrant workers were not met.

Dillard University’s Deep South Center for Environmental Justice (DSCEJ) and the United Steelworkers (USW) union launched a project (funding in part by NIEHS) 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 in New Orleans, replacing the soil with new sod, and disposing the contaminated dirt in a safe manner. Participants included residents and Steelworkers who had received certificate training in Hazardous Materials handling. The project was based in part on an analysis of sediment samples taken by the U.S. Environmental Protection Agency (EPA). The results showed that all but one sample contained at least one chemical at a higher concentration than the Louisiana Risk Evaluation Corrective Action Program (RECAP) screening levels for residential soil.

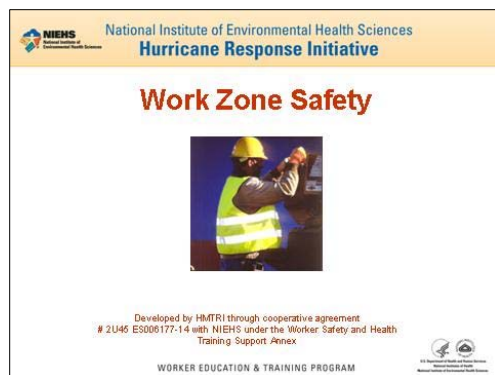
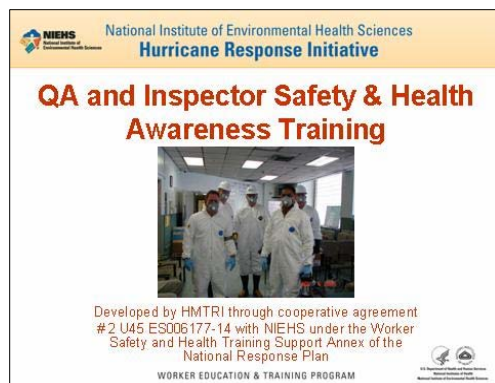


Katrina response workers signing a training attendance list.

Health and Safety training and equipment was provided to all volunteers before starting the Safe Way Back Home project. The program also offered 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.

**Phase II Awards and Final Results:** NIEHS WETP Phase II supplemental awards were made in late February 2006. These were intended to support the longer term Katrina and Rita cleanup efforts and focused primarily on comprehensive traditional classroom training utilizing existing curricula. Many of these programs were modified to include an additional module on Katrina/Rita hazard awareness.

HMTRI’s transition between Phase I and Phase II was seamless. Through its supplemental award, HMTRI continued with and expanded on the training it began immediately following the hurricanes. In total, HMTRI trainers conducted 609 classes for 15,566 workers resulting in 34,845 contact hours of training in



Mississippi, Louisiana, and Alabama.

ICWU had a cadre of its trainers go through an orientation given by HMTRI trainers. ICWU utilized their multi-union consortium to deliver training to federal workers and federal contractors through the Biloxi JFO in Mississippi. In total, ICWU conducted 8 courses for 114 workers in Mississippi.

CPWR continued to provide training in New Orleans, managed through its office in Metairie. CPWR used courses and/or modules to provide training in the following courses: orientation courses (based on the NIEHS Safety Awareness for Responders to Hurricanes: Protecting Yourself Document), 10-hour Construction, Disaster Site Worker, and 40-hr HazWoper. In total, CPWR held 87 courses for 1477 workers for 13,924 contact hours of training in Louisiana.

In Louisiana, IUOE conducted 14 courses for 435 workers resulting in 3912 contact hours of training. This included courses on lead and asbestos, first aid, and general construction safety.

OAI, Inc. conducted training in Louisiana, Mississippi, Alabama and Texas. In total, they conducted 73 courses for 1335 workers for 34,248 contact hours of training. This included courses in asbestos removal for supervisors and workers, mold remediation, and general industry safety.

In Alabama, Mississippi, and Louisiana, UAB conducted 10 courses for 214 workers resulting in 2193 contact hours of training. This included 40 hour hazardous waste worker training and general hurricane response safety training.

NIEHS WORKER EDUCATION AND TRAINING AWARDS EMERGENCY SUPPORT ACTIVATION PLAN PROGRAM TOTAL TRAINING FOR BUDGET PERIOD 09/01/2005-07/31/2006			
AWARDEE	COURSES COMPLETED	WORKERS TRAINED	CONTACT HOURS
University of Alabama Birmingham	10	214	2,193
International Union of Operating Engineers	14	435	3,912
International Chemical Workers Union Council	8	114	710
OAI, Inc.	73	1,335	34,248
HMTRI Kirkwood Community College	609	15,566	34,845
Center to Protect Workers' Rights	87	1,477	13,924
<b>TOTAL</b>	<b>801</b>	<b>19,141</b>	<b>89,832</b>

### ***Katrina Training Summary***

*Under the ESAP, NIEHS WETP grantees conducted in total 801 classes for 19141 workers , representing 89,832 contact hours of training.*

*Also during this period, utilizing regular HWWTP funding, ICWU, HMTRI, UAB, OAI, L-AGC, AF-SCME, and USW conducted, in Mississippi and Louisiana, 105 courses for 2051 workers resulting in 12,697 contact hours of training.*

*Additional Katrina/Rita training under the Minority Worker Training Program was reported on in the previous section.*



**Restoring power after Katrina.**

## HDPTP Grantee Reports

**Center to Protect Workers' Rights (CPWR):** Under this program, CPWR conducted 79 courses for 1309 workers totaling 13568 contact hours of training. 71 of these courses were the Disaster Site Worker Train the Trainer course.

A major focus of the program is the training of construction workers. Since skilled construction workers are necessary on disaster sites, equipping them with the knowledge to avoid exposure to substances or conditions likely to cause disease or traumatic injury will likely yield positive outcomes in future disasters.

Additionally, by educating the construction workforce on how to operate within the emergency responders' incident command systems, both groups will share common work practices that will ensure each other's health and safety on the job.

NIEHS WORKER EDUCATION AND TRAINING AWARDS HAZMAT DISASTER PREPAREDNESS TRAINING PROGRAM TOTAL TRAINING FOR BUDGET PERIOD 09/01/2005-07/31/2006			
AWARDEE	COURSES COMPLETED	WORKERS TRAINED	CONTACT HOURS
Western Region Universities Consortium	21	362	2,876
International Association of Fire Fighters	10	158	3,576
University of Medicine & Dentistry of New Jersey	50	710	11,326
International Union of Operating Engineers	38	598	10,112
United Steel Workers of America	47	783	6,538
International Chemical Workers Union Council	13	201	3,928
Laborers-AGC Education and Training Fund	132	1,304	23,123
International Brotherhood of Teamsters	118	960	4,142
Center to Protect Workers' Rights	79	1,309	13,568
<b>TOTAL</b>	<b>508</b>	<b>6,385</b>	<b>79,189</b>

**International Association of Fire Fighters (IAFF):** As of July 31, 2006, the IAFF HazMat Training Department trained 158 students at 10 locations for a total of 3,576 contact hours. The courses were concentrated in the area of Emergency Response for the Chemical Industry.

During this period, IAFF also updated its curriculum for response to infectious diseases. This course is designed to teach students to respond effectively to incidents of possible infectious disease. Working in teams on case studies during the course, students are active participants in the learning process. They work cooperatively to determine how to respond to the incident and to decide the steps they should take to ensure their own health and safety. The program is geared toward emergency responders who may be called on to provide medical care. Specifically, the course has adopted the new Small-Group Activity (SGA) format that has proven so effective in the IAFF's First Responder Operations course.

The updated Infectious Disease course includes new video segments that were created in conjunction with the IAFF Health and Safety department. In addition to the creation of the video, the Health and Safety department also contributed by providing updates of the latest threats to fire fighters and emergency responders.

**International Brotherhood of Teamsters (IBT)-National Labor College (NLC) Consortium (IBT):** The program focused on the training of rail workers involved in the transport of hazardous materials. 118 safety and security courses were held for 960 rail workers resulting in 4142 contact hours of training. 16 trainers and staff completed the OSHA 5600 Disaster Site Worker Train the Trainer course.

An independent evaluation (Ruth Ruttenburg and Associates, Inc.) of rail training courses was performed through consultation with program staff, union resource staff, and peer trainers who were involved in the development, implementation, and interpretation of evaluation activities with the following results:

*"The Railway Workers Hazardous Materials Training Program is a resounding success." "Initially offering only one course, it now offers four, and has expanded training to include community emergency personnel and underserved populations of rail workers. Training has moved beyond the conventional classroom to include simulation, blended*



*learning and on-line activities. A core of professionally trained instructors has been replaced with a core of peer instructors, and an infrastructure of regional peer trainers has emerged. Programs and materials are now available in Spanish as well as English. A web site has been created, also in English and Spanish, to include course and enrollment information, links to resources, a photo gallery, and an entry portal to the online training course. Because of this Program, thousands of rail workers are trained and tens of thousands of rail workers are working safer and in safer environments."*

***International Chemical Workers Union (ICWU):*** Between September 1, 2005 and July 31, 2006, this consortium delivered 13 courses to 201 health care workers for 3,928 contact hours of training. These workers would be called upon to be First Receivers in the event of an intentional chemical release. and health care trainers who will conduct this training. 127 workers participated in seven full hands-on programs for WMD First Receivers. Five of these programs were taught with a Center staff in Buffalo, New York in cooperation with the Service Employees International Union while the other 2 were conducted for nurses from the American Federation of Teachers. The ICWU's First Receiver equipment was used for SEIU's hands-on program and patient decontamination exercise.

***International Union of Operating Engineers (IUOE):*** Between September 1, 2005, and July 31, 2006, the IUOE provided training to 598 workers under the HDPT Program. Through the 32-Hour OSHA Disaster Site Worker 5600 Train-the-Trainer course, 43 Instructors were trained, and, in turn, 543 members were trained in the OSHA Disaster Site Worker 7600 16-Hour worker course. In the 4-Hour Basic First Aid/CPR course 12 Instructors were trained.

Within the target population, the IUOE currently has 144 authorized Instructors to conduct the OSHA DSW 7600 course. The IUOE has 1,159 IUOE members who have successfully completed the OSHA DSW 7600 course.

IUOE's HDPTP trainers are Hoisting and Portable (H&P) Engineers—heavy equipment operators—and Stationary Engineers who operate and maintain the heating, ventilation, and air conditioning (HVAC) and other systems in commercial, industrial, and institutional buildings. As one student reported:

*"I work with the Michigan Urban Search and Rescue and local responders such as the police and firefighters. We have trained them in the proper use of hand signals. We also have a formal place on the local emergency response team. We have participated jointly with the local first responders in exercises that involve burning, explosives, concrete breaching, hoisting and lifting. Our objective is to certify operators and communicate with them during a disaster."*

***Laborers-Associated General Contractors (Laborers-AGC):*** During this period, Laborers-AGC conducted 114 courses for 1,210 trainees for 22,273 contact hours of training.

The major activity conducted under the HDPTP was the Laborers-AGC response to the hurricanes in the Gulf Coast area of the United States. Within days of Hurricane Katrina, the South Central Laborers' Training Center outside of Baton Rouge was housing displaced workers and training people looking to go to work. Since most people were not able to return to their original jobs, the training fund began training them on skills that would be needed during the cleanup and rebuilding of the homes and businesses. The Southeast Laborers' Training Fund responded to the training needs of members in Alabama affected by the hurricanes as they try to rebuild their lives and communities.

The immediate need of workers in the affected area was OSHA safety and environmental remediation training. Both Laborers' training funds spent the early months after the hurricanes conducting OSHA 10 and 30 hour Construction Safety courses along with other environmental courses such as hazardous waste, asbestos abatement, and microbial remediation.

***University of Medicine and Dentistry of New Jersey NJ/NY Consortium:*** The UMDNJ NJ/NY Consortium has provided 50 courses to 710 workers totaling 11,326 contact hours. New York Committee for Occupational Safety and Health (NYCOSH) NYCOSH provided training to 422 workers

of the Transport Workers Union Local 100 totaling 8,218 contact hours. Their primary targets for the training include jobs that fall into four primary classifications: station cleaners, station agents, maintenance-of-way cleaners, and maintenance-of-way hydraulic/track workers. The University of Buffalo focused on training nursing and technical staff who work in emergency rooms. They held eight 8-hour Operations for Hospital Staff classes for 101 workers for 808 contact hours. Universidad Metropolitana (UMET) held seven courses for 135 participants for a total of 4,090 contact hours. The 40-hour Initial course was held three times in Puerto Rico for a total of 30 workers trained. This included the 32-hour Disaster Site Trainer course and the 16-hour Disaster Site Worker course.

**Western Region University Consortium (WRUC):** WRUC trained 362 workers in 21 courses for a total of 2,876 contact hours. A major focus was seaport security. Here WRUC collaborates in developing training programs with the International Longshore and Warehouse Union (ILWU), the Pacific Maritime Association (PMA), and local government agencies. They trained 5 trainers for this project; 148 Los Angeles/Long Beach ports workers in eleven eight-hour First Responder/Security Awareness courses, and 11 ILWU Coast Safety Committee members in a two-hour First Responder/Security Awareness course for a total of 1,246 contact hours.

As part of this, a ports-specific training manual for watchmen was developed by UCLA-LOSH staff with input from ILWU Local 26, the PMA Training Department and two worker-trainers. The course and accompanying manual combine elements of Cal/OSHA HAZWOPER, DOT transportation and Coast Guard security training requirements tailored to watchmen at the Ports.

**United Steel Workers (USW):** The USW conducted 47 classes reaching 783 students for 6,538 contact hours of training. This included training in response to hurricanes Katrina and Rita such as for workers from chemical plants and refineries. The courses included Katrina Response Safety Awareness; Homeland Security Awareness; and General Industry Safety. They also conducted a safety survey of the shutdown procedures used by refineries as the hurricanes approached. This disturbing report has been used to inform their training while also advising management and workers of the 'near miss' aspects of the shut downs.

**Two Recent Reports that are available on-line at WETP.org:**



## **Learning From Disasters: Katrina Response Safety Safety and Health Training**

**Disaster Response Training  
from WTC to Katrina:  
Five Years of Lessons Learned  
Fall 2006 Technical Workshop Report**



## ***Two New Initiatives for Responder Protection: Avian Influenza and Radiological Dispersion Devices***

**Note:** A full report on these two initiatives will be included in next year's annual report.

### **Avian Influenza Initiative**

Whether or not the deadly bird flu virus H5N1 mutates to a form transmittable between humans, it is already transmittable from birds to humans, killing over 50% of those people contacting the disease. Thus when or if H5N1 erupts in our poultry industry, thousands of workers will be involved in culling and disposal operations.

What is the Focus? To develop safety and health curricula and training materials, to hold train-the-trainer sessions on these materials; and to incorporate these new teams of trainers into the NIEHS WETP Emergency Activation Plan; for health care workers and emergency responders to provide avian and pandemic awareness training.

What Action is being Taken? Supplemental Funding has been provided to four NIEHS WETP awardees.

- To assist in the protection of our nation's poultry workers, International Chemical Workers Center for Worker Health and Safety Education and the United Food and Commercial Workers.
- To reach a larger audience, Kirkwood Community College/Hazardous Materials Training and Research Institute (HMTRI)- a national network of nearly 200 community colleges with skilled trainers in every region of this country.
- For our nation's health care workers particularly nurses, the Service Employees International Union has been funded to modify their existing training modules on Emerging Biological Threats and Personal Protective Equipment to focus specifically on Avian and Pandemic Flu.
- For the protection of our first responders, we have funded the International Association of Firefighters to incorporate Avian and Pandemic flu modules into their Infectious Disease course.

New Partnership: U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). (The lead agency in responding to avian flu.)

### **Radiological Dispersion Device (RDD) Preparedness**

Focus: Again, to develop safety and health curricula and training materials, to hold train-the-trainer sessions on these materials; and to incorporate these new teams of trainers into the NIEHS WETP Emergency Activation Plan

Grantee Involvement: All NIEHS WETP DOE awardees are involved in this effort: Center to Protect Workers Rights; Hazardous Material Training and Research Institute; International Association of Fire Fighters; International Chemical Workers Union Council; International Union of Operating Engineers; Laborers/Associated General Contractors Education and Training Fund; United Steelworkers of America; and the International Brotherhood of Teamsters.

Partnership: Ongoing effort with Department of Energy and with DOE contractors and subcontractors

NOTE: The National Clearinghouse for Worker Safety and Health Training operated by NIEHS contractor MDB, Inc. is playing a key role in developing Avian Flu and RDD training materials.



## Section Six

# Advanced Training Technologies Program Summary



## ***Program Description and Background***

This program focuses on the development of Advanced Training Technology (ATT) products for the health and safety training of hazardous materials (HAZMAT) workers, emergency responders, and skilled support personnel.

In recent years there have been enormous technological advancements in computer-based technologies and applications. These ATT include a wide variety of electronic learning (e-learning) components. Distance learning, electronic classrooms, interactive TV, multimedia, computer-based training, computer-assisted training, virtual reality training simulations, CD, CD-R, DVD and video teleconferencing, among others, have and are being developed and advanced to support expanding training needs and requirements.

NIEHS intends to build on its program experience in environmental safety and health training by stimulating creative Small Business Innovation Research proposals to create ATT products that will support high quality health and safety training for hazardous materials workers, emergency responders, and skilled support personnel. To further enhance our ability to move toward commercialization of ATT products relevant to model safety and health training for hazardous materials workers, emergency responders, and skilled support personnel, this initiative focuses on the development of technology driven commercial products using the Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) program.

### ***The following is a summary of recent SBIR/STTR E-Learning Awards.***

On July 21, 2006, the National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP) made 4 new SBIR Phase I awards, 1 STTR Phase I award, and 1 SBIR Phase II award. These awards were for the development of innovative "e-learning" products for worker safety and health training. These awards total \$849,616.

Effective and economical, these particular electronic learning technologies are aimed at specific training needs identified by the small business applicants often in partnership with other NIEHS WETP awardees. Since September, 2002, the WETP has made 19 SBIR/STTR awards totaling \$2,997,661.

A description of each project is given below along with contact information for the principal investigator.

### **Mobile Just-in-Time Training of Skilled Support Personnel**

Skilled Service Personnel (SSP) support emergency response organizations during an emergency incident involving weapons of mass destruction and include laborers, operating engineers, carpenters, ironworkers, sanitation workers and utility workers. SSP called to an emergency incident rarely have recent detailed training on the chemical, biological, radiological, nuclear and/or explosives (CBRNE) agents or the personal protective equipment (PPE) relevant to the incident. This increases personal risk to the SSP and mission risk at the incident site. Training for SSP has been identified as a critical need by the National Institute for Environmental Health Sciences, Worker Education and Training Program and is consistent with its mission to prevent work related harm from exposure to hazardous materials.

The proposed STTR project addresses this SSP training shortfall by exploiting a new training paradigm called just-in-time training (JITT) made possible by advances in distance learning and cellular telephony. BanDeMar Networks and the University of Medicine and Dentistry of New Jersey (UMDNJ) - School of Public Health (SPH) propose to develop a JITT system for SSP who are called to an emergency incident that will provide secure access to information and short (<5 minutes) incident specific learning modules on

their cell phones about the hazardous agent(s) involved, the PPE needed and general decontamination procedures for the hazardous agent (s). Learning modules will be designed for cell phone user interfaces and incorporate audio, video, interactive simulations, graphics, animation and assessment. Phase I will investigate the feasibility of a JITT system that operates with most current cell phones over all wireless service providers and that integrates with the incident management system. Phase I will also investigate the instructional design of such over-the-air on demand information and learning modules. Prototypical learning modules and wireless functionality will be developed in Phase I to support field tests with 60 individuals involved in emergency response operations and/or attending hazardous materials courses at the UMDNJ-SPH. Written surveys and personal interviews will be done to evaluate the proposed JITT system information entry ergonomics, authentication and training ergonomics and quality of the over-the-air streaming content. The JITT system will help reduce the potential risk of injury and illness for SSP who are responding to emergency incidents. The JITT system also has great potential for providing JITT for other training needs in public health.



In Michigan, Lakeshore Technical College, a member of the NIEHS Midwest Consortium, conducts incident command training.

For more information contact: Cesar Bandera, Ph.D., Principle Investigator, [cesar@bandermar.com](mailto:cesar@bandermar.com)

## **HAZMAT Training Using a Problem-based Methodology and Serious Games Approach**

HAZMAT response teams operate in increasingly cognitively complex, mentally stressing, physically fatiguing, and dangerous environments. Yet training needs to include faster and direct access to new technologies, more operations-level training for first responders, and to provide hands-on and in simulated settings. This Phase I effort will focus on examining feasibility in three areas: 1) training methodology; 2) simulation-games approach to HAZMAT training; and 3) instructional design authoring support. This will support the application of advanced training techniques using advanced technologies to develop expertise through complex problem solving for HAZMAT response teams. This will not only impact the type of training being provided currently but will serve as an important model for other areas of HAZMAT training.

To achieve these goals, a combined research design will include both qualitative and quantitative research methods. The overall goal of this research is to determine the effectiveness of the training package developed using the problem-based and simulation-game (S/G) approach. Methods used will include cognitive task analysis with HAZMAT experts, expert reviews of the training package developed, as well as testing the training package with learners to examine complex problem solving and decision making skills.

The relevance of this project to public health is that providing research-based training methods and technologies that not only improves current HAZMAT response teams' expertise in specific situations related to safety and health, but also provides tools to create or modify training to address new threats by creating training that is adaptable and extensible. By providing HAZMAT response teams with advanced training techniques and technologies, Information in Place, Inc. (IIPI) aims to increase their expertise, response time, and ability to address increasingly complex situations, such as the ones posed by terrorist threats.

For more information contact: Sonny E. Kirkley, Ph.D., Principle Investigator, [sonny@informationinplace.com](mailto:sonny@informationinplace.com)

## **Safety E-Minders**

Y-Stress Inc., with the assistance of the George Meany Center for Labor Studies - National Labor College (GMC - NLC), proposes to create Safety E-Minders. The human mind can only absorb, retain and retrieve so much information. The more repetitions the better. At the same time, "worker training" implies that they have a job to do and cannot constantly be training. Safety E-Minders is a system that will increase retention of in-class and/or online training information using current technologies, including the wireless handheld mobile devices, to reinforce and remind students of the most critical messages or information to keep the workers and community safe and healthy. The delivery methods will include e-mail, text messages, and voice messages received by the students through computers, PDAs (personal data assistants), and/or cell phones. It will utilize the findings based on current research regarding repetition, retrieval practice, and spacing to maximize learning and retention.

For more information contact: Michael Glassic, Principle Investigator, [mglassic@y-stress.com](mailto:mglassic@y-stress.com)

## **Intelligent Tutor for WMD EMS Incident Management**

Stottler Henke Associates Inc. proposes to develop EMS/IM ITS, a suite of simulation-based intelligent tutoring systems and scenarios that will enable practice-based learning of WMD emergency medical services incident management principles and skills, including situation assessment, decision-making, and real-time execution of EMS tasks within an incident command structure. To support practical and economical development of many EMS/IM ITS training scenarios, Stottler Henke will also develop software tools and development methods that enable efficient authoring of new scenarios and adaptation/enhancement of existing scenarios by instructors or subject matter experts, without programming. Stottler Henke will leverage their tutoring system development tools and experience developing tutoring systems for medical training, command and control, and tactical decision-making. The National Incident Management System (NIMS) was mandated to provide a comprehensive, national approach to domestic incident management, so that all levels of government across the nation could work efficiently and effectively together to prepare for, respond to, and recover from domestic incidents. Stottler Henke believes that EMS/IM ITS can contribute to NIMS by providing scenario-based learning of incident management principles for medical first responders, consistent with NIMS, and tailorable via scenario authoring to the specific circumstances and incident management plans of each government organization.

For more information contact: James Ong, Principle Investigator, [ong@stottlerhenke.com](mailto:ong@stottlerhenke.com)

## **"Lessons Learned from Graniteville" DVD**

The long-term objective of the proposed research is to better prepare emergency personnel to more safely and effectively respond to rail accidents involving hazardous materials. Approximately 800,000 shipments of hazardous substances travel daily throughout the United States, frequently through densely populated areas where the consequences of an acute release could result in environmental damage, severe injury, or death. MetaMedia Training has teamed with the Rail Workers Hazardous Materials Training Program to research the effectiveness of using an interactive DVD training tool entitled "Lessons Learned from Graniteville." The DVD will provide peer instructors with an interactive tool to facilitate small group exercises on responding to a freight train derailment involving hazardous materials. The DVD will be based on the Norfolk Southern railroad derailment that occurred in Graniteville, SC in January, 2005. The collision released over 11,000 gallons of chlorine gas, causing nine deaths and injuring hundreds. The DVD will bring this catastrophic accident to life in the classroom as part of a facilitated small group training exercise. Interactive DVD represents a technological innovation over traditional training media. It provides a low-cost approach to providing interactive video simulations in the classroom. The commercial applications for the proposed product are widespread.

The audience for the "Lessons Learned from Graniteville" DVD is large. It includes all first responders, skilled support personnel, and rail workers who may be involved in rescue and clean-up operations. Funding for pro-



curing training materials for first responders is now widely available at the local and state level, and there is currently no product that addresses hazmat rail incidents. The proposed research is relevant to public health due to the increasing level of hazardous materials being transported via rail, and the current lack of adequate training materials for emergency personnel responding to such incidents.

For more information contact: Thomas H. Held, Principle Investigator,  
theld@metamediausa.com

### **Online E-Learning Courses for Hazardous Material Workers (Phase 2)**

The objective of this proposal is to develop a curricula of role specific online e-Learning courses that meet the needs of a diverse workforce of Hazardous Material workers in the transport modalities of: highway, marine, air, rail, and International. This specifically relates to the goals of the Worker Education Training Program and Health Worker 2010. Hypothesis: Online e-Learning can improve mandated workforce Hazardous Material training by increasing individualization, using the web to simplify dissemination, and shortening time-to-competence, while saving costs. Phase I developed and implemented a highly interactive, e-Learning course, HazMat Truck, and supporting systems. Experts and workers have favorably evaluated the streamlined approach, time-savings, and opportunity to practice designed into the course. Phase II proposes to broaden that study in number and occupation and to develop a curricula of courses with interactivity that addresses the needs of workers in all transport modes. Once finalized, courses will be translated to Spanish and test-marketed. Technological innovation will provide: (1) a curriculum of up-to-date, interactive courses that meets diverse needs, (2) a protocol that matches competency needs to course content, (3) analysis of the efficacy of e-Learning for this population, (4) a customization database that can add state, local, and institution specific requirements to the generic courses. The potential commercial outcome will benefit workers and companies. Millions of people in the US are federally mandated to receive workplace Hazardous Material training, yet often they do not receive it due to time, travel, or language. These courses will solve that. Companies responsible for delivering yearly training could save \$1.4 billion per year in the US and ensure valid, up-to-date training, available anytime, anywhere.

For more information contact: Deborah Marmarelli, Principle Investigator,  
dmarmarelli@dcma-us.com

**An Award Winning Program: MetaMedia Training and NIEHS WETP received a 2006 Telly Award for the DVD "Lessons Learned from Graniteville". The Telly Awards recognize excellence in educational media.**



