The Superfund Amendments and Reauthorization Act (SARA) of 1986 (42 USC 9660) gave the National Institute of Environmental Health Sciences (NIEHS) responsibility for initiating the Worker Training Program (WTP). The program funds nonprofit organizations with a demonstrated track record of providing high-quality occupational health and safety training to workers involved in handling hazardous materials or in responding to emergency releases of hazardous materials.

Currently, the NIEHS WTP funds and supports 22 organizations that provide health and safety trainings across the country. Each organization focuses on training activities according to one or more specific program areas that fall under the NIEHS WTP. The NIEHS WTP is also supporting six companies that are part of the Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program. These companies are developing advanced technologies to be implemented in HAZMAT training exercises or HAZMAT-related research efforts.

For more information about the NIEHS WTP, visit https://www.niehs.nih.gov/wtp.

### WTP Training Activities and Program Areas

Separate funding streams have facilitated the implementation of different program areas to address current and emerging worker safety and health issues.

#### Superfund-related activities

- **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, containment, or chemical emergency response. This program is the core component of the NIEHS WTP.

- **HAZMAT Disaster Preparedness Training Program (HDPTP):** Supports the development and delivery of disaster-specific training to prepare workers to respond to natural disasters and possible future terrorist incidents.

- **Environmental Careers Worker Training Program (ECWTP):** Provides job training for disadvantaged and underrepresented workers through delivery of pre-employment and health and safety training in underserved communities.

- **Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program:** Develops e-learning products that support health and safety training of hazardous materials workers, emergency responders, and skilled support personnel; community and citizen preparation and resiliency; and research into the acute and long-term health effects of environmental disasters.

#### Clean-up of nuclear weapons facilities

- **NIEHS/U.S. Department of Energy Nuclear Worker Training Program (DOE):** Provides worker safety and health training for clean-up activities, waste management, and hazardous materials response at DOE nuclear weapons facilities. This program is authorized by the National Defense Authorization Act, Section 3131 (FY 1992) and implemented through an interagency agreement with DOE.

#### Infectious disease activities

- **Ebola Biosafety and Infectious Disease Response Training Program (IDRTP):** Develops and delivers evidence-based infection control practices and hazard recognition training for workers in health care and non-health care settings. NIEHS received $10 million to develop this three-year program (July 2015 – June 2019) from emergency Ebola treatment prevention funds provided by Congress to the U.S. Department of Health and Human Services.
Alabama Fire College

Alabama Fire College (AFC) is funded under the HWWTP and HDPTP. The AFC Workplace Safety Training Program provides training to two worker populations: members and employees of Native American tribes nationwide, and public safety personnel within the southeastern United States. AFC partners with the Native American Fish and Wildlife Society and United South and Eastern Tribes to promote the training to tribal emergency response personnel.


CapeSym, Inc.

Smartphone Simulator for Realistic Radiation HAZMAT and Emergency Response Training

CapeSym is working to develop a smartphone, simulator-based tool for radiation HAZMAT and emergency response training. The smartphone simulator produces a virtual environment where the trainee can explore the operation of a variety of handheld radiation detectors in realistic scenarios involving the presence of radioactive sources, such as gamma and neutron radiation. The smartphone application will emulate a wide range of commercial instruments with different capabilities, limitations, and modes of operation; this application will be designed to allow direct participation of the instructor, both in defining the radiation scenario and assessing the performance of trainees. CapeSym will work closely with the International Association of Fire Fighters (IAFF) to incorporate the application into training programs for HAZMAT and emergency responders.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817548

Cell Podium

Novel Augmented Reality Training System for HAZOPs Training

In collaboration with the Rutgers School of Public Health, Office of Public Health Practice, Cell Podium is working to develop an augmented reality training system for hazardous operations. The training system will consist of physical hazard props and a location-aware mobile phone application that simulates a sensor used by emergency responders confronting potential hazardous gas leaks. The mobile phone application will behave much like a real gas sensor – when held near a simulated leaking barrel, its readings will give the trainee an opportunity to demonstrate recall of safety protocol and exercise judgement on handling the hazard.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817541

Community College Consortium for Health and Safety Training

The Community College Consortium for Health and Safety Training (CCCHST), administered by the National Partnership for Environmental Technology Education (PETE) in partnership with the Hazardous Materials Training and Research Institute, consists of more than 100 community colleges and training partners. CCCHST aims to make worker training nationally available through its member organizations, whose instructors are prepared through a Train-the-Trainer model program.

Under the HWWTP, CCCHST instructors train students, workers, and supervisors to protect themselves and their communities from exposure to hazardous materials encountered during hazardous waste site cleanup, Brownfields redevelopment, hazardous materials transportation, and response to spills and releases of hazardous materials. Through the HDPTP, instructors provide hazardous disaster preparedness training to community college students, technical high school students, and the nation’s first responders, such as those belonging to community or faith-based organizations.

Additionally, CCCHST provides training to DOE contractors and subcontractors at multiple DOE environmental restoration and waste management sites such as, the Oak Ridge Operations, Tennessee; Portsmouth Site, Ohio; Paducah Gaseous Diffusion Site, Kentucky; Savannah River Site, South Carolina; and Pantex, Texas.

CPWR – The Center for Construction Research and Training

CPWR consists of a training consortium of 11 international and national building trades unions that represent workers engaged in hazardous waste work at designated hazardous waste sites nationwide. Under the HWWTP, CPWR provides environmental health and safety training to construction workers from a variety of crafts and organizations, such as electrical workers, asbestos workers and insulators, carpenters, and others. CPWR’s major objective under the HDPTP is to develop a cadre of local skilled construction workers trained in disaster response who may be called on to support first responders in rescue, recovery, and cleanup operations.

For the ECWTP, CPWR offers training to eligible residents in New Orleans, Louisiana; St. Paul, Minnesota; and East Palo Alto, California.

Under the DOE program, CPWR trains construction workers who are called to work on DOE sites in support of hazardous waste operations, facility decommissioning and decontamination, hazardous materials transportation, environmental restoration of contaminated facilities, or chemical emergency response.


D&E Technical, Inc.

Oil Spill Response Using In Situ Burning – E-Learning for Responder Safety and Effectiveness

The D&E Technical group is working to create an e-learning training module for oil spill responders, specifically those using in situ hybridization techniques. The training will be implemented using e-learning applications, and later supplemented by hands-on practice that is specific to the job tasks of these workers. The first phase of the project will include researching and evaluating the effectiveness of various e-learning means to deliver lecture-based content. The second phase of the project will likely focus on combining the e-learning efforts with hands-on training leading to a certification of proficiency for trained individuals.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817562

Duke University

The Duke Infectious Disease Response Training (DIDRT) Consortium is led by Duke University and includes partners at Colorado State University (Fort Collins, Colorado); George Mason University (Virginia), the University of Chicago (Chicago, Illinois), and the University of Louisville (Louisville, Kentucky). The consortium has a mandate to support local and national responses to infectious disease emergencies at these institutions, and to provide training in occupational settings that carry the potential for increased exposure to contaminated materials or infected individuals.

Training is conducted under the IDRTP, and target populations include first responders, custodial service workers, travel and air transport workers, and healthcare and clinical laboratory workers.


Emory University

Under the IDRTP, Emory University trains emergency responders, public health workers, and other frontline healthcare facility workers who are involved in response and follow-up protocols. Emory aims to help workers understand the transmission and spread of infectious diseases in occupational environments, and what measures can be taken to protect them from potential exposure.

To deliver this training, Emory partners with the National Ebola Training and Education Center, the Assistant Secretary for Preparedness and Response Region 4 Ebola Treatment Center, and the Health Resources and Services Administration Region 4 Public Health Training Center.

The Biosafety and Infectious Disease Training Initiative (BIDTI) is operated by a consortium of institutions, including the Indiana University Bloomington School of Public Health (lead), the Harvard T.H. Chan School of Public Health, the Nebraska Biocontainment Unit, and the University of Texas Health Science Center at Houston School of Public Health.

Funded under the IDRTP, BIDTI offers training for first responders, law enforcement, custodial and environmental service workers, transport workers, waste handlers, mortuary workers, occupational health and safety activists, and vulnerable communities. BIDTI training aims to positively impact the health of workers and communities by providing hands-on infection control and preparedness training.


Under the HWWTP and the HDPTP, the International Association of Fire Fighters (IAFF) trains hazardous materials workers and chemical responders, including potential disaster response workers, to protect themselves and their communities from exposure to hazardous materials. This training applies to routine daily work as well as potential disaster response, which may include chemical and radiation emergency response.

Under the DOE program, IAFF targets workers and first responders with a likelihood of responding to assist in emergencies at DOE facilities within a 150-mile radius, resulting in appropriately-trained respondents who may be dispatched to a specific DOE facility via site mutual aid agreements.


The International Brotherhood of Teamsters (IBT) is funded under the HWWTP, the HDPTP, and the DOE program. For the HWWTP and the HDPTP, the IBT Consortium consists of 12 IBT training centers and the Rail Workers Hazardous Materials Training Program, representing nine rail unions. The target population of workers includes remediation and construction workers, truck and rail transportation workers, warehouse workers, and airline workers.

Under the DOE program, the IBT Consortium consists of seven IBT training centers and the Rail Workers Hazardous Materials Training Program. The consortium provides training to a targeted population of workers within the DOE complex, including workers who deliver drums and water to facilities; operate forklifts, tractors, and dump trucks on-site; repair on-site roads; haul contaminated soil; and transport radioactive material by both road and rail.

Under the HWWTP and the HDPTP, the International Chemical Workers Union Council (ICWUC) Center for Worker Health and Safety Education and its nine-member, union-based consortium provides a national multi-union training program to protect a range of collateral duty emergency responders and disaster workers, and works to develop a cadre of worker trainers. Consortium members include: the American Federation of Government Employees, the American Federation of Teachers, the Coalition of Black Trade Unionists, the International Association of Machinists and Aerospace Workers, ICWUC, the Labor Council for Latin American Advancement, the National Council for Occupational Safety and Health, National Nurses United, the United Food and Commercial Workers International Union, and the University of Cincinnati.

Under the DOE program, the ICWUC Consortium delivers training at four DOE facilities: Hanford, Washington; Oak Ridge, Tennessee; Kansas City, Missouri; and Los Alamos, New Mexico. The International Association of Machinists and Aerospace Workers is a significant partner in these efforts, representing members at three of these sites.

Under the IDRTP, ICWUC delivers training to frontline workers who face risk of exposure to patients with highly infectious diseases. Training is conducted with several of the consortia partners listed above, as well as the Association of Environmental and Occupational Clinics; the American Federation of State, County, and Municipal Employees (AFSCME); SEIU Local 1199; and the Midwest Consortium.


The International Union of Operating Engineers (IUOE) National Training Fund (NTF) is funded under the DOE program. The NTF primarily provides training at Hanford, Los Alamos National Laboratory, Idaho National Laboratory, and Oak Ridge National Laboratory, but also reaches out to additional DOE sites. The training population includes peer trainers who are IUOE workers at a DOE site, appointed by their local union training programs, and are existing apprenticeships and journey-level trainers with adult education experience, as well as trainees working at DOE sites or those preparing to work at DOE sites.


Under the HWWTP, the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) works to prevent work-related harm by providing health and safety training to UAW members and members of communities who may face environmental injustices, limited English proficiency, and lack of educational opportunities. UAW and the University of Michigan work together to assure the ongoing high quality of training in existing and new programs.

The priority training population is drawn from chemical emergency response teams, hazardous waste handlers, and workplace joint labor-management committees. Spanish-speaking workers are another target population. UAW has formed a consortium with Macomb International Service Center, Catholic Charities Hispanic Outreach Services, and United Hispanic Workers of Detroit to provide health and safety training. UAW also works with Detroiters Working for Environmental Justice, a community organization serving the inner city, and the Green Door Initiative.

InXsol, LLC

HazPrep Worker Training – Community Risk Profile
InXsol is working to develop a geopersonalized, role-based, all-hazards training activity platform called HazPrep. This platform will integrate worker personal hazard profiles with big data algorithms for community profiles, allowing targeted and personalized training for workers engaged in activities related to hazardous materials, waste generation, removal, containment, transportation, and emergency response. This platform will improve worker health and safety by delivering personally localized risk awareness and mitigation training.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817542

Janus Research Group, Inc.

Advanced Technology for the Improvement of Modular Emergency Radiological Responses Transportation Training (MERTT)
Janus Research Group is working to develop an advanced, mixed reality technology that utilizes mobile platforms to support e-learning of health and safety issues related to hazardous radiological materials for first responders. The proposed technology will leverage software and hardware platforms to improve the Modular Emergency Response Radiological Transportation Training (MERTT), which can be used for more in-depth practical exercises during training, to facilitate refresher training, and provide efficient access to the most up-to-date information when responding to an incident. The group is evaluating two advanced technologies – Bluetooth beacons and augmented reality – to blend virtual and physical worlds to render complex imagery in real-time.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817551

LIUNA Training and Education Fund

Under the HWWTP and the HDPTP, the Laborers’ International Union of North America (LIUNA) Training and Education Fund provides training to help workers identify job site hazards; protect themselves, the community, and the environment; prepare for unanticipated job site incidents; and support disaster response actions. Target populations for training include construction craft laborer apprentices and journey workers, and other construction trades, environmental contractors, and government personnel (when appropriate). Special outreach targets minority, disadvantaged, and non- or limited English-speaking workers.

Under the IDRTP, LIUNA develops and delivers training to workers at risk of contracting infectious diseases on the job or in responding to natural disasters and terrorist attacks. This includes workers involved in emergency response, environmental remediation, demolition and construction workers, and environmental service and sanitation workers. This training is conducted in partnership with organizations such as the Laborers’ Health and Safety Fund of North America, LIUNA National Guard Local 1776, LIUNA Public Employees Department, and the Service Contract Education and Training Trust Fund.

The Midwest Consortium for Hazardous Waste Worker Training (MWC) conducts training under the HWWTP to serve the needs of workers and communities potentially exposed to hazardous materials in nine states: Illinois, Indiana, Kentucky, Michigan, Minnesota, North Dakota, Ohio, Tennessee, and Wisconsin. Consortium members include: the University of Cincinnati (lead organization); the Citizens Environment Alliance; the Environmental Management Institute; ERS International; Fisk University; the Greater Cincinnati Occupational Health Center; the Green Door Initiative; Lakeshore Technical College; the Ohio Environmental Council; the Three Affiliated Tribes; the University of Illinois; the University of Minnesota; the University of Tennessee; and YouthBuild Louisville.

MWC has successfully developed and implemented awareness and preparedness programs for workers at hazardous waste sites and at treatment, storage, and disposal facilities; emergency responders; and underserved communities.


Under the HWWTP and the HDPTP, the New Jersey/New York Hazardous Materials Worker Training Center trains workers on topics related to safety issues during cleanup of hazardous waste sites; issues related to generation, treatment, and storage of hazardous materials; and emergency response. Center members include: Rutgers School of Public Health; CUNY School of Public Health; New Jersey State Police; New York Committee for Occupational Safety and Health; the New York City District Council of Carpenters Labor Technical College; the University at Buffalo; the Universidad Metropolitana; and the World Cares Center.

Under the ECWTP, the center uses focused strategies to recruit, train, and employ underserved residents living in New York City, New York, and Essex and Hudson counties in New Jersey for construction and environmental remediation work.

Under the IDRTP, the center conducts training to prevent and reduce workers’ risk of exposure to Ebola virus and other infectious diseases through their work duties. Target populations include healthcare and non-healthcare job sector workers, such as first responders, allied healthcare workers, hospital workers, transport worker unions involved with maintenance and fleet services, teachers, solid waste workers, municipal workers, and others. This program uniquely identifies nail salon workers as a potential at-risk population for emerging infectious diseases.


The Institute for Disaster and Emergency Preparedness at Nova Southeastern University is funded under the HWWTP and the HDPTP. For the HWWTP, Nova provides new and ongoing on-site preparedness training for maritime employees, including dock workers, ship workers, and their supervisors, as well as safety trainers and law enforcement personnel. Under the HDPTP, Nova partners with a concurrent program, the Hazardous Material Maritime Industry Response Training Safety Initiative, to provide training on hazardous material disaster response preparedness.

OAI, Inc.

OAI HWWTP Consortium partners include: OAI as the lead organization (Chicago, Illinois); Emery & Associates (Illinois); Commonwealth of Kentucky Division of Fire Prevention and State Police; Thomas O. Murdock, Ph.D. (Minnesota); Metropolitan Energy Center (Kansas/Missouri); Cleanslate – The Cara Program (Illinois); YouthBuild USA member organizations (12 states); Boat People SOS (five states); Building Materials Reuse Association (Illinois); Mendez Environmental (Louisiana); and small manufacturers in Illinois. OAI’s HWWTP target training populations include under-funded rural and volunteer emergency first responders; transitional and temporary workers and high school dropouts; and non-union workers, including Hispanic hazardous waste handlers.

OAI ECWTP Consortium partners include: OAI (Chicago, Illinois); City Square (Dallas, Texas); and Metropolitan Energy Center (Kansas City, Missouri). The OAI ECWTP assists unemployed African-Americans, Hispanics, women, ex-offenders, and veterans who face multiple barriers to employment in Chicago, Illinois; Dallas, Texas; and Kansas City, Kansas/Missouri.


Spectral Labs, Inc.

Realistic Adaptive Immersive Learning System (RAILS) for HAZMAT Site

The Spectral Labs group is working to develop an immersive, video game-based training program to train HAZMAT workers, specifically those involved in emergency response, site characterization, waste removal, and site remediation at extensively contaminated sites on the National Priorities List. The program will provide a first-person immersive training environment for the trainee to learn and practice key operational tasks with modeled environments, equipment, and tools. This work builds off the group’s development of the Realistic Adaptive Interactive Learning System (RAILS) suite of software for training other workers.

https://www.niehs.nih.gov/careers/hazmat/about_wetp/att/sbir_current/index.cfm#a817546

Texas Southern University/Deep South Center for Environmental Justice

The Historically Black Colleges and Universities (HBCU) Consortium is co-led by Texas Southern University and the Deep South Center for Environmental Justice in New Orleans, Louisiana. Their partners include the Green Door Initiative (Detroit, Michigan); Harambee House, Inc. (Savannah, Georgia); and Unity in the Family Ministry (Pensacola, Florida).

For both the HWWTP and the ECWTP, the consortium targets underserved populations in their training areas. Under the HWWTP, training occurs in New Orleans, Louisiana; Atlanta and Savannah, Georgia; Detroit, Michigan; and at HBCUs and minority small businesses in the Southeastern area. Under the ECWTP, training occurs in New Orleans, Louisiana; Houston, Texas; Detroit, Michigan; and Pensacola, Florida.

Texas-Utah Consortium for Hazardous Waste Worker Education and Training

The Texas-Utah Consortium for Hazardous Waste Worker Education and Training (Texas-Utah Consortium) leverages two large, well-established education and research centers in a partnership between the University of Texas Southwest Center for Occupational and Environmental Health and the University of Utah Rocky Mountain Center for Occupational and Environmental Health.

Training provided by the Texas-Utah Consortium under the HWWTP targets people working with, or in, high-risk areas, communities, or industries, or those engaged in high-risk activities such as hazardous waste and substances handling, transport, removal, disposal, or spill and disaster response. For the HDPTP, the Texas-Utah Consortium trains a broad audience from many industrial sectors, as well as the general community. Both training programs are tailored to accommodate individuals with high-, mid-, and low-level technical skills. Special emphasis is directed toward recruiting and training veterans and minority populations to enhance diversity and provide career opportunities to groups who may not have been previously aware of safety-related careers.


The New England Consortium-Civil Service Employees Association

The New England Consortium-Civil Service Employees Association (TNEC-CSEA) is a partnership involving the University of Massachusetts Lowell (lead organization); five New England coalitions for occupational safety and health (COSH groups) in Massachusetts, Rhode Island, Connecticut, and New Hampshire; and CSEA Local 1000, AFSCME in New York.

Under the HWWTP, the program targets workers engaged in hazardous waste operations and emergency response in the six New England states and New York. Training under the HDPTP targets public and private sector skilled support personnel in the New England states and New York. An immigrant worker center network capacity-building pilot project in Massachusetts and Rhode Island will provide HDPTP health and safety awareness training in Spanish and Portuguese for Latino and Brazilian immigrant workers.


The Steelworkers Charitable and Educational Organization

The Steelworkers Charitable and Educational Organization (SCEO), the nonprofit arm of the United Steelworkers (USW), is funded under the HWWTP, the HDPTP, the ECWTP, the DOE program, and the IDRTP. The Tony Mazzocchi Center, SCEO’s training entity, brings together USW, the Communications Workers of America, the Labor Institute, the National Day Laborer Organizing Network, and Make the Road New York.

Under the HWWTP, SCEO conducts courses reaching steelworkers, immigrant day-laborers, and temporary workers who face a myriad of hazards on their ever-shifting work sites. Under the HDPTP, SCEO continues development of their cadre of expert Specialized Emergency Response Trainers who serve as a part of the national WTP team, ready to respond to any emergency anywhere. For the ECWTP, SCEO identifies, recruits, trains, and secures jobs for unemployed and underemployed workers in New York City who live in communities where they are disproportionately exposed to environmental hazards and are at risk of the inequitable health consequences of those exposures. SCEO training provided under the DOE program targets workers whose jobs put them at risk of exposure to hazardous materials or waste and risks associated with hazardous materials incidents.

Under the IDRTP, SCEO delivers training to healthcare workers, airline flight attendants, baggage handlers, corrections workers, social service workers, immigrant workers, and others who face risk of exposure to the Ebola virus and other infectious diseases. The SCEO has proposed to form the country’s largest Spanish language training capacity to conduct infectious disease training for at-risk immigrant populations. These workers will help build the cadre of trainers available to be deployed during future infectious disease outbreaks.

University of Alabama at Birmingham

The University of Alabama at Birmingham (UAB) Deep South Biosafety and Infectious Disease Response Training Consortium, or the Deep South Consortium, includes partners from UAB, AFC, and the University of Mississippi Medical Center.

Under the IDRTP, the Deep South Consortium trains public safety and healthcare workers who may be at risk during infectious disease outbreaks in the Deep South region of the U.S., which includes Mississippi, Alabama, and the Florida Panhandle. The goal of the Deep South Consortium is to provide integrated public health and worker safety trainings that will equip workers with the skills and knowledge needed to protect themselves and their communities from potential exposure to contaminated materials or infected individuals that they may encounter.


Western Region Universities Consortium

The Western Region Universities Consortium (WRUC) consists of the University of California, Los Angeles Labor Occupational Safety and Health Program as the lead institution; the University of California, Berkeley Labor Occupational Health Program; the Arizona State University Fulton Schools of Engineering Environmental & Resource Management Program; and the University of Washington Northwest Center for Occupational Health & Safety.

WRUC provides training under the HWWTP, the HDPTP, and the ECWTP. HWWTP activities reach hazardous materials and waste workers and supervisors throughout the region and strengthen emergency response capacity on the U.S.-Mexico border, among tribal groups, and in the Pacific Islands. A climate change initiative incorporates technology to reach day laborers and the large Spanish-speaking outdoor workforce. HDPTP activities reach workers and community members through partnerships with tribal groups in Alaska and the Pacific Northwest and with labor and community environmental justice groups in California. ECWTP activities train and place workers in construction and environmental jobs in Los Angeles, California; Seattle, Washington; and Portland, Oregon.