



National Institute of  
Environmental Health Sciences  
*Worker Training Program*

# STRATEGIC PLAN 2025 TO 2030



Published October 2024;  
Updated September 2025



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Group photo of trainees following a 40-hour Chemical Emergency Response course in Winslow, Arizona. (Photo courtesy of the International Brotherhood of Teamsters).

## Executive Summary

### In summary, the NIEHS Worker Training Program (WTP) Strategic Plan:

- Outlines the goals for each WTP program area: the Hazardous Waste Worker Training Program; the Environmental Career Worker Training Program; the Hazardous Materials (HAZMAT) Disaster Preparedness Training Program; the NIEHS/U.S. Department of Energy (DOE) Nuclear Worker Training Program; and the Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program.
- Describes specific standards and requirements that are key tenets for WTP efforts. This includes the Occupational Safety and Health Administration (OSHA) requirements under 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER). It also includes the [Minimum Criteria for Worker Health and Safety Training](#) (Minimum Criteria) for HAZWOPER.
- Details the role of contractors who support WTP via strategic planning, communication, and maintenance of the [National Clearinghouse for Worker Safety and Health Training](#) (Clearinghouse) website.
- Defines the strategic themes and priorities for WTP from 2025 to 2030. There are three strategic themes, which have corresponding sub-themes and objectives. There is some overlap between the various objectives.
- Aligns with the NIEHS mission to promote healthier lives; it is also consistent with several themes and areas outlined in NIEHS Strategic Plan.

# Alignment with NIEHS Strategic Plan

The WTP Strategic Plan is a living document that provides an overview of the vision, mission, and strategic priorities and objectives of WTP. Notably, the plan aligns with the NIEHS mission to promote healthier lives; it is also consistent with several themes and areas outlined in the [NIEHS 2025-2029 Strategic Plan](#).<sup>1</sup> The NIEHS Strategic Plan reflects a framework where Crosscutting Themes span Research Areas of Emphasis, Capacity and Infrastructure, and Scientific Management and Stewardship. This graphic demonstrates the alignment between the NIEHS and WTP strategic plans. The topics across the top in color are specific to the NIEHS Strategic Plan, which are designated as Crosscutting Themes, Research Areas of Emphasis, Capacity and Infrastructure, or Scientific Management and Stewardship. The text in the gray columns describes the alignment with the WTP Strategic Plan.

<sup>1</sup> The [NIEHS 2025-2029 Strategic Plan](#) is available online. There are many thematic similarities between the NIEHS and WTP Strategic Plan.

## ENVIRONMENTAL HEALTH DISPARITIES

### Research Area of Emphasis

#### Alignment with the WTP Strategic Plan:

**Strategic Theme 3 (Outreach and Communication), sub-theme 1 (Translate Evidence-Based Health and Safety Research for Education)**

**Example:** *Evidence-based health and safety research is the cornerstone of WTP efforts. WTP award recipients and trainers are well-versed in the latest science pertaining to hazardous exposures, as well as regulatory guidance and best practices needed to protect workers. Trainers use this knowledge to inform their efforts and deliver training to workers that are at-risk to occupational and environmental exposures. Finally, WTP considers the language needs of workers, as well as their access to health-promoting and educational resources. WTP award recipients strive to provide free or low-cost training to workers in a language or format they can understand.*

## PROTECTING HEALTH FROM THE IMPACTS OF EXTREME WEATHER AND DISASTERS

### Research Area of Emphasis

#### Alignment with the WTP Strategic Plan:

**Strategic Theme 1 (Worker Health and Safety Training and Education), sub-theme 5 (Health and Safety in Disaster Preparedness, Response, and Recovery)**

**Strategic Theme 2 (Adaptability and Innovation), sub-theme 1 (Adaptability to All Hazards)**

**Example:** *WTP award recipients are delivering training to workers involved in response, recovery, and cleanup following natural disasters. This includes natural disasters like hurricanes, wildfires, tornadoes, and major flooding events. WTP award recipients are also delivering disaster preparedness and response training to volunteers and residents. Furthermore, WTP recognizes the need for mental health resiliency training to support workers and communities that are recovering from the impacts of disasters.*

## COLLABORATION, INTEGRATION, AND PARTNERSHIP

### Crosscutting Theme

#### Alignment with the WTP Strategic Plan:

#### Strategic Theme 3 (Outreach and Communication), sub-theme 2 (Partnerships)

**Example:** *Partnerships are a foundational pillar of the evolution and success of WTP. The program's network of award recipients and partners includes labor-based health and safety organizations, academic institutions, and community-based organizations that work together with a common goal in mind — to protect the safety, health, and well-being of workers and their communities. These organizations and entities include professionals from various backgrounds with a wide range of expertise such as industrial hygiene, education, and emergency management and preparedness.*

## WORKFORCE DEVELOPMENT

### Capacity and Infrastructure

#### Alignment with the WTP Strategic Plan:

#### Strategic Theme 1 (Worker Health and Safety Training and Education), sub-theme 4 (Workforce Development and Job Training)

**Example:** *WTP continues to adapt training initiatives to meet ongoing needs for workforce development and job skills training. For example, WTP uses apprenticeships and other training models to help employers meet their current and future workforce needs, all while sustaining a competitive edge for economic growth in their respective industries. The Environmental Career Worker Training Program (ECWTP) is a great example of WTP's commitment to workforce development. The ECWTP provides technical and life skills training to individuals from communities that experience social or economic burdens. The program creates a pathway to new jobs and sustainable careers for trainees.*

## EVALUATION

### Scientific Management and Stewardship

#### This topic falls under Strategic Theme 3 (Outreach and Communication), sub- theme 3 (Evaluate, Measure, and Share Success)

**Example:** *Evaluation is an essential component of WTP and is necessary to assess the effectiveness of a training program. Many WTP award recipients work with third-party evaluators and teams to conduct evaluations of their training programs. WTP staff work with NIEHS leadership, internal evaluators, and external partners to evaluate the overall impacts and effectiveness of various training initiatives.*

# Introduction

The NIEHS [Worker Training Program](#) (WTP) aims to reduce risk of hazardous exposures and protect worker and public health through comprehensive, interactive training and education. The program's training efforts are driven by evidence-based occupational health and safety standards.

WTP was given the responsibility to initiate a training grants program under the Superfund Amendments and Reauthorization Act of 1986 (SARA). Established in 1987, WTP has provided health and safety training for nearly 5 million workers. Training efforts reach workers in many different occupations, spanning many sectors including federal, state, local, Tribal, private, and volunteer.

## Mission and Vision

WTP was established to prevent work-related harm by providing training programs for workers who handle hazardous materials or hazardous waste, as well as those who respond to disasters or emergencies. Over the years, WTP has expanded its reach to workers in many other industries, including those in health care, agriculture, manufacturing, and more. WTP is committed to meeting the needs of workers and communities who are burdened by health, socioeconomic, and environmental issues.<sup>2</sup>

The WTP vision is two-fold: 1) empower workers to protect themselves, their colleagues, and their communities from environmental and workplace hazards, and 2) develop strategic collaborations to promote workplace safety.

Through the National Institutes of Health (NIH) extramural grants process, WTP awards cooperative agreements<sup>3</sup> to [nonprofit organizations](#) (award recipients) across the country. These award recipients include a network of organizations tasked with providing high quality, peer-reviewed safety and health curricula, training, and education to workers who face risk of hazardous exposures on the job. This includes training and curricula focused on potential physical, chemical, biological, and psychosocial (mental health) hazards on the job.

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2 WTP delivers training to workers who face the risk of injury or illness due to exposure to hazardous work environments. Training is delivered to workers across many occupational sectors. Workers are extensions of their local communities, many of whom face various socioeconomic, health, and environmental burdens. This is why WTP's reach goes beyond the workplace.

3 A cooperative agreement allows substantial involvement between the Federal agency or pass-through entity and the award recipient. This makes the WTP unique amongst all other NIEHS programs. Read more on the [WTP Funding Opportunities page](#).

## Program and Focus Areas

WTP-funded training activities fall under various program areas.<sup>4</sup>

### Hazardous Waste Worker Training Program (HWWTP)

The [Hazardous Waste Worker Training Program \(HWWTP\)](#) provides occupational safety and health training for workers who engage in hazardous waste removal, containment, or chemical emergency response. This program is the core component of WTP.

### Environmental Career Worker Training Program (ECWTP)

The [Environmental Career Worker Training Program \(ECWTP\)](#) delivers training to increase opportunities for individuals to obtain careers in environmental restoration, construction, hazardous waste removal, and emergency response. The program focuses on reaching and delivering training to individuals who are underemployed or unemployed, many of whom come from communities that are burdened by health or socioeconomic issues.

### HAZMAT Disaster Preparedness Training Program (HDPTP)

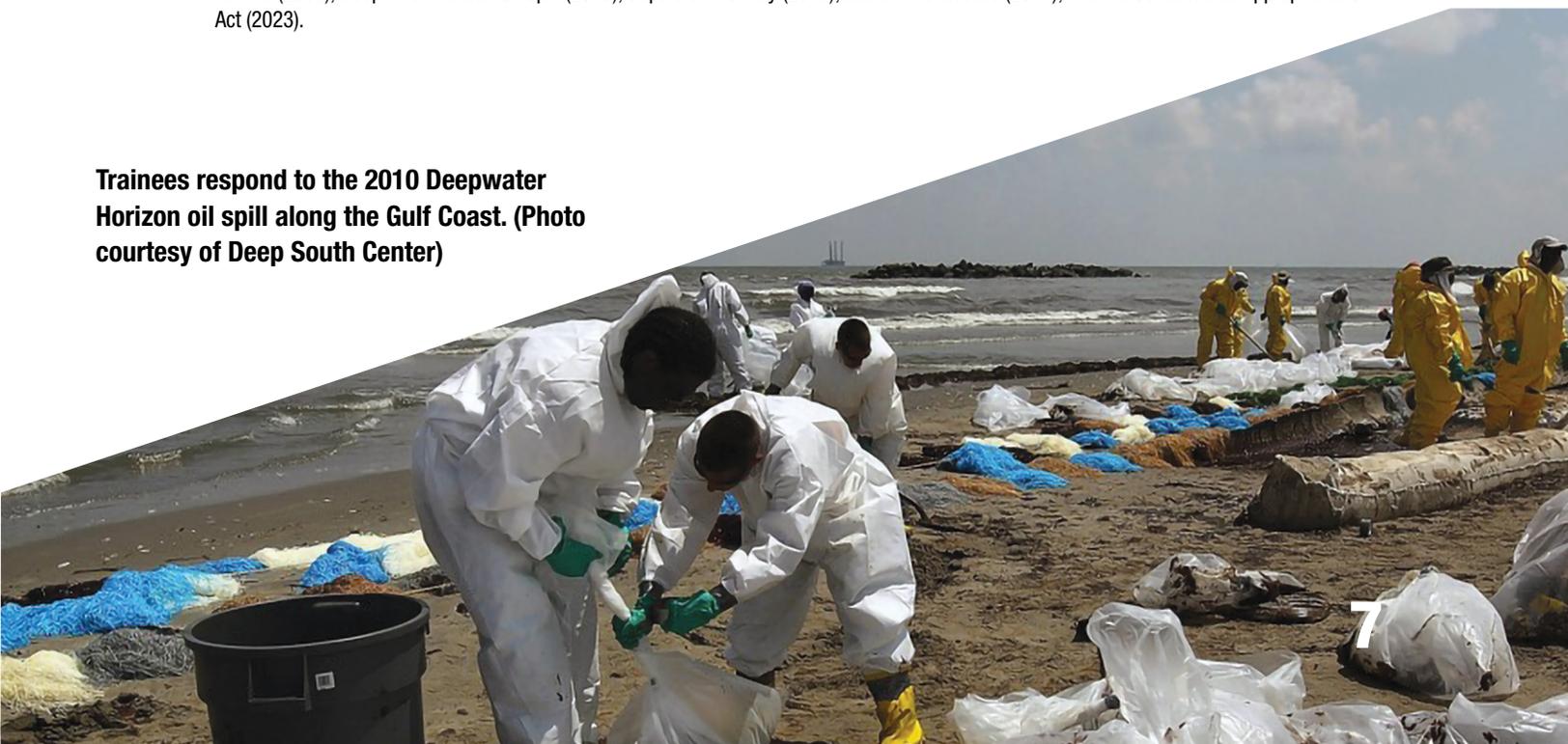
The [HAZMAT Disaster Preparedness Training Program \(HDPTP\)](#) supports the development and delivery of training for hazardous material and debris cleanup necessary after disasters and emergencies.<sup>5</sup> Over the years, this program has evolved to meet the needs of workers and communities when preparing for and recovering from natural disasters and public health emergencies. This ensures that communities optimize their ability to care for the needs of people experiencing disadvantages, preserve life and property, and recover to a new normal.

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4 All WTP program areas include activities funded through cooperative agreements except for the Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program. The SBIR E-Learning for HAZMAT Program includes activities funded through grant awards for domestic small businesses.

5 WTP has received multiple special appropriations for disasters and emergencies over the years. This includes (but is not limited to): Hurricane Katrina (2005), Deepwater Horizon Oil Spill (2010), Superstorm Sandy (2012), Ebola virus disease (2014), and the Consolidated Appropriations Act (2023).

**Trainees respond to the 2010 Deepwater Horizon oil spill along the Gulf Coast. (Photo courtesy of Deep South Center)**



## Infectious Disease and Biological Hazards Training

The [Infectious Disease and Biological Hazards Training](#) develops and delivers infection control practices and hazard recognition training for workers in health care and other settings who may be at risk of exposure to or transmission of infectious diseases.<sup>6</sup>

## NIEHS/U.S. Department of Energy (DOE) Nuclear Worker Training Program

The [NIEHS/DOE Nuclear Worker Training Program](#) focuses on training workers engaged in environmental restoration, waste treatment, and emergency response activities at sites in the [U.S. Department of Energy \(DOE\) nuclear weapons complex](#). An interagency agreement with DOE funds awards for this program.

## Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program

The [Small Business Innovation Research \(SBIR\) E-Learning for HAZMAT Program](#) provides grants to develop innovative e-learning products and technologies that are used for health and safety training. Technology-enhanced training products, such as those that use virtual reality, can help workers safely assess, respond to, and protect themselves and others from harmful exposures on the job. These products support the health, safety, and resiliency training of emergency responders, skilled support personnel, and workers involved in the cleanup, removal, or containment of hazardous or infectious materials.

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<sup>6</sup> This training was formerly done under the Infectious Disease Response Training Program; however, infectious disease is now a component of the other training program areas.

# Significance of HAZWOPER and Other Federal Regulations

SARA (1986) established the requirement for OSHA to develop and promulgate two standards applicable to hazardous waste operations and responses to hazardous materials incidents.

The first standard, 29 CFR 1910.120 HAZWOPER,<sup>7</sup> required a standard for the protection of workers engaged in hazardous waste operations; hazardous waste treatment, storage, and disposal activities (TSD); and emergency responses to hazardous materials incidents without regard to location. The second standard was promulgated by the U.S. Environmental Protection Agency at 40 CFR 311 to provide coverage for public workers otherwise exempt from coverage under the Occupational Safety and Health Act, 1970.

The HAZWOPER standard is unique in that it is based on a proactive approach to worker and public health protection. Each of the three categories of operations the standard addresses (hazardous waste cleanup, TSD, and emergency response) is complex. Because hazardous exposures are difficult to predict before workers are engaged in labor, workers must be protected until actual exposures are adequately determined and protective measures are established. Consequently, the worker training provisions in the standard are rigorous and contain: pre-job core training requirements that include knowledge, skill and ability elements; site-specific training; a minimum of three days of actual field experience under the direct supervision of a trained, experienced supervisor; and annual refresher training. With respect to public health protection, the standard has extensive requirements regarding hazardous materials containment; decontamination requirements for workers and equipment to prevent transfer of hazardous materials into public environments; and hazardous waste transportation requirements.

Engagement in operations covered by the HAZWOPER standard often includes potential exposures to additional hazards for which specific standards and training requirements apply. Some examples include asbestos, lead, confined spaces, and demolition operations. As appropriate, WTP award recipients continue to develop HAZWOPER-supporting training curricula and programs for these potential exposures for their target audiences and constituencies.

OSHA published a Notice of Proposed Rulemaking for a standard to certify training programs but has never finalized action on that standard. As a result, no current federal standard exists specific to requirements for certification of the extensive training requirements established in the worker protection standard. OSHA amended the HAZWOPER standard to add the non-mandatory Appendix E that provides guidelines for training providers and the training program curriculum. Appendix E is based on the NIEHS WTP Minimum Criteria for 29 CFR 1910.120 training providers and the training curriculum, which was developed at a national technical consensus workshop in 1990.

<sup>7</sup> The standard 29 CFR 1910.120 HAZWOPER was promulgated on March 6, 1989, at 54 FR 9317, as amended at 55 FR 14073 on April 13, 1990, and 56 FR 15832 on April 18, 1991.

# Minimum Criteria

WTP award recipients are required to follow guidance outlined in the [Minimum Criteria](#) for HAZWOPER to deliver training. This document serves as the core criteria for all WTP award recipients and training program areas.

The origin of the Minimum Criteria can be traced back to 1990. The first WTP award recipients collaborated and came to a consensus on requirements for design, quality control, and guidelines for their training programs. The original Minimum Criteria document became the non-mandatory Appendix E, Training Curriculum Guidelines, in the HAZWOPER standard.

The Minimum Criteria emphasizes the principles of adult education, establishes minimum criteria for designing training programs, sets quality control requirements for training programs, and provides generic guidelines for training curriculum. The Minimum Criteria has helped WTP establish national benchmarks for high quality worker safety and health training in collaboration with various partners and communities. As a result, the program is a national model of effective health and safety training and evaluation.

## Contract Support and the National Clearinghouse

The [National Clearinghouse for Worker Safety and Health Training](#) (Clearinghouse) provides support to WTP staff and award recipients. The Clearinghouse consists of both staff providing technical assistance and program support and a website housing resources for worker training curricula, reports, and news. Led by [MDB, Inc.](#) for more than 20 years, the Clearinghouse team is an essential partner in managing projects and bridging connections between WTP staff, award recipients, and interested stakeholders.

**The collaborative ecosystem of WTP staff, award recipients, and the Clearinghouse team is a major reason for WTP effectiveness. Creating and nurturing this interactive environment is necessary for the program to function and make progress towards its goals. This collaboration results in additional contributions from award recipients, stronger partnerships, and increased reach of program efforts.**

### Strategic Planning and the Operational Matrix

The WTP operational matrix, developed in 2012, is a living document that provides a straightforward structure for planning and implementing programmatic activities. The initial purpose of the operational matrix was to guide the activities of the Clearinghouse, but it has since evolved into a convenient guide for program-wide activities across WTP staff, the Clearinghouse team, and award recipients. The operational matrix maps and corresponds to clearly defined outcomes in the WTP logic model. The matrix also depicts the roles of WTP staff, the Clearinghouse team, and award recipients.

Annually, WTP staff and the Clearinghouse team collaboratively review and revise the operational matrix to optimize resources, align strategic priorities, and highlight partner relationships while focusing on annual goals. To ensure buy-in and alignment, the Clearinghouse team shares major updates to the operational matrix during award recipient and WTP-Clearinghouse Advisory Board meetings.

## Workshops and Webinars

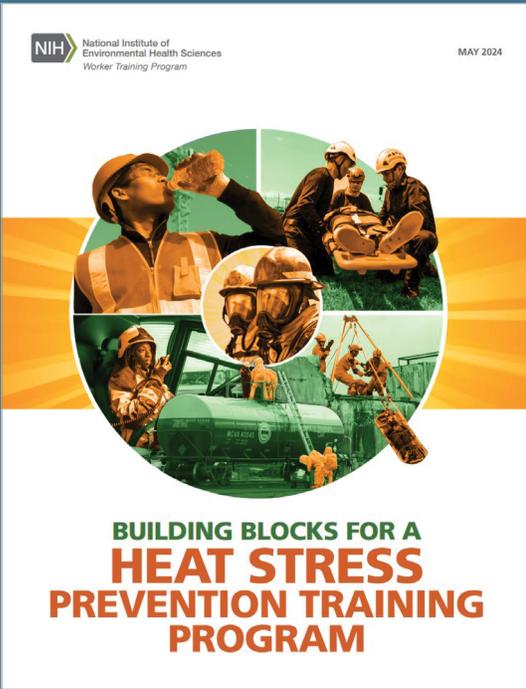
The Clearinghouse team facilitates webinars and technical workshops for WTP, award recipients, and partner agencies and organizations. The technical workshops – held twice yearly in the spring and fall – encourage collaboration on contemporary safety and health topics among WTP award recipients. The Clearinghouse team supports WTP staff by organizing webinars to share programmatic updates with award recipients or new resources with interested parties.

The Clearinghouse team also helps WTP staff organize and facilitate the Trainers' Exchange, held once during each five-year grant cycle. This is an event for trainers to gather and share training best practices through a series of participatory workshops.

## Clearinghouse Website

Another key aspect of contract support for WTP is maintenance of the [Clearinghouse website](#) – a comprehensive, organized repository of worker safety and health resources. The Clearinghouse website stores key documents, reports, and materials (e.g., training tools, templates, and printable booklets for all-hazards incidents) that WTP award recipients use and adapt for their target audiences. Several resources focused on natural disasters, such as hurricanes, wildfires, and infectious disease, are available on the Clearinghouse website at no cost to the public.

The Clearinghouse website facilitates sharing of health and safety information with award recipients, workers, and the public through several tools. One example is the [Material Upload and Search Tool for Infectious Disease \(MUSTID\)](#), a searchable portal providing easy access to resources on infectious disease and worker safety. The [disaster app](#) allows for easy, mobile access to WTP disaster preparedness training tools. Another example is the online [curricula catalog](#), a repository of training curricula developed by WTP award recipients. Browsers can search the curricula catalog by program area, award recipient, training provider, course category, and course language.



The poster features the NIH logo and text: "National Institute of Environmental Health Sciences Worker Training Program" and "MAY 2024". The central image is a circular collage of four photos: a worker drinking water, a worker being treated on a stretcher, a worker in a hazmat suit, and a worker using a tool. Below the collage, the text reads: "BUILDING BLOCKS FOR A HEAT STRESS PREVENTION TRAINING PROGRAM".

[Building Blocks for a Heat Stress Prevention Training Program](#) is one of many resources available on the Clearinghouse website. The resource is available in English and Spanish.

# Strategic Themes, Priorities, and Objectives

This section outlines strategic themes, priorities, and objectives for WTP from 2025 to 2030.

## Theme 1. Worker Health and Safety Training and Education

### Sub-Theme 1. Instructor and Trainer Development

Health and safety trainers are the backbone of WTP. A longtime goal of the program is to build, develop, and expand its cadre of trainers. Several focused initiatives help achieve this goal, including mentorship, instructor development programs, and trainers' exchanges.

It is critical that WTP award recipients develop mentorship opportunities for seasoned trainers and new trainers to share their skills with one another, as each has something to offer and gain from the other. This is especially important as the existing cadre of trainers shifts into retirement.

Award recipients are encouraged to lead and facilitate instructor development programs. This can be done through focused meetings, conferences, or one-on-one mentorship opportunities. Whether done formally or informally, the goal is to provide a space for the exchange of ideas and lessons to cultivate the next generation of instructors and trainers and to ensure existing instructors are staying up to date on the latest science, technology, and training techniques.

The WTP Trainers' Exchange, held once during each five-year grant cycle, provides an opportunity for trainers and program administrators to share training best practices through a series of participatory workshops. Trainers with health and safety experience from various cultural backgrounds attend the event. Trainers who attend also learn the importance of understanding the language needs of communities they are reaching and training. The Trainers' Exchange provides an opportunity for trainers to enhance their teaching methods and learn how to create more effective and empowering training modules. The Trainers' Exchange also provides an opportunity for trainers to meet the requirement for continuing education as listed in the [Minimum Criteria](#).

#### *Objectives:*

- Build and maintain a cadre of trainers that represent a variety of backgrounds within the WTP network.
- Manage the expansion of a national network of trainers with varied skills driven by a common training doctrine.
- Provide infrastructure and resources to support instructor development programs.
- Provide opportunities for trainers to build their skills, learn new topics, and adopt new training approaches.



**Participants during a train-the-trainer session focused on donning and doffing personal protective equipment at the 2023 WTP National Trainers' Exchange.  
(Photo courtesy of the International Brotherhood of Teamsters).**



**Participants practicing a hands-on exercise during an instructor development program at HAMMER.  
(Photo courtesy of the International Brotherhood of Teamsters).**

## Sub-Theme 2. Interactive Training

WTP incorporates interactive training activities to meet the learning needs of audiences. Interactive activities include hands-on training, small group discussions, and other exercises to promote the application of knowledge and skills learned. These activities are incorporated based on the course topic, course location, and student certification needs. For example, trainees utilize hands-on training to practice the selection, donning, and doffing of personal protective equipment. In general, interactive activities allow trainees to critically think about workplace hazards, risk assessment, and mitigation strategies. These exercises involve plausible, real-world scenarios that are customized for specific industries.

### *Objectives:*

- Incorporate interactive training activities to build technical and soft skills.<sup>8</sup>
- Develop new interactive training activities to accommodate worker/trainee needs and perspectives.
- Integrate new tools or technologies to enhance interactive training activities.
- Disseminate and share interactive training activities among WTP award recipients.

## Sub-Theme 3. Worker Empowerment

Health and safety training empowers workers with knowledge and skills that can be used to protect themselves and their colleagues. Workers are also empowered to share information with their peers and communities, raise safety concerns with their employers, and contribute to the implementation of new workplace procedures. This enables workers to emerge as natural leaders as they help direct and focus efforts to improve workplace safety.

WTP award recipients have documented how **worker trainers** are important peer resources in the workplace. Worker trainers serve as the go-to experts for their peers on questions related to health and safety, thereby contributing to a safer, healthier work environment.

### *Objectives:*

- Empower trainees to share the knowledge they have gained with their employers and peers.
- Encourage the development of trainers and leaders within the workplace who are committed to health and safety, and have the skills to take action to improve workplace safety and systems.

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<sup>8</sup> Soft skills are interpersonal abilities, such as communication and problem solving, that allow individuals to interact with others in a professional setting.

## Sub-theme 4. Workforce Development and Job Training

Many industries face a shortage of trained and experienced workers, thereby increasing the risk of occupational injuries and fatalities. These issues call for workforce development strategies to educate, train, and empower workers to ensure that they have the support and skills needed for work in high-risk, high-demand occupations.

WTP continues to adapt training programs to meet ongoing needs for workforce development and job skills training. For example, the program uses apprenticeships and other training models to help employers meet their current and future workforce needs, all while sustaining a competitive edge for economic growth in their respective industries. Additionally, WTP has the foresight to address emerging issues and demonstrates a commitment to social and economic development for workers and their communities. These qualities set WTP apart from other programs.

The ECWTP is a great example of the WTP-wide commitment to provide underemployed and unemployed individuals with a pathway to sustainable careers. The ECWTP shows promise as a model for other training programs to follow in reaching and impacting lives. Many award recipients, even those without an ECWTP award, have been working to integrate the core components of the ECWTP (e.g., life skills training, social support networks, and mentorship) into their training programs.

Ongoing investments in alternative and renewable energy systems offer opportunities for workforce development and training to mitigate the hazards these systems present. Several award recipients are working (or exploring opportunities) with partner organizations to fill jobs in emerging sectors, such as solar panel installation and electric vehicle charging station installation.

### *Objectives:*

- Support registered apprenticeships and other model programs that help individuals, especially those from communities burdened by socioeconomic issues, obtain jobs in the environmental and construction industries.
- Recruit and train young workers in construction, environmental cleanup, waste treatment, and other industries.
- Ensure that training aligns with the technical and professional requirements of the respective fields.
- Focus on strengthening job creation and retention.
- Encourage integration of core components of ECWTP in other training programs.
- Strengthen the links between workers, their workplaces, and surrounding communities.
- Invite contractors, employers, and community leaders to participate in program advisory board meetings and increase the number of organizational employees who contribute to the boards of community organizations.
- Explore workforce development and employer partnerships in new sectors, such as alternative energy sources, which will provide new opportunities for occupational and environmental safety and health training.



**ECWTP trainees learn how to install a solar panel. (Photo courtesy of OAI, Inc.)**



**An ECWTP graduate from the Rural Alaska Community Environmental Job Training program works in his new job as a refrigerant recovery technician in Kongiganak, Alaska. (Photo courtesy of Zender Environmental).**

## Sub-Theme 5. Health and Safety in Disaster Preparedness, Response, and Recovery

WTP plays a key role in the National Response Plan and Framework through the Worker Safety and Health Annex. The U.S. Department of Health and Human Services has recognized WTP as an essential member of the National Disaster Recovery Framework for protecting workers who contribute to national response and recovery activities.

WTP develops and delivers training for workers involved in response, recovery, and cleanup following natural disasters, chemical or biological terrorist attacks, infectious disease outbreaks, and other hazardous incidents. Extreme weather events have resulted in more frequent and severe natural disasters like hurricanes, wildfires, and flooding. As a result, WTP focuses on preparing workers for the impacts of extreme weather and related disasters.

As a member of the National Response Team, WTP provides health and safety training under the National Contingency Plan, the federal government's plan for responding to oil spills and hazardous substance releases.

WTP trainers are a national resource for providing health and safety education to prepare cleanup workers and responders to perform their duties following disasters. Health and safety training provides workers responding to disasters or emergencies with the critical information necessary to protect themselves, their coworkers, and communities. However, when WTP award recipients respond to incidents, they often find that many of the workers already at the disaster site have not been provided the training or equipment necessary to effectively protect themselves.

To ensure that award recipients have the necessary protocols and strategies in place when activated for incident response, WTP uses the [Emergency Support Activation Plan \(ESAP\)](#). The ESAP provides guidance and recommendations to help WTP award recipients and trainers better prepare their personnel and families prior to, during, and after disaster response deployment.

WTP award recipients are allowed to repurpose their NIEHS funds to respond to disasters and emergencies as needed. Additional funding opportunities are made possible through Congressional supplemental appropriations.<sup>9</sup> Program staff also encourage award recipients to seek additional funding opportunities through other agencies and organizations.

WTP staff continue to pursue interagency partnerships for disaster preparedness and response efforts with agencies like the U.S. Environmental Protection Agency (EPA) and the Federal Emergency Management Agency (FEMA).

### THE ROLE OF WTP ON THE NATIONAL RESPONSE TEAM

WTP may be activated by OSHA under the National Response Framework, 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 target worker 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 WTP instructional staff at award recipient organizations.**
- **Assistance such as respirator fit-testing and distribution of personal protective equipment.**

<sup>9</sup> WTP has received special appropriations for disasters and emergencies over the years. This includes (but is not limited to): Hurricane Katrina (2005), Deepwater Horizon Oil Spill (2010), Superstorm Sandy (2012), Ebola virus disease (2014), and the Consolidated Appropriations Act (2023).

## Recommended Training for Workers Engaged in Response Operations

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

Definitions for site-specific, task-specific, and pre-deployment/pre-job briefings are from an *OSHA hurricane worker health and safety plan (2005)*.

### *Objectives:*

- Encourage and promote the health and safety of emergency responders, skilled support personnel, volunteers, and communities by actively participating in all phases of the national response to disasters.
- Continue working with local, state, and federal agencies to promote the hiring of pre-trained, qualified workers for future all-hazards incident response and recovery.
- Encourage and promote cleanup and recovery worker safety and health in the public forum, especially for untrained workers who are a large part of this workforce.
- Become more integrated in response efforts with other agencies (e.g., FEMA, EPA).
- Train and deploy specialized emergency response trainers (SERTs) to communities impacted by disasters.
- Explore opportunities to expand collaborations with training constituencies at the local, state, Tribal, and federal levels after the initial disaster recovery funding is depleted.
- Determine a way to obtain training resources for untrained workers and other at-risk populations in future all-hazards incident response and recovery.
- Pursue interagency outreach and partnerships with agencies and embrace opportunities for stakeholder engagement in communities that are significantly impacted by disasters.
- Continue working to reach meaningful partnership agreements with other federal agencies to ensure coordination of training to protect responders, and recovery and cleanup workers in all-hazards incidents.

## Sub-Theme 6. Health and Safety at DOE Facilities

In 1992, NIEHS established an interagency agreement with the [U.S. Department of Energy \(DOE\) Office of Environmental Management \(EM\)](#) to prepare and equip workers with proper training to address hazards within and around DOE sites, particularly those related to the nation's Cold War environmental legacy. This agreement was authorized by Section 3131 of the National Defense Authorization Act of 1992, establishing what is now known as the NIEHS/DOE Nuclear Worker Training Program. The goal of the NIEHS/DOE Nuclear Worker Training Program is to provide high-quality training to workers supporting the [mission of DOE](#) to ensure they are prepared to work safely in hazardous environments.

Key aspects of success for the NIEHS/DOE Nuclear Worker Training Program are integrated safety management systems and a focus on safety. Both DOE and WTP prioritize a safety-conscious work environment. To accomplish this, workers need to be informed about hazards, as well as their rights. Workers also need to be invited to spaces where they can openly raise safety issues or concerns without fear of retaliation. Another key aspect of success is the DOE National Training Center's [Health and Safety Training Reciprocity Program](#).

This program establishes a policy for reciprocity of employee health and safety training across all DOE sites and facilities. This eliminates the need for redundant training, improves mobilization, and increases the efficiency and effectiveness of DOE operations while meeting federal health and safety requirements.

According to a recent Government Accountability Office [report](#), the DOE EM manages radioactive and hazardous waste cleanup programs across 16 sites using both capital asset projects and operations activities, and will spend more than \$392 billion before the nation's nuclear weapons complex is cleaned up. These types of projects highlight the need for critical WTP work to ensure the safety and health of workers who oversee and contribute to these cleanup efforts.



**WTP Director Sharon Beard speaks at the 2024 DOE Energy Facility Contractors Group conference.**

### *Objectives:*

- Ensure workers receive quality, fundamental safety and health training for their assigned activities.
- Ensure workers at DOE facilities get the site-specific health and safety training needed.
- Foster a positive attitude towards safety among workers new to the DOE complex.
- Assist in improving training of subcontractor personnel who often go without safety and health training.
- Improve collaboration with DOE organizations, including the DOE National Training Center, the Energy Facility Contractor Group, and the Labor Training Work Group, to address training topics based on lessons learned reports and assessment activities.

## Theme 2. Adaptability and Innovation

### Sub-Theme 1. Adaptability to All Hazards

Although WTP was first conceived to provide training for workers cleaning up Superfund sites and performing Resource Conservation and Recovery Act removal actions, the **evolving landscape of hazardous threats** demands that the program be flexible to accommodate the needs of workers and their communities.

The WTP approach considers all hazards – including hazards that are known and unknown. Regardless of the circumstances, it is essential that workers have the knowledge to protect themselves and the communities in which they are working, and that knowledge is shared through HAZWOPER and HAZWOPER-supporting training.

WTP emphasizes caution before allowing workers into areas with unknown hazards. WTP award recipients actively apply the precautionary principle.<sup>10</sup> This **principle is an approach to risk management**, where, if it is possible that a given policy or action might cause harm to the public or the environment and if there is still no scientific agreement on the issue, the policy or action in question should not be carried out. In other words, the precautionary principle asserts that the burden of proof for potentially harmful actions by industry or government rests on the assurance of safety and that when there are threats of serious damage, **scientific uncertainty must be resolved in favor of prevention**.

WTP award recipients continue to apply their expertise and lessons learned to emerging hazards. For example, emergency responders and fire fighters have shared health and safety concerns regarding materials used in the construction of new, modernized homes. Similarly, the increase in electric vehicles that are operated by lithium-ion batteries are also a concern because they may overheat, short-circuit, or explode in certain conditions. These issues call for improved understanding of the science and risks, as well as continual application of the precautionary principle to protect workers and the public.

WTP also focuses on addressing the mental and psychosocial hazards that workers face on the job. For example, WTP award recipients provide resiliency training to help workers identify and navigate stressful conditions. Award recipients also respond to issues surrounding **substance use and recovery**. While these issues are beyond the scope of HAZWOPER, they are also crucial to ensure the total health and well-being of workers.<sup>11</sup>

Adaptability is one of the many benefits of the cooperative agreement mechanism for WTP award recipients. With this mechanism, NIEHS and WTP staff work closely with award recipients to support and provide them with an infrastructure to address emerging health and safety issues across their target audiences. Recent infectious disease outbreaks called for **adaptable strategies** to ensure the health and safety of workers.

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<sup>10</sup> Precautionary principle: When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically.

<sup>11</sup> WTP embraces principles outlined in the NIOSH Total Worker Health Program, which seeks to improve the well-being of the U.S. workforce by protecting their safety and enhancing their health and productivity.

## Objectives:

- Remain flexible based on evolving landscape of HAZMAT threats in the workplace, as well as issues related to extreme weather events, infectious disease, and mental health.
- Leverage the lessons learned from prior disasters and emergencies to respond to future threats.
- Use an all-hazards approach to provide workers with the knowledge and skills necessary to prevent serious injury and reduce the threat of serious illness for themselves, their coworkers, and those in their community.
- Address the emerging threats of issues such as extreme weather events, alternative energy sources, and new technologies introduced into commerce (e.g., lithium-ion batteries) and identify opportunities for worker training and education.
- Develop better understanding of the science and implications of new materials and technologies and prepare for any potential all-hazards incidents.
- Monitor and respond to changes that are occurring in the assessment and remediation phases of Superfund work. New cleanups occur with a focus on more sustainable assessment, remediation, and construction practices. The program must continue to assess training needs in these areas and remain aware of the core program areas of HAZMAT training and all-hazards emergency response to successfully manage the legacy of current and emerging materials and technologies.
- Conduct assessments and engage with target audiences to determine training gaps and needs for specific hazards.
- Use and adapt training curricula that are available through the National Clearinghouse website.

Photo of mobile unit on the way to a training at Fort Drum, Water Town, New York. (Photo courtesy of the International Brotherhood of Teamsters).



## Sub-Theme 2. Innovative Training Technologies

Proper training can mean the difference between life and death for workers who handle hazardous materials or respond to manmade or natural disasters. Although training for workers has traditionally taken place in physical classrooms, recent technological advances have facilitated more easily available and interactive training through electronic platforms. Technology-enhanced training products can help workers safely assess, respond to, and protect themselves and others from harmful exposures on the job.

Conversations in the late 1990s led to the establishment of the [Small Business Innovation Research \(SBIR\) E-Learning for HAZMAT Program](#).<sup>12</sup> Through this program, small businesses are awarded grants to develop innovative health and safety training applications or technologies. SBIR grant recipients have developed methods to deliver training to workers through the development and use of online and web-based learning, [mobile applications](#), video games, virtual reality, and immersive learning systems.

The use of technology-enhanced training products helps WTP award recipients and trainers remain adaptable. For example, these products provide instructors with the tools to deliver training during disasters or public health emergencies.



**Trainees use a mobile app developed by Cell Podium. (Photo courtesy of Atlantic Center for Occupational Safety and Health Training).**

### *Objectives:*

- Create technology-driven products that will support high quality health and safety training for hazardous materials workers, emergency responders, and skilled support personnel.
- Monitor the development of technology-enhanced training methods and integrate developments into appropriate curricula.
- Increase visibility of SBIR grant recipients' efforts and success stories.
- Integrate the expertise and perspectives of SBIR grant recipients into workforce development training initiatives, especially those focused on adoption of artificial intelligence.
- Encourage continual innovation to develop technologies that will support training for new and emerging hazards.
- Improve communication and encourage partnership opportunities between SBIR grant recipients and WTP award recipients.

<sup>12</sup> The broader National Institutes of Health (NIH) SBIR program was established under the Small Business Innovation Development Act of 1982 (P.L. 97-219) with the purpose of strengthening the role of innovative small business concerns in federally funded research and development. The SBIR program has been reauthorized and extended multiple times since its creation. The SBIR E-Learning for HAZMAT Program is an outgrowth of the broader NIH SBIR but is more geared to the training needs of WTP award recipients. WTP staff began having conversations to establish an initiative focused on electronic learning (e-learning), or technology-enhanced products, in 1997.

### Sub-Theme 3. Continuity and Institutional Knowledge

Turnover in key personnel at NIEHS or award recipient organizations (principal investigators, program managers, and trainers), leads to gaps in institutional knowledge and experience. Therefore, the transfer of program history and institutional knowledge to future leaders is critical for the continuity and viability of WTP.

As a program, WTP is committed to succession planning to ensure that individuals who are new to the WTP network both understand and appreciate the program's rich history. Mentorship is one method that longtime principal investigators, program managers, and trainers use to coach and prepare the next generation. Mentorship is not limited to individuals within one award recipient organization; even more value is added to programs when cross-mentorship and training happens between two or more award recipient organizations.

WTP is committed to documenting events and program-wide initiatives in various media formats, including videos, infographics, reports, success stories, and peer-reviewed articles. All are helpful resources and tools that can be passed along to the next generation of WTP leaders. Many of these resources are available on the WTP and Clearinghouse websites.

#### *Objectives:*

- Capture and document program history to share with the next generation of leaders in the WTP network. This includes leaders at the institute, award recipient organizations, training partner organizations, and beyond.
- Promote networking, succession planning, and mentorship within the WTP network. This is key to ensure the continual development and success of principal investigators, program coordinators, evaluators, and trainers.
- Develop materials that can be easily adapted and used for the onboarding and orientation of new leaders in the WTP network.

## Theme 3. Outreach and Communication

### Sub-Theme 1. Use Evidence-Based Health and Safety Research for Education

Evidence-based health and safety research is the cornerstone of WTP efforts. WTP award recipients and trainers are well-versed in scientific research pertaining to hazardous exposures, as well as regulatory guidance and best practices needed to protect workers. Training efforts are based on the latest research and scientific evidence to ensure that workers are protected. The program also considers factors such as language and education to ensure that training and resources are appropriate for target audiences. As such, WTP provides resources that have simplified terms to reach various adult reading or education levels and in multiple languages. The Clearinghouse produces a wide variety of educational materials for workers, such as training tools, fact sheets, infographics, checklists, and more. WTP award recipients download and adapt these resources as needed for their training efforts.

#### *Objectives:*

- Encourage development of training programs and curricula that actively support a workers' right to know. WTP strives to deliver training in a language and format that align with the needs of workers and communities.
- Train workers and communities that face occupational and environmental health exposures.
- Train workers and communities to recognize and mitigate workplace hazards.
- Use the latest science and evidence-based research to develop educational resources for workers to help them protect themselves from harmful exposures.

## Sub-Theme 2. Partnerships

WTP promotes collaboration with unions, community-based organizations, volunteer organizations, contractors, local and state agencies, and other federal agencies to meet its vision, mission, and goals. Longstanding partnerships enable WTP to flourish and expand the capacity of training and education efforts, which help ensure the long-term success of the program.

Partnerships – whether at the federal, state, or local level – are critical for the reach and expansion of the WTP network. When done effectively, partnerships are mutually beneficial, and they produce positive outcomes for award recipients, trainees, and their communities.

WTP collaborates with several DOE entities, including the National Training Center, as well as communities surrounding cleanup sites. Recently, WTP partnered with the Centers for Disease Control and Prevention National Institute for Occupational Safety and Health (NIOSH) to promote recovery friendly workplace initiatives. The Recovery Friendly Workplace Landscape Analysis report (2023) documents the results of a nationwide analysis of organizations in 31 states working to prevent substance use disorder and support recovery in employment.

### *Objectives:*

- **Seek and encourage collaborations with organizations that share the common goal of protecting workers and their communities.**
- **Seek and encourage collaborations with organizations and experts who play a role in protecting workers affected by workplace stress and trauma, both physical and mental.**
- **Pursue partnerships with organizations and agencies that represent Tribal and other communities.**
- **Foster opportunities for collaboration among WTP award recipients and SBIR grant recipients.**
- **Be strategic about partnerships for technical meetings, Trainers' Exchanges, webinars, and other events.**

### Sub-Theme 3. Evaluate, Measure, and Share Success

Evaluation is an essential component of WTP and is necessary to assess the effectiveness of a training program. The rich history of WTP program evaluation and related goals are documented in the report, History of Evaluation and Future Directions for the NIEHS Worker Training Program. The report summarizes the numerous workshops that WTP has hosted on the topic of evaluation and shares various best practices and recommendations for award recipients to consider when evaluating their programs.

WTP recently conducted an impact evaluation of the ECWTP. Results from the evaluation were published in a 2024 report, [Impact Evaluation of Workforce Development in Underemployed and Unemployed Communities: The NIEHS Environmental Career Worker Training Program](#). The report documents findings from an economic impact study, which shows that from 2014 to 2022, the program returned approximately 28 times the amount invested by the federal government back into the economy. Other direct benefits to the economy include increased earnings, reduction in workplace injuries, and hiring cost and crime-related cost savings.

As the WTP network continues to grow and expand its reach, program staff and award recipients must prioritize evaluation. Program staff are working with NIEHS leadership and other representatives in unions and academia to evaluate the overall impacts and effectiveness of WTP training program areas. Many award recipient organizations work with third-party evaluators who bring an unbiased perspective when assessing the impact of training programs.



**Image from flyer that includes high-level overview of results from the ECWTP impact evaluation.**

WTP is also dedicated to sharing its successes and educating federal agencies, academia, nonprofit organizations, and the public about its national training efforts.

Program staff and award recipients are actively involved in national conferences, interagency working groups, and professional organizations. These platforms create opportunities to raise awareness about the long history of WTP and its success in health and safety training.

Program staff are responsible for sharing WTP updates with NIH and NIEHS leadership, and reporting data for Congressional briefings and justifications. Award recipients are responsible for sharing their annual progress reports, which include training metrics (e.g., number of workers trained, courses delivered, etc.) and **success stories** from their programs.

By working with the Clearinghouse team, program staff and award recipients have an opportunity to communicate with the public more broadly and share WTP successes via the Clearinghouse website, the WTP weekly news brief, conferences (national and regional), reports, peer-reviewed articles, and other platforms. The WTP Communication Plan, developed by the Clearinghouse team in 2024, is a useful guide for development and dissemination of WTP products.

### *Objectives:*

- Establish common evaluation measures using the WTP logic model.
- Promote award recipients' involvement in the WTP Evaluation Community of Practice.
- Focus on evaluation within all WTP training program areas.
- Explore and document how WTP efforts translate to economic returns on investment.
- Invite the expertise of third-party evaluators to measure the impact of training programs.
- Leverage opportunities to publish news articles, reports, state profiles, and peer-reviewed articles about WTP successes.
- Leverage opportunities for training needs assessments, resource sharing, and evaluations across multiple award recipients.
- Focus on attending conferences, webinars, and other events to represent the WTP network.
- Document trainee success stories to show the dynamic impact of WTP at the individual and community levels.
- Abide by NIH and NIEHS grant reporting requirements. This includes the submission of interim, annual, and final Research Performance Progress Reports (RPPRs) (at the institute level). It also includes submission of annual progress reports and supplemental data in the Data Management System (at the programmatic level).
- Track and document the use of supplemental appropriations and how they influence training efforts on a national level, especially for appropriations related to disasters or emergencies.



National Institute of  
Environmental Health Sciences  
*Worker Training Program*

This document was made possible by contract number 75N96023D00004  
from the National Institute of Environmental Health Sciences (NIEHS), NIH, to MDB, Inc.