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# Introduction

The National Institute of Environmental Health Sciences (NIEHS) [Worker Training Program](http://www.niehs.nih.gov/careers/hazmat/index.cfm) (WTP) uses evidence-based science to reduce risk of hazardous exposures and protect worker and public health through comprehensive, interactive training and education.

WTP was given the responsibility to initiate a training grants program under the Superfund Amendments and Reauthorization Act of 1986 (SARA). Since WTP’s inception in 1987, more than 5 million workers have received safety and health training. Training efforts reach workers in diverse occupations, spanning many sectors including federal, state, local, Tribal, private, and volunteer.

*NIEHS’ statutory responsibility is to improve public health through research, training, and dissemination of health information (1966 amendments to the Public Health Service Act). Per its mission statement, NIEHS strives to conduct and support the very best environmental health sciences in alignment with real-world public health needs, and to translate science findings into knowledge that can inform real-life individual and public health outcomes.*

[*NIEHS strategic plan*](https://www.niehs.nih.gov/about/strategicplan/strategicplan20182023_508.pdf)

The WTP Strategic Plan is a living document that provides an overview of WTP’s vision, mission, program areas, and strategic priorities and objectives. This plan is consistent with the [NIEHS vision and strategic plan](https://www.niehs.nih.gov/about/strategicplan/index.cfm), which outlines the importance of outreach, communications, and engagement; evidence-based prevention and intervention; environmental health disparities and environmental justice; and emerging environmental health issues.

# Vision and Mission

WTP’s vision is two-fold: to empower workers to protect themselves, their colleagues, and communities from environmental and workplace hazards, and to promote a culture of workplace safety and equity through strategic collaborations.

WTP’s mission is to prevent work-related harm by providing training programs for hazardous materials (HazMat) handlers, chemical emergency responders, and waste cleanup workers.

WTP funds a network of [nonprofit organizations](https://www.niehs.nih.gov/careers/hazmat/awardees/index.cfm) (grant recipients) that provide high quality, peer-reviewed safety and health curricula, training, and education to HazMat workers and emergency responders. Through the National Institutes of Health (NIH) extramural grants process, WTP awards cooperative agreements[[1]](#footnote-2) to:

* Create and deliver innovative technical, scientific, and basic research-driven prevention education activities on behalf of NIEHS as to HazMat and waste workers with high-risk occupational exposures, including the mental health effects of such work.
* Establish and modify national benchmarks for high quality worker safety and health training in collaboration with stakeholder communities.
* Develop curricula, training, and education programs to help employers meet Occupational Safety and Health Administration (OSHA) requirements under 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. These include the site-specific needs of contractors/employers, (e.g., confined spaces, blood-borne pathogens, lead, asbestos, unexploded ordinance, and mold) and integrated safety management, to plan, perform, assess, and improve safe work. WTP conducts comprehensive program evaluations with a focus on improving safety culture in the workplace and incorporates evaluation findings to improve content and materials.

# ProgramAreas

WTP-funded training activities fall under various program areas.[[2]](#footnote-3) A brief description of each program area is provided below.

**Hazardous Waste Worker Training Program (HWWTP)**

The [Hazardous Waste Worker Training Program](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/hwwt/index.cfm) 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](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/ecwtp/index.cfm) focuses on delivering comprehensive training to increase the number of disadvantaged and underrepresented workers in areas such as environmental restoration, construction, hazardous materials/waste handling, and emergency response.

**Hazmat Disaster Preparedness Training Program (HDPTP)**

The [HAZMAT Disaster Preparedness Training Program](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/hdpt/index.cfm) supports the development and delivery of training for hazardous material and debris cleanup necessary after natural, technological and intentional incidents.[[3]](#footnote-4)

**Infectious Disease and Biological Hazards Training**

The [Infectious Disease and Biological Hazards Training](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/ebola/index.cfm) develops and delivers infection control practices and hazard recognition training for workers in health care and non-health care settings who may be at risk of exposure to infectious diseases, such as COVID, Ebola, Zika, and influenza.1

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

The [NIEHS/DOE Nuclear Worker Training Program](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/doe/index.cfm) 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](https://www.energy.gov/em/cleanup-sites). An interagency agreement with DOE funds awards for this program.

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

The [Small Business Innovation Research (SBIR) E-Learning for HAZMAT Program](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/att/index.cfm) 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.

# Minimum Criteria

WTP grant recipients are required to follow guidance outlined in the [Minimum Criteria for Worker Health and Safety Training](https://tools.niehs.nih.gov/wetp/index.cfm?id=142) (Minimum Criteria) for HAZWOPER to deliver training. This document has been updated several times over the years and continues to serve as the core criteria for all WTP grants and training program areas.

The origin of the Minimum Criteria can be traced back to 1990. The first WTP grant recipients worked together to come to a consensus on requirements for the design, quality control, and guidelines of 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, establishes quality control requirements for training programs, and provides generic guidelines for training curriculum.

# Significance of HAZWOPER and Other Federal Regulations

The SARA (1986) established the requirement for the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) to develop and promulgate two standards applicable to hazardous waste operations and responses to hazardous materials incidents. The first 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. This standard, 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response, 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.

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 operations, TSD operations, and emergency response actions) are hazardous and complex. As a result, worker exposure is difficult to predict before worker engagement. Workers must be protected until actual exposures can be adequately determined, and protective measures established (sometimes referred to as the precautionary principle). Consequently, the worker training provisions in the standard are rigorous and comprise: pre-job core training requirements that include knowledge, skill and ability elements; site-specific training; and annual refresher training. With respect to public health protection, the standard has extensive requirements regarding hazardous materials and substance containment; decontamination requirements that apply to workers and equipment to prevent the transfer of hazardous materials into the public environment; 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. WTP grant recipients continue to develop training programs for these hazards (known as HAZWOPER-supporting), as appropriate, 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.

Another standard, also required by SARA, 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.

# Contract Support and the National Clearinghouse

WTP staff and grant recipients receive contract support via the National Clearinghouse for Worker Safety and Health Training (Clearinghouse). Led by [MDB, Inc.](https://www.michaeldbaker.com/) for more than 20 years, the Clearinghouse plays a pivotal role in managing and cultivating collaboration among WTP staff, grant recipients, and interested stakeholders.

The Clearinghouse helps with strategic planning efforts; communication, and operations; logistical support for workshops, webinars, and conferences; creation of training materials and program reports; and more for WTP. A few examples of key roles that the National Clearinghouse has in supporting WTP are described below.

## Strategic Planning and the Operational Matrix

The [WTP operational matrix](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=13401), developed in 2012, is a living document that provides a straightforward structure for planning and implementing programmatic activities. Although the initial purpose of the operational matrix was to guide the activities of the Clearinghouse, it has since evolved into a convenient guide for program-wide activities across WTP staff, the Clearinghouse team, and grant 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 grant recipients.

*A major reason for WTP’s effectiveness is that it operates as a collaborative ecosystem of WTP staff, grantees, and the Clearinghouse. Creating and nurturing this interactive environment is necessary for the program to function and make progress towards its goals. The strategy of inclusion and outreach facilitates this collaboration, resulting in additional contributions from grant recipients, stronger partnerships, and increased reach of program and grant recipient efforts.*

Annually, WTP and Clearinghouse staff collaboratively review and revise the operational matrix to optimize resources, align strategic priorities, and highlight partner relationships while focusing on annual goals. Clearinghouse staff present critical operational matrix changes at grantee meetings and WTP Advisory Board meetings to ensure buy-in and alignment.

## Workshops and Webinars

The Clearinghouse facilitates webinars and technical workshops for WTP, grant recipients, and partner agencies/organizations. The technical workshops are held twice yearly – in the spring and fall – and encourage collaboration among grant recipients on contemporary safety and health topics. The COVID-19 pandemic called for new strategies, like webinars, to share and disseminate important information to grant recipients and stakeholders. The Clearinghouse continues to support WTP by organizing webinars to share programmatic updates with grant recipients or new resources with interested stakeholders.

The Clearinghouse also helps WTP organize and facilitate the Trainers’ Exchange, which is held every five years. 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](https://tools.niehs.nih.gov/wetp/) – 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 grant recipients can use and adapt for their target audiences. Several resources are available on the Clearinghouse website focused on natural disasters, such as hurricanes and wildfires, and infectious diseases, like COVID-19. These are available at no cost to the public.

The Clearinghouse website allows the sharing of health and safety information with grant recipients, workers, and the public. One example is the [Material Upload and Search Tool for Infectious Disease](https://tools.niehs.nih.gov/wetp/mustid/index.cfm) (MUSTID), a searchable portal that provides easy access to resources on infectious disease and worker safety. Another example is the [disaster app](https://tools.niehs.nih.gov/wetp/disasterapp/) which allows easy, mobile access to WTP’s disaster preparedness training tools.

# Strategic Themes, Priorities, and Objectives

The following section outlines strategic themes, priorities, and objectives for WTP from 2024 to 2029. The table below shows how the strategic themes and their corresponding priorities align with WTP’s [operational matrix](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=13401).

|  |  |
| --- | --- |
| **Strategic Themes** | **Alignment with Operational Matrix Goals** |
| **Theme 1: Adaptability and Innovation** | * Goal 1. Improved safety culture in the workplace.   + Goal 1a. Increased worker empowerment.   + Goal 1b. Trained workers who can identify workplace hazards.   + Goal 1c. Trained workers who understand how to take action.   + Goal 1d. Safer company practices and policies. * Goal 2. Reduced morbidity and mortality.   + Goal 2a. Improved policies and regulations/improved enforcement of health and safety practice/policy/regulation. * Goal 3. Reduced occupational health disparities/increased protection and remediation of communities.   + Goal 3b. Increase grantee knowledge base. * Goal 4. A sustainable program based in science and that incorporates current technologies and promotes innovation in all aspects of its mission.   + Goal 4b. Use of current technologies in training.   + Goal 4c. Promotion of innovation through research and grants.   + Goal 4d. Science-based activities. |
| **Theme 2: Worker Health and Safety Training and Education** | * Goal 1. Improved safety culture in the workplace.   + Goal 1a. Increased worker empowerment.   + Goal 1b. Trained workers who can identify workplace hazards.   + Goal 1c. Trained workers who understand how to take action.   + Goal 1d. Safer company practices and policies. * Goal 2. Reduced morbidity and mortality.   + Goal 2a. Improved policies and regulations/improved enforcement of health and safety practice/policy/regulation. * Goal 3. Reduced occupational health disparities/increased protection and remediation of communities.   + Goal 3a. Increased job opportunities/increased links between workers, workplace, and communities.   + Goal 3b. Increased grantee knowledge base.   + Goal 3c. Improved capacities to effectively train, evaluate, communicate, collaborate, build/sustain partnerships, and accomplish WTP goals. * Goal 4. A sustainable program based in science and that incorporates current technologies and promotes innovation in all aspects of its mission.   + Goal 4c. Promotion of innovation through research and grants. |
| **Theme 3: Outreach and Communication** | * Goal 1. Improved safety culture in the workplace.   + Goal 1a. Increased worker empowerment.   + Goal 1b. Trained workers who can identify workplace hazards.   + Goal 1c. Trained workers who understand how to take action.   + Goal 1d. Safer company practices and policies. * Goal 3. Reduced occupational health disparities/increased protection and remediation of communities.   + Goal 3a. Increased job opportunities/increased links between workers, workplace, and communities.   + Goal 3c. Improved capacities to effectively train, evaluate, communicate, collaborate, build/sustain partnerships, and accomplish WTP goals. * Goal 4. A sustainable program based in science and that incorporates current technologies and promotes innovation in all aspects of its mission. * Goal 4a. Appropriate levels of funding. * Goal 4c. Promotion of innovation through research and grants. * Goal 4d. Science-based activities. |

## Theme 1. Adaptability and Innovation

### 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 (RCRA) removal actions, the [evolving landscape of HazMat threats](https://www.niehs.nih.gov/news/events/pastmtg/hazmat/2022/Fall_Meeting/index.cfm) demands that the program be flexible to accommodate the needs of workers and their communities.

WTP’s approach considers all hazards – this includes hazards that are known (identified) and unknown (not yet identified). Regardless of the circumstances, it is essential that workers have the knowledge base to protect themselves and the communities in which they are working, and that knowledge base is HAZWOPER and HAZWOPER-supported training. WTP also actively applies the precautionary principle, considering caution, pause and reflection before embarking on new innovations.

Consider the emergence of infectious diseases like Ebola virus and coronavirus disease 2019 (COVID-19) – these public health emergencies required [adaptable strategies](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9012162/) to ensure the health and safety of workers. Despite the restrictions brought on by the COVID-19 pandemic, WTP grant recipients quickly pivoted to delivering nearly all training programs to a virtual environment, while maintaining high quality and engaging content for learners. This quick pivot was made possible by leveraging supplemental funds (COVID-19 Appropriations), along with tools and resources from the National Clearinghouse for Worker Safety and Health Training.

This adaptability is one of the many benefits of the cooperative agreement mechanism for WTP grant recipients. With this mechanism, NIEHS and WTP staff work closely with grant recipients to support and provide them with an infrastructure to address emerging health and safety issues across their target audiences.

***Objectives:***

* Remain flexible and adaptable based on evolving landscape of HazMat threats, as well as issues related to diversity, climate change, and infectious disease.
* Leverage the lessons learned from prior disasters and emergencies to respond to emerging 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.
* Meet the emerging threats and opportunities of issues, such as changing climate, alternative energy sources, and rapidly penetrating new materials and technologies into global commerce.
* Develop better understanding of the science and implications of new materials and technologies and prepare for any potential all-hazards incidents.
* Changes 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 necessary 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.

### Innovative 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 such workers has traditionally taken place in physical classrooms, recent technological advances have facilitated more accessible 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](https://www.niehs.nih.gov/careers/assets/docs/wtp_sbir_factsheet_2023_508.pdf). The program funds small businesses to develop innovative applications or technologies that are used for health and safety training. SBIR grant recipients have revolutionized 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 remain adaptable. For example, these products provide flexibility for instructors to deliver training to remote or hard-to-reach audiences. These products also provide instructors with the tools to deliver training during disasters or public health emergencies, such as COVID-19.

***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 other WTP (training) grant recipients.

### Continuity, Sustainability, and Institutional Knowledge

Turnover in key personnel at the institute or grant recipient level (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 the WTP.

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 can use to coach and prepare the next generation of staff. Mentorship does not have to be limited to individuals within one grant recipient/organization; there is even more value added when cross-mentorship and training happens between two or more grant recipients and organizations.

WTP is also committed to documenting events and program-wide initiatives in various media formats, including videos, infographics, reports, success stories, and peer-reviewed articles. All of these 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, grant recipient organizations, training partner organizations, and beyond.
* Promote a culture of succession planning and mentorship within the WTP network.
* Develop materials that can be easily adapted and used for the onboarding and orientation of new leaders in the WTP network.

## Theme 2. Worker Health and Safety Training and Education

### Instructor and Trainer Development

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

It is critical that WTP grant recipients encourage mentorship opportunities for seasoned trainers and new trainers to share their skills with one another because each of them has something to offer and gain from the other. This is especially important as the existing cadre of trainers ages out (i.e., shifts into retirement).

Grant 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 or trainers and ensure existing instructors are staying up to date on the latest science, technology and training techniques.

WTP relies on trainers who have expertise in the field of health and safety, as well as those who have diverse backgrounds. As the program continues its focus on equity, more trainers are needed who can understand and relate to the cultural and language needs of target audiences, especially those who are historically disenfranchised or underserved. The WTP Trainers’ Exchange, (usually held every three to five years), is an event for trainers to gather and share training best practices through a series of participatory workshops. Principal investigators (PIs) from WTP-funded organizations send trainers from their programs to the event. The event provides an opportunity for trainers to enhance their teaching methods and learn how to create more effective and empowering training modules. This ensures that trainers meet their continuing education as required in the [Minimum Criteria](https://tools.niehs.nih.gov/wetp/index.cfm?id=142).

***Objectives:***

* Build a diverse cadre of trainers within WTP’s network.
* Manage the expansion of a national network of trainers with diverse skills driven by a common training doctrine.

### Hands-On, Interactive Training

WTP incorporates hands-on activities in training curricula to suit the learning needs of diverse audiences. These hands-on activities are incorporated to the extent possible based on the course topic, course location, and student certification needs. Training courses allow participants to practice the selection, donning, and doffing of personal protective equipment. In general, training courses also include group discussions or exercises that allow participants 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 hands-on, interactive training activities (to the extent possible) to build technical and soft skills.
* Consider worker/trainee needs and perspectives with the development of new hands-on training activities.
* Integrate new tools or technologies (to the extent possible) to enhance hands-on training.

### Worker Empowerment

Through health and safety training, workers are empowered with knowledge and skills that they can use to protect themselves and their colleagues. Workers are also empowered to share information with their peers, raise safety concerns with their employers, and/or contribute to the implementation of new workplace procedures. This enables people to emerge as natural leaders as they help direct and focus efforts to improve workplace safety culture.

***Objectives:***

* Empower trainees to share the knowledge they have gained with their employers and peers.
* Encourage the development of leaders within the workplace who are committed to health and safety.

### Workforce Development and Job Training

A diagram of a work training program

Description automatically generatedMany 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](https://tools.niehs.nih.gov/wetp/events.cfm?id=2629) 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. This sets WTP apart from other programs, including its foresight to address emerging issues and commitment to social and economic justice for workers and their communities.

The ECWTP is a great example of WTP’s [commitment to environmental justice](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10191422/) and providing underserved individuals with a pathway for sustainable careers. As a [participant in the White House Justice40 Initiative](https://www.hhs.gov/about/news/2022/06/24/hhs-announces-programs-to-join-president-bidens-justice40-initiative.html), the ECWTP shows promise as a model for other training programs to follow in reaching and impacting lives. Many grant recipients, even those without an ECWTP grant, 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 to meet this growing need and the hazards they present. Several grant recipients are working (or exploring opportunities) with partner organizations to fill jobs in emerging sectors, such as solar panel installation and charging station installation (for electric vehicles).

***Objectives:***

* Provide workforce development opportunities through apprenticeships and other model programs that help individuals, especially those from underserved and underemployed communities, obtain jobs in the environmental and construction industries.
* Recruit and train young workers in construction, environmental cleanup, waste treatment, and green industries.
* Focus on strengthening job creation and retention.
* Encourage integration of core components of ECWTP in other training programs.
* Strengthen the links between workers and 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.

### 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](https://www.fema.gov/sites/default/files/2020-07/fema_nrf_support-annex_worker-safety.pdf#:~:text=This%20annex%20provides%20supplemental%20assistance%20to%20Federal%20departments,it%20does%20not%20address%20public%20health%20and%20safety.). The U.S. Department of Health and Human Services has recognized WTP’s critical work as an essential member of the National Disaster Recovery Framework for protecting workers who contribute to national response and recovery activities.

***WTP’s Role in National Response Activities***

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 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 WTP awardee instructional staff.
* Assistance such as respirator fit-testing and distribution of Personal Protective Equipment (PPE).

WTP continues to [develop and deliver awareness level training tools](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=13301) for workers involved in response, recovery, and cleanup following natural disasters, chemical or biological terrorist attacks, infectious disease outbreaks, and other hazardous incidents. Climate change has 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 climate change](https://www.niehs.nih.gov/news/events/pastmtg/hazmat/2022/Spring_Meeting/index.cfm) and related disasters.

As a member of the National Response Team, WTP also 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’s cadre of 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, WTP’s experience in responding to incidents shows that workers rarely get the full extent of training they need before going to work on a disaster site. There is a need for more skilled support personnel to receive all-hazards incident response and recovery training before an incident. Workers must receive all the necessary training required to properly prepare them for the risks they may face *before* a disaster occurs.

To ensure that grant recipients have the necessary protocols and strategies in place when activated for incident response, WTP uses the [Emergency Support Activation Plan](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=10602) (ESAP). The ESAP provides guidance and recommendations to help WTP grant recipients and trainers better prepare their personnel and families prior to, during, and after disaster response deployment.

WTP grant recipients are allowed to use/repurpose their NIEHS funds to respond to disasters and emergencies as needed. Additional funding opportunities are made possible through Congressional supplemental appropriations.[[4]](#footnote-5) Program staff also encourage grant recipients to seek additional funding opportunities through other agencies and organizations.

WTP continues 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). Recently, WTP and National Clearinghouse staff supported the White House Environmental Justice Interagency Council, Environmental Justice and Natural Disasters Committee with gathering input from the stakeholders across the nation on how to better address natural disaster preparedness, response, recovery, as well as associated COVID-19 implications, in disadvantaged communities.

***Objectives:***

* Advocate for 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.

***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 (PPE), use of tools, safety at elevations, etc. Training that is mandated by various agencies, such as OSHA, EPA, U.S. Coast Guard, Department of Transportation, etc., should be provided in accordance with those agencies’ standards or guidelines.
* **Pre-deployment and pre-job briefings** are conducted on a daily basis by the worker’s immediate supervisor to cover the day’s work plan.

Definitions for site specific, task specific and pre-deployment/pre-job briefings are from OSHA’s ***Hurricane Katrina Worker Health and Safety Plan, October 2005***.

* Advocate for cleanup and recovery worker safety and health in the public forum, including day laborers and other immigrant 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, and federal levels after the initial disaster recovery funding is depleted.
* Determine a way to obtain resources to train immigrant 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 disadvantaged communities 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.

### 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](https://www.energy.gov/em/office-environmental-management) to prepare and equip workers with proper training to [address hazards within and around U.S. DOE sites](https://www.princeton.edu/~ota/disk1/1993/9326/9326.PDF), 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](https://www.energy.gov/mission) 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](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=11026) and a focus on safety culture. 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; they 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](https://www.directives.doe.gov/directives-documents/300-series/0364.1-APolicy). 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](https://www.gao.gov/products/gao-22-104662) the Department of Energy (DOE), Office of Environmental Management (EM) manages DOE’s radioactive and hazardous waste cleanup program 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. Such projects highlight WTP’s critical work in ensuring the safety and health of workers who oversee and contribute to these cleanup efforts.

***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 safety culture 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 target training topics based on lessons learned reports and assessment activities*.*

## Theme 3. Outreach and Communication

### Diversity, Accessibility, and Environmental Justice

WTP adapts its processes and materials to include essential elements of diversity, equity, inclusion, and accessibility, and to operationalize them in all initiatives.[[5]](#footnote-6) WTP also adapts its outreach and training approaches to ensure that workers, especially those from historically disenfranchised or underserved communities, have access to critical training and educational resources. The program considers education, access, language, and other socio-cultural factors to ensure that training and education initiatives are accessible and appropriate to meet the needs of target populations. As such, WTP provides resources that have simplified terms to reach various adult reading/education levels and in multiple languages ([language justice](https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2018/01/18/ensuring-language-justice)).

WTP encourages that training curricula and resources align with the [Centers for Disease Control and Prevention (CDC) Health Equity Guiding Principles for Inclusive Communication](https://www.cdc.gov/healthcommunication/HealthEquityGuidingPrinciples.pdf). WTP also follows CDC principles of health equity and literacy, which are key priorities when addressing [social determinants of health](https://www.cdc.gov/about/sdoh/index.html).

As part of its commitment to equity, WTP also focuses on reaching workers and communities that face environmental justice issues. Many low-income and underserved communities face hazardous environmental conditions; therefore, they face disproportionate health burdens in the places they live and work. The federal government is aiming to address many of these issues through several Executive Orders, including [Advancing Racial Equity and Support for Underserved Communities through the Federal Government](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/) (EO 13985), [Tackling the Climate Crisis at Home and Abroad](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/) (EO 14008), [Revitalizing Our Nation’s Commitment to Environmental Justice for All](https://www.whitehouse.gov/briefing-room/presidential-actions/2023/04/21/executive-order-on-revitalizing-our-nations-commitment-to-environmental-justice-for-all/) (EO 14096), and others.

***Objectives:***

* Encourage diversity, equity, inclusion, and accessibility across all training programs and curricula. WTP actively supports a worker’s right to know and strives to achieve cultural and equitable competencies that align with the needs of workers and communities.
* Train workers and communities that face occupational and environmental health disparities.

### Partnerships

WTP promotes collaboration with community-based organizations, volunteer organizations, contractors, local and state agencies, and other federal agencies to meet its vision, mission, and values. These longstanding partnerships enable WTP to flourish and expand the capacity of training and education efforts, which help ensure the program’s sustainability.

[Partnerships](https://www.niehs.nih.gov/news/events/pastmtg/hazmat/2021/Fall_Meeting/index.cfm) – whether at the federal, state, or local level – are critical for the reach and expansion of WTP’s network. When done effectively, partnerships are mutually beneficial, and they produce positive outcomes for grant 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 National Institute for Occupational Safety and Health (NIOSH) to promote recovery friendly workplace initiatives. The [Recovery Friendly Workplace Landscape Analysis report](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=14183&file_name=WTP_RFW_Report_072423_508.pdf) (2023) documents the results of a nationwide analysis of organizations in 31 states that are 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.
* Pursue partnerships with organizations and agencies that represent historically underserved and Tribal communities.
* Foster opportunities for collaboration among WTP grant recipients, including those organizations with SBIR grants.
* Be strategic about partnerships for technical meetings, Trainers’ Exchanges, webinars, and other events.

### Evaluate, Measure, and Share Success

Evaluation is an essential component of WTP and is necessary to assess the effectiveness of a training program.

The [Minimum Criteria](https://tools.niehs.nih.gov/wetp/index.cfm?id=142) describes the utility of the [Kirkpatrick Model](https://www.kirkpatrickpartners.com/the-kirkpatrick-model/) as a meaningful way to evaluate training effectiveness.

As the WTP network continues to grow and expand its reach, program staff and grant recipients must keep evaluation as a priority. Program staff are working with NIEHS leadership and others in academia to evaluate the overall impacts of WTP training program areas. Many grant recipient organizations work with third-party evaluators/teams who bring an unbiased perspective when assessing the impact of training programs.

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 grant recipients are actively involved in national conferences, inter-agency working groups, and professional organizations. These platforms create opportunities to raise awareness about WTP’s long history and 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. Grant 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, program staff and grant recipients have an opportunity to communicate with the public more broadly and share WTP successes via the Clearinghouse website, the WTP weekly newsbrief, conferences (national and regional), reports, peer-reviewed articles, and other platforms. The WTP Communication Plan, developed by MDB in 2023, will prove to be a useful guide for development and dissemination of WTP products moving forward.

***Objectives:***

* Establish common evaluation measures using the WTP logic model.
* Promote grant 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.
* 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.

1. A cooperative agreement is distinctly different from a grant in that it provides for substantial involvement between the Federal agency or pass-through entity and the grant award recipient. This makes the WTP unique amongst all other NIEHS programs. [↑](#footnote-ref-2)
2. 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. [↑](#footnote-ref-3)
3. 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), COVID-19 (2020), and the Consolidated Appropriations Act (2023). Following the COVID-19 pandemic, the topic of infectious disease and biological hazards became integrated into regular training. [↑](#footnote-ref-4)
4. 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), COVID-19 (2020), and the Consolidated Appropriations Act (2023). [↑](#footnote-ref-5)
5. The advancement of equity is a key aspect of the U.S. Department of Health and Human Services (HHS). More on the HHS Equity Action Plan can be found here: <https://www.hhs.gov/equity/index.html> [↑](#footnote-ref-6)