National Institute of Environmental Health Sciences
Worker Training Program

The National Institute of Environmental Health Sciences/
Department of Energy

NUCLEAR WORKER TRAINING PROGRAM

ACCOMPLISHMENTS AND HIGHLIGHTS

Aug. 1, 2023 – July 31, 2024

In This Report

This report summarizes the activities of the National Institute of Environmental Health Sciences (NIEHS)/Department of Energy (DOE) Nuclear Worker Training Program — hereafter referred to as the NIEHS/DOE Program — and its award recipients in the 2023 program year (August 1, 2023 – July 31, 2024).

Overview of the National Institute of Environmental Health Sciences (NIEHS)/Department of Energy (DOE) Nuclear Worker Training Program

Program Goal

The goal of the NIEHS/DOE Program is to provide high-quality training to DOE site workers to ensure they are prepared to work safely in hazardous environments. The training provided supports DOE Office of Environmental Management (EM) mission completion and worker safety training for other DOE missions.

Training aids DOE's commitment to safe work performance, providing workers with the skills and knowledge to identify hazardous situations and take appropriate actions to protect themselves, fellow workers, and the environment. To accomplish this, NIEHS funds programs to deliver site-specific and trade-specific training, including basic worker skills such as safety culture and human-performance improvement. The training courses address complicated and evolving DOE site missions with ongoing and emerging hazards, often including a combination of nuclear, industrial, chemical, demolition, and construction activities.

Program Overview

Administered since 1993 by the NIEHS Worker Training Program (WTP), the program provides site-specific, high-quality health and safety training to workers in a timely and cost-effective manner, with an average cost of $26.53 per contact hour. Since the beginning of the program, 785,233 workers have received 10,137,003 contact hours of training in 54,239 courses.

Training is accomplished through a partnership involving government, contractors, and labor organizations. A cornerstone of the program is the use of worker-trainers — peer trainers who are experienced employees, well-versed in performing a given task in a hazardous environment and instructing other workers. All training is completed following the NIEHS Minimum Health and Safety Training Criteria: Guidance for Hazardous Waste Operations and Emergency Response (HAZWOPER) and HAZWOPER-Supporting Training (Minimum Criteria) document. In addition, many award-recipient organizations hold academic accreditation from third-party agencies that directly aid in providing high-quality training to workers.

Protecting workers' health and safety through training delivery has been a priority of every administration and DOE Secretary of Energy. As DOE's mission has shifted from weapons production to environmental restoration and other priorities, site workers are often exposed to new operations, potentially hazardous materials, and workplace hazards. The training offered under the NIEHS/DOE Program supports and integrates with DOE Integrated Safety Management and the DOE Safety Culture Workgroup; Title 10 of the Code of Federal Regulations, part 851 (10 CFR 851), the Worker Safety and Health Program; and other initiatives.

Training Participants

NIEHS training is available to all DOE workers at former government weapons sites and nuclear research facilities, including represented and non-represented individuals. The NIEHS/DOE Program works with the DOE National Training

Center (NTC) and Energy Facility Contractors Group (EFCOG) to find avenues for acceptance of training through apprentice and journey training. Available training is often possible before hiring, and acceptance of training performed before hiring improves project mobilization and can reduce hiring costs. Over half of the NIEHS/DOE Program award recipients participate in the DOE Reciprocity Certification Program.

The NIEHS/DOE Program trains a variety of workers engaged in work activities at DOE nuclear weapons and legacy sites. Trainees include crane operators, carpenters, welders, laborers, chemical operators, firefighters, construction workers, electricians, environmental technicians, insulators, laboratory technicians, machinists, pipe fitters, and truck drivers.

Additionally, some training is extended to communities surrounding DOE sites, which then gain certifications and skills that increase their eligibility for employment at a nearby DOE site or keep them prepared if called upon in an emergency. These communities include Tribes surrounding the DOE complex.

Collaboration With DOE National Organizations and Programs

NIEHS and award recipients collaborate with:

- DOE Environmental Management. The mission of the DOE Office of Environmental Management (EM) is to address the environmental impact of decades of Cold War-era nuclear weapons production and government-sponsored nuclear energy research. This environmental legacy includes some of the world's most dangerous sites containing chemical and radioactive materials, burdened with large amounts of radioactive waste, spent nuclear fuel (SNF), excess plutonium and uranium, thousands of contaminated facilities, and contaminated soil and groundwater. WTP and DOE have a Memorandum of Understanding between the two entities. Award recipients support the EM missions through providing critical worker safety and health training.
- The Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Federal Training Center. Multiple award recipients have supported the HAMMER facility since the inception of HAMMER 28 years ago. HAMMER has improved worker safety, reduced potential exposures, and effectively used the worker-training model to support completion of multiple Hanford missions. The HAMMER facility is supported by DOE and its contractors, national and international labor organizations, the local community, and Washington, D.C., congressional delegations.
- The DOE National Training Center (NTC) Health and Safety Training Reciprocity program. DOE has established the DOE Reciprocity Certification Program, which is managed by the NTC. This program reduces the repetition of fundamental safety and health training and supports shifting critical training resources to job-activity-specific training. These efforts can improve consistency in core training content and communications with site contractors. The NTC is also the federal sponsor for the Training Energy Facility Contractor Group (EFCOG) and the separate Labor Training Working Group.
- The DOE Energy Facility Contractors Group (EFCOG) and the Labor Training Working Group. The EFCOG is a self-directed membership organization of DOE contractors. The EFCOG focuses on promoting excellence through improvement initiatives and sharing best practices. The Labor Training Working Group is made up of labor representatives. Participation in the Labor Training Working Group provides direct communication with DOE leadership and improves coordination of activities with DOE contractors and the EFCOG leadership.

A National Asset in Emergency Response

The NIEHS/DOE Program represents a large pool of trained, certified workers who can respond to accidental or deliberate radiological or hazardous material events, a benefit and a national security asset. Additionally, NIEHS' network can deliver training and respond to infectious disease emergencies, weather-related events, and other disasters. NIEHS WTP has developed a mechanism for identifying and mobilizing these pre-trained, experienced workers.

Program Training Data, 2023–2024

Training Summary

For the 2023–2024 program year (Aug. 1, 2023 – Jul. 31, 2024):

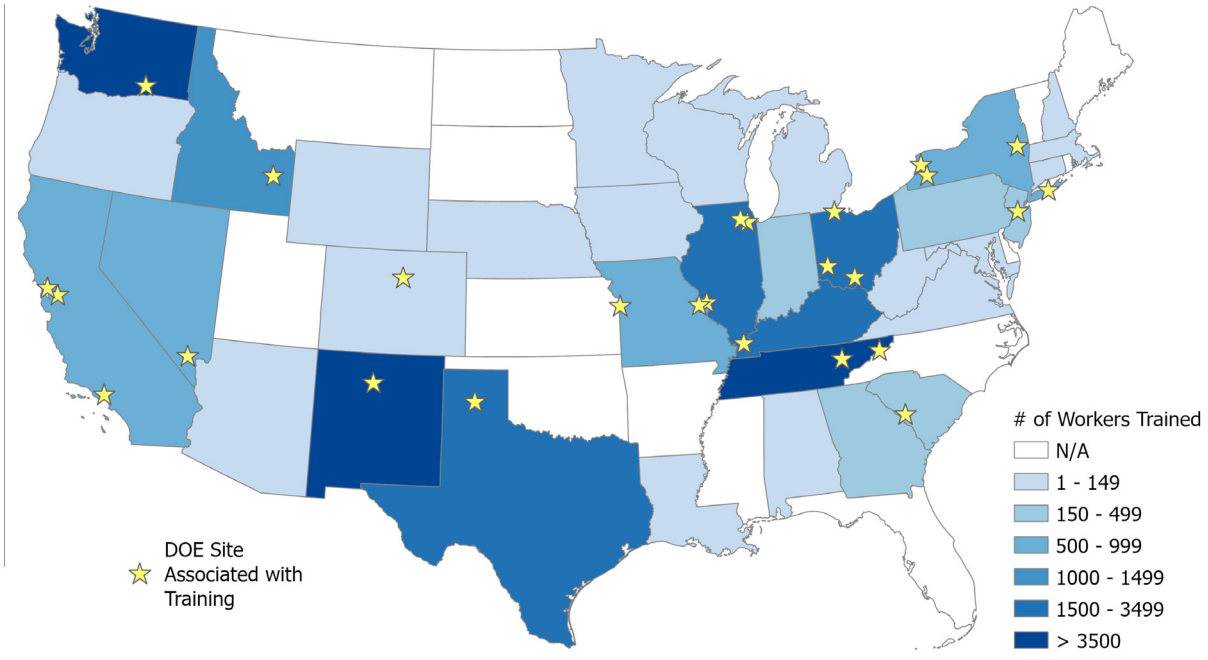
29,411	2,011	347,902	$9,230,799	$26.53
Workers trained	**Courses provided**	**Contact hours delivered**	**Dollars awarded**	**Average cost per contact hour**

DOE contractors continue to require standard safety and health training to support ongoing DOE missions, while at the same time preparing the next generation of workers for emerging challenges and future missions. NIEHS award recipients are leveraging ongoing parent-organization programs and assisting in training and qualifying new DOE workers. For example, several award recipients support site occupational radiological control technician training programs and the Occupational Safety and Health Administration's (OSHA) 10- and 30-hour safety training courses.

Training Locations

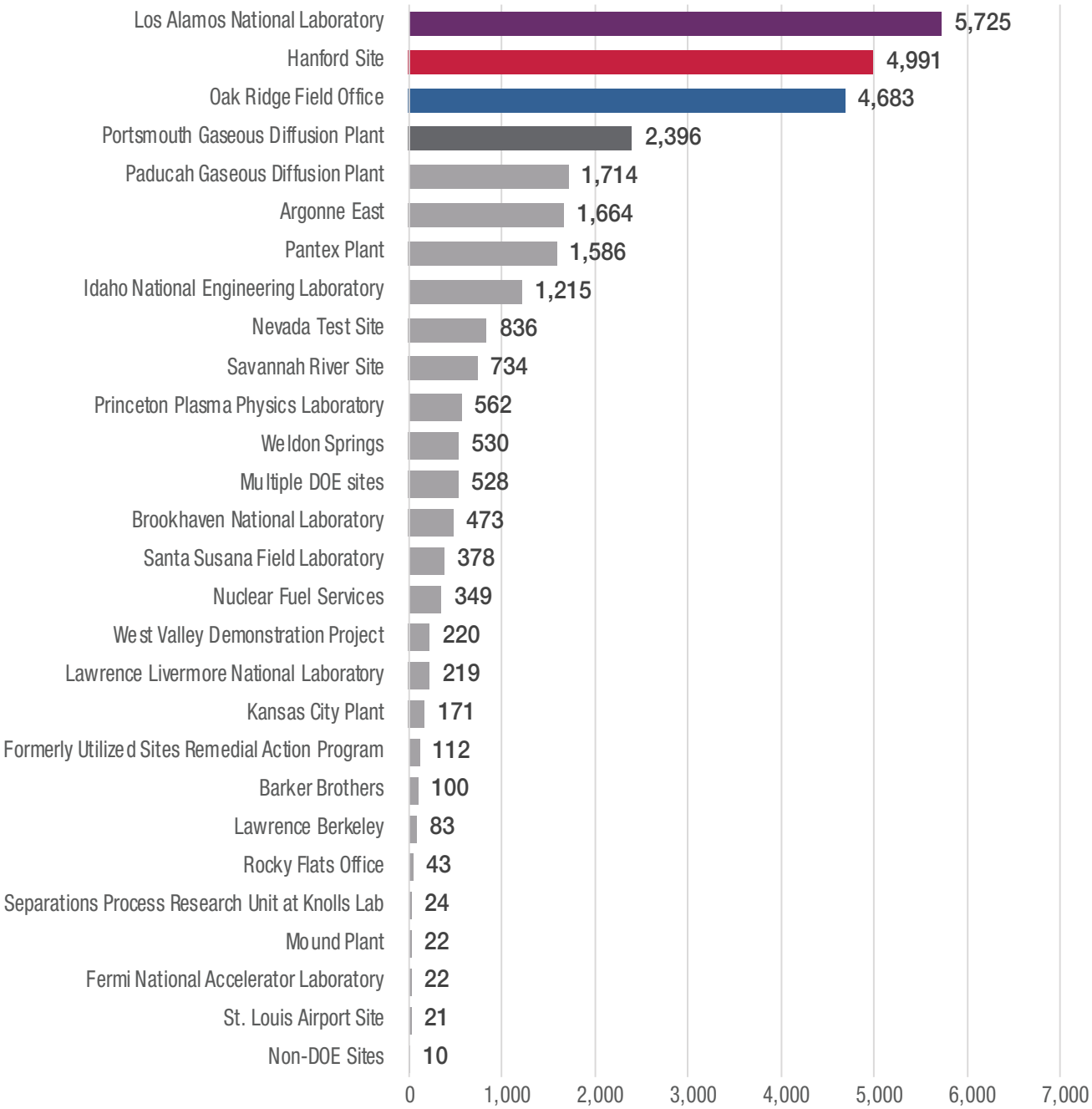
Training was conducted at, or around, 27 sites, as shown on the map. The number of sites, both large and small, demonstrates the national scope of this program. A complete list of DOE sites is available in the Data Tables section of this report.

The map also summarizes the number of DOE workers trained across the country. The locations with the highest numbers of workers trained reflect the sites with the most extensive cleanup operations for DOE EM.



The figure below shows sites with the highest numbers of workers trained.

Los Alamos had the highest number of workers trained, followed by **Hanford**, **Oak Ridge**, and **Portsmouth Gaseous Diffusion Plant**. (Aug. 1, 2023 – Jul. 31, 2024)



* The 27-site total excludes "multiple sites" which occurred in Arizona, California, District of Columbia, Louisiana, Maryland, Michigan, Nevada, New York, Oregon, Pennsylvania, Tennessee, Texas, Virginia, and Washington.

Top Courses at Top Sites

The chart below shows the courses in which the highest number of workers received training at the sites with the highest number of workers trained during the 2023–2024 program year.

Top Courses, by Workers Trained, by Site

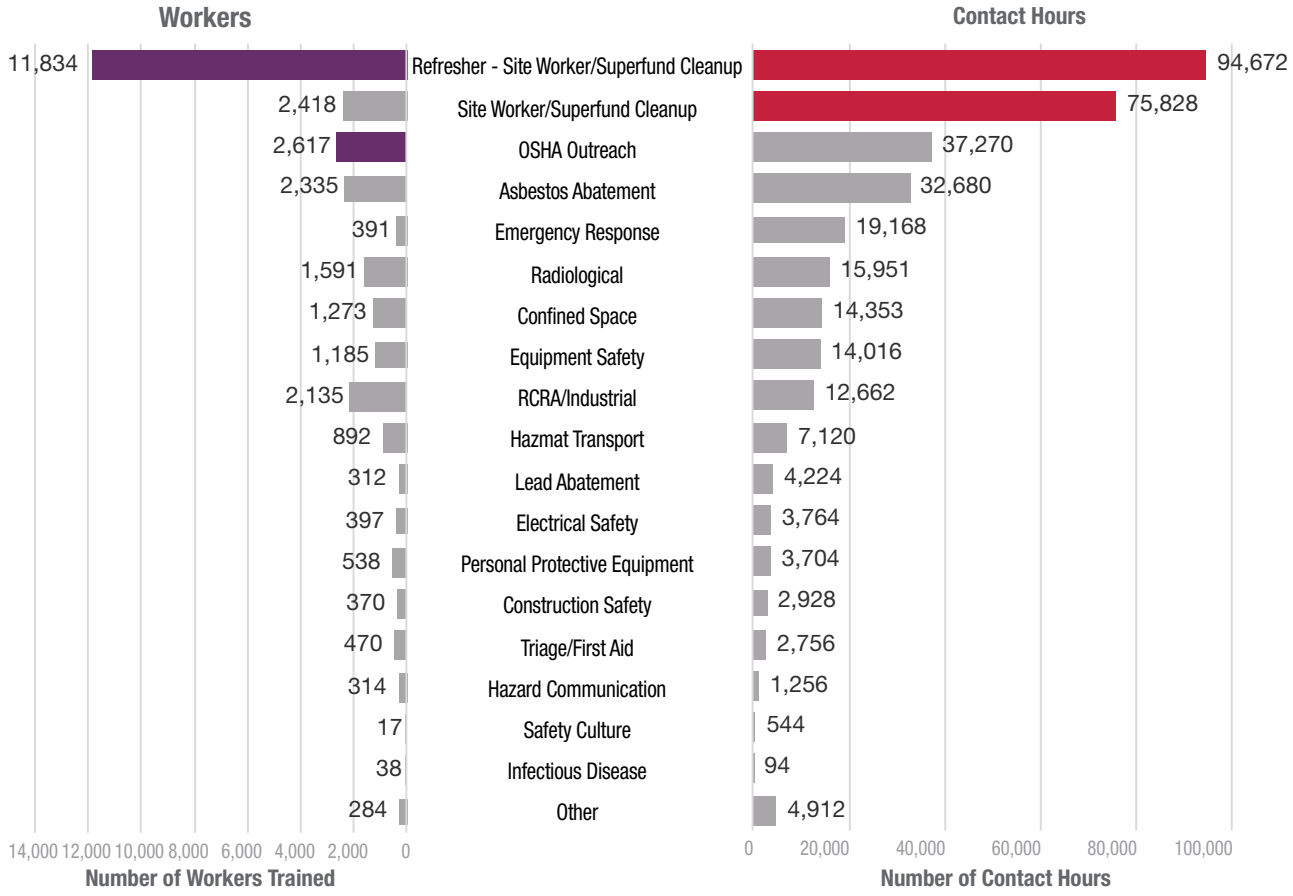
Los Alamos National Laboratory	Hanford	Oak Ridge Field Office	Portsmouth Gaseous Diffusion Plant
			
1,400 Site Worker Refresher	**3,936** Site Worker Refresher	**2,339** Site Worker Refresher	**1,055** Radiological Control Technician Training
			
1,108 Hazardous Waste Characterization	**538** Respiratory Protection	**479** Asbestos Abatement Worker Refresher	**813** Site Worker Refresher
			
830 Confined Space	**342** Basic Superfund Site Worker	**385** Basic Superfund Site Worker	**159** Asbestos Abatement Supervisor Refresher
			
343 Fall Protection	**41** General Construction Safety	**162** General Construction Safety	**123** Basic First Aid

Training Course Categories

The figure below shows the numbers of workers trained and total contact hours for various courses during the 2023–2024 program year. These courses are critical to ensure DOE worker and site safety and worker readiness for employment. A full list of training courses, organized by categories, is available in the Data Tables section of this report.

Of the 29,411 **workers trained** and of the 347,902 **contact hours**, the highest numbers of workers received training in **Site Worker Refresher**, **Site Worker/Superfund Cleanup**, and **OSHA Outreach** courses.

(Aug. 1, 2023 – July 31, 2024)



> As the director of the DOE National Training Center, I think it is imperative for all training organizations and subject matter experts to explore avenues for expanding partnerships and collaboration. Every DOE Site possesses training materials that are valuable and could be of use beyond one site. I am committed to working with all training organizations to enhance the quality and accessibility of training to every DOE worker, which is crucial for successfully accomplishing DOE missions. Through collaborative efforts, we can pinpoint the most desired topical courses, exchange training resources, and collectively achieve the training goals of the DOE and its contractors.
>
> **— Gabe Pugh, National Training Center Director**

Top 3 Activity Highlights

Highlight #1: CWPR's Innovative Technologies to Support the Nuclear Worker Training Program (NWTP)

The availability and accessibility of data are critical to enhancing worker training initiatives and improving worker health and safety. Since 2021, CPWR has provided students with up-to-date industry information through its Data Dashboards. Part of CPWR's Data Center, Data Dashboards are interactive pages that allow students to access highly detailed and flexible charts, covering issues such as workplace injuries, demographic industry data, and income and retirement plan information. CPWR's Data Center houses and regularly updates more than 30 Data Dashboards, ensuring that both students and trainers have the information needed to make informed decisions related to their fields. At least nine of these Data Dashboards were updated during the 2024 program-year, reflecting CWPR's commitment to providing innovative technological solutions to support the Nuclear Worker Training Program (NWTP) mission.

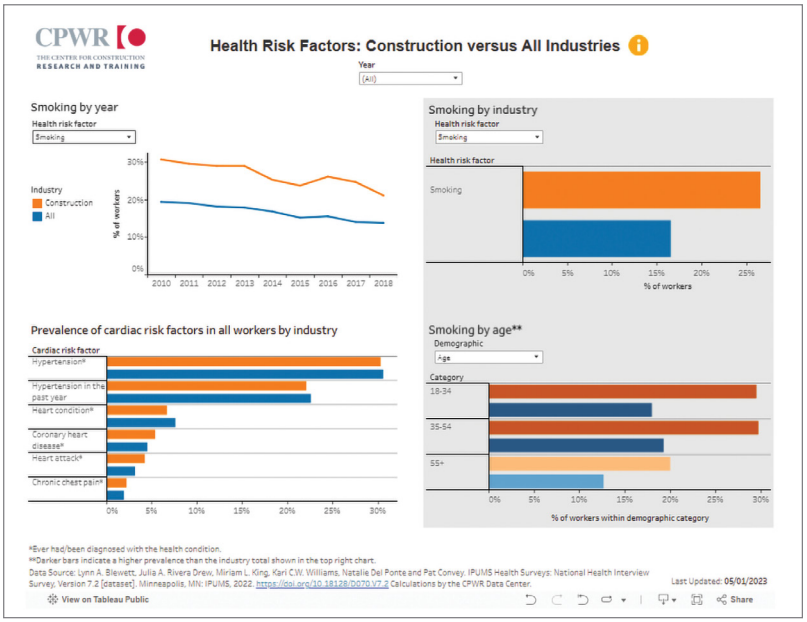


Figure 1: Data Dashboards showing health insurance coverage information in construction industries. (Screenshot courtesy of CPWR)

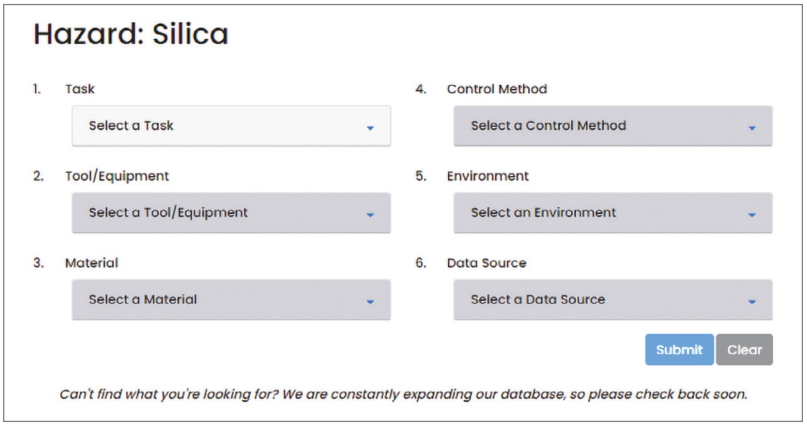


Figure 2: The silica page on CPWR's Exposure Control Database. (Screenshot courtesy of CPWR)

Another key technological application is CPWR's Exposure Control Database (ECD). ECD is a free web database that provides comprehensive estimates for workers' exposure to health hazards. Factoring in worker tasks, their environment, tools and equipment, materials, and control methods, the system determines to what degree workers may be exposed to silica, welding fumes, noise, and lead. Using this tool, workers can select the recommended engineering controls and personal protective equipment (PPE) to mitigate potential hazards and exposures. Not only can this tool be useful to individual workers, labor groups, and DOE contractor work-planning staff, but trainers can also use it to demonstrate the impacts of various exposures. The database contains over 1,300 scenarios.

Highlight #2: USW TMC's Training in Action

Operator technician and seasoned United Steelworkers Tony Mazzocchi Center (USW TMC) worker-trainer Glenn Eskridge prevented a workplace hazard in real-time. During management field observations at the Portsmouth, New Hampshire, site on March 12, 2024, the operations team was performing a vaporization change in the presence of maintenance leadership. While running a new cylinder into the autoclave, Eskridge noticed the pigtail tube was too close to the travel path of the cylinder cart, presenting a risk for unanticipated release and putting workers in danger. Eskridge immediately stopped work and altered the positioning of the tube before allowing work to proceed. He noted that, in the past, this has gone uncorrected, which could have led to an unanticipated release.

Eskridge's experience facilitating training and working at the Portsmouth site was critical to averting an unanticipated release of harmful materials. He also used this situation to transfer knowledge to newer operators by explaining the severity of the problem to them. Overall, Eskridge's work in recognizing and quickly mitigating a potential hazard was critical to maintaining health and safety at the Portsmouth site.

Figure 3: Students and worker-trainers celebrate graduation for the 15 students that participated in the 2023 RCT program at the Portsmouth site. (Photo courtesy of USW)

Figure 4: Worker-trainers at the Hanford site put together a glove box to be utilized for a PPE Operations game in the 8-Hour HAZWOPER Refresher. (Photo courtesy of USW)

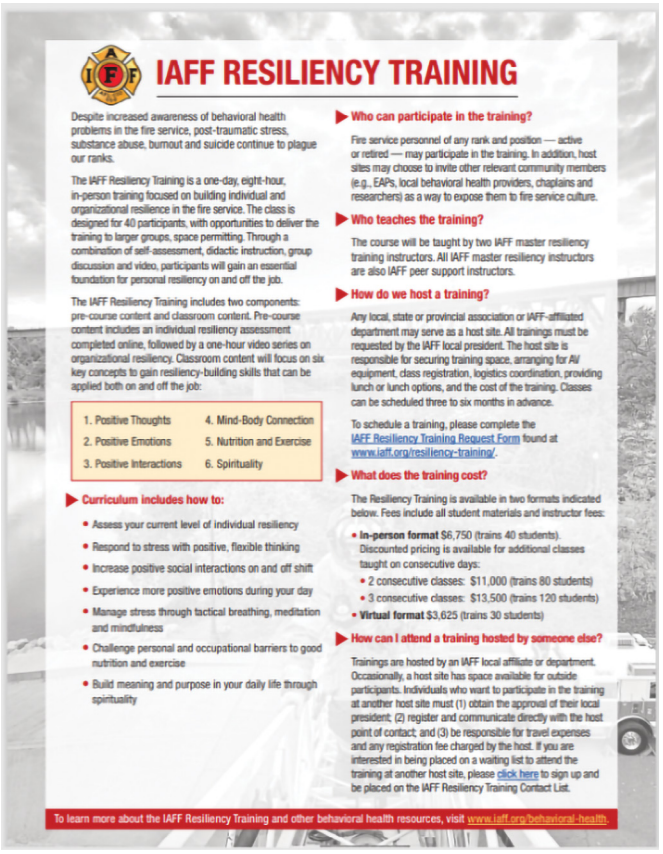
Highlight #3: IAFF's Mental Health Prioritization and Resource Development

The daily stresses and challenges emergency response workers face can take a cumulative toll on their mental well-being. As firefighters, paramedics, and other first responders are particularly susceptible to experiencing traumatic events during their work, it is critical to develop strategies and resources to protect their mental health.

The International Association of Fire Fighters (IAFF) has implemented both support programs and resilience facilities to address this significant issue. The association implemented the IAFF Resiliency Training, a two-day interactive course that allows less-experienced members to learn from veteran members across the IAFF. Learning directly from individuals who have gone through similar situations and can empathize is integral to processing traumatic experiences in a healthy manner.

In addition to the peer-support Resiliency Training program, the IAFF also offers behavioral health training to help address issues of substance use, burnout, and suicidal ideation as the product of workplace trauma. IAFF's Resiliency Training program offers an eight-hour training to groups of 40 in-person students and 25 virtual students, discussing topics such as positive thought, positive emotion, positive interactions, mind-body connection, nutrition and exercise, and spirituality.

The IAFF offers further behavioral health and post-traumatic stress disorder (PTSD) treatment through the IAFF Center of Excellence for Behavioral Health Treatment and Recovery. Located in Upper Marlboro, Maryland, this center is a safe haven for IAFF members who are dealing with the byproducts of mental-health crises, PTSD, and other issues that can arise as a result of their dedication to public health and safety. The center is staffed by industry professionals and provides care tailored to the unique needs of every member.



IAFF RESILIENCY TRAINING

Despite increased awareness of behavioral health problems in the fire service, post-traumatic stress, substance abuse, burnout and suicide continue to plague our ranks.

The IAFF Resiliency Training is a one-day, eight-hour, in-person training focused on building individual and organizational resilience in the fire service. The class is designed for 40 participants, with opportunities to deliver the training to larger groups, space permitting. Through a combination of self-assessment, didactic instruction, group discussion and video, participants will gain an essential foundation for personal resiliency on and off the job.

The IAFF Resiliency Training includes two components: pre-course content and classroom content. Pre-course content includes an individual resiliency assessment completed online, followed by a one-hour video series on organizational resiliency. Classroom content will focus on six key concepts to gain resiliency-building skills that can be applied both on and off the job:

1. Positive Thoughts
2. Positive Emotions
3. Positive Interactions
4. Mind-Body Connection
5. Nutrition and Exercise
6. Spirituality

Curriculum includes how to:

- Assess your current level of individual resiliency
- Respond to stress with positive, flexible thinking
- Increase positive social interactions on and off shift
- Experience more positive emotions during your day
- Manage stress through tactical breathing, meditation and mindfulness
- Challenge personal and occupational barriers to good nutrition and exercise
- Build meaning and purpose in your daily life through spirituality

Who can participate in the training?

Fire service personnel of any rank and position — active or retired — may participate in the training. In addition, host sites may choose to invite other relevant community members (e.g., EAPs, local behavioral health providers, chaplains and researchers) as a way to expose them to fire service culture.

Who teaches the training?

The course will be taught by two IAFF master resiliency training instructors. All IAFF master resiliency instructors are also IAFF peer support instructors.

How do we host a training?

Any local, state or provincial association or IAFF-affiliated department may serve as a host site. All trainings must be requested by the IAFF local president. The host site is responsible for securing training space, arranging for AV equipment, class registration, logistics coordination, providing lunch or lunch options, and the cost of the training. Classes can be scheduled three to six months in advance.

To schedule a training, please complete the IAFF Resiliency Training Request Form found at www.iaff.org/resiliency-training/.

What does the training cost?

The Resiliency Training is available in two formats indicated below. Fees include all student materials and instructor fees:

- **In-person format** $6,750 (trains 40 students). Discounted pricing is available for additional classes taught on consecutive days:
  - 2 consecutive classes: $11,000 (trains 80 students)
  - 3 consecutive classes: $13,500 (trains 120 students)
- **Virtual format** $3,625 (trains 30 students)

How can I attend a training hosted by someone else?

Trainings are hosted by an IAFF local affiliate or department. Occasionally, a host site has space available for outside participants. Individuals who want to participate in the training at another host site must (1) obtain the approval of their local president; (2) register and communicate directly with the host point of contact; and (3) be responsible for travel expenses and any registration fee charged by the host. If you are interested in being placed on a waiting list to attend the training at another host site, please click here to sign up and be placed on the IAFF Resiliency Training Contact List.

To learn more about the IAFF Resiliency Training and other behavioral health resources, visit www.iaff.org/behavioral-health.

Figure 5: IAFF Resiliency Training Flyer. (Image courtesy of IAFF)

Figure 6: IAFF Center of Excellence. (Photo courtesy of IAFF)

Ongoing, New, and Upcoming Initiatives

NIEHS Program Leadership and Activities

NIEHS WTP staff engage in ongoing work with DOE partners. During the 2023–2024 year, this included:

- **Briefings and update meetings with Environmental Management (EM)**
  - Although no formal, face-to-face briefings were conducted with EM staff, WTP provided periodic status updates and information regarding award recipient activities.
- **Building partnerships**
  - WTP conducted three collaboration partnership meetings with DOE National Training Center leadership. Discussions have resulted in:
    - An award recipient delivering occupational radiation protection training to two National Nuclear Security Administration sites.
    - The implementation of award-recipient training support to the Los Alamos National Laboratory (LANL) EM contractor, N3B.
    - An agreement with LANL (upon the availability of the revised standard) to develop a crosswalk document between the DOE Standard 1070 and the WTP minimum-criteria document.
    - The initiation of improved partnerships with the EFCOG community. WTP initiated preparation for the March 2024 Training EFCOG meeting as a co-sponsor with plans to lead four presentations.
    - Provided 24-hour HAZWOPER training virtually to a DOE TRU Waste Assessment team, avoiding approximately 100 person-days of travel and per-diem expenses before arrival at the selected audit site.
    - The planned delivery of OSHA 10- and 30-hour construction and industry course delivery from August 2024 through January 2025 to about 90 industrial hygiene staff at the Savanah River site.
- **Conferences, workshops, special trainings, and committee activities**
  - **Subcommittee and Steering Committee meetings:** WTP attended HAMMER Medical Surveillance subcommittee and steering committee meetings October 25–26, 2023, in Richland, Washington, which included a presentation on a national landscape analysis of recovery-friendly workplaces. WTP staff also attended the HAMMER Medical Surveillance subcommittee and steering committee meeting April 24-25, 2024, in Washington, D.C. In April 2024, WTP staff attended meetings with DOE Office of Health, Safety, and Security leadership.

- **March 2024 EFCOG Training Working Group meeting:** Sharon Beard, the NIEHS WTP director, and Deborah Weinstock, the NIEHS Clearinghouse for Worker Safety and Health Training (the Clearinghouse) director, attended the Labor Training Work Group meeting March 18, 2024, followed by the annual EFCOG Training Working Group meeting, held March 19–21, 2024, in Richland. WTP staff provided two presentations. The first focused on accessing and obtaining training support from WTP award recipients. The second focused on how partnerships and collaboration can improve training overall. WTP's participation in the meeting was highlighted in the June 2024 issue of NIEHS' newsletter, Environmental Factor.

Figure 7: EFCOG TWG meeting participants gather at the Volpentest HAMMER Federal Training Center in Richland, Washington, during the March 19–21 meeting. (Photo courtesy of WTP)

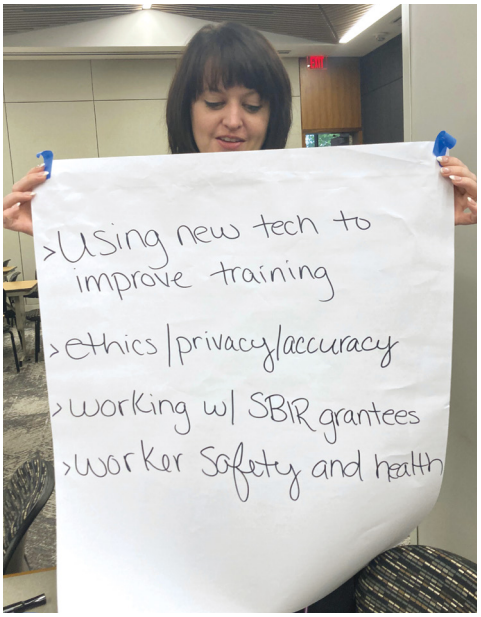
- **Monthly learning sessions:** Participation in the monthly Training EFCOG and Office of Environment, Health, Safety, and Security learning sessions have been opened to WTP award recipients.
- **Specialized trainings:** In addition to maintaining and adjusting support to standard training delivery in response to COVID-19, Los Alamos National Laboratory (LANL) requested delivery support for five additional courses in 2022. Ted Giltz of the Clearinghouse worked with interested parties to understand LANL's needs and initiate conversations with appropriate award-recipient leadership in 2021. The International Brotherhood of Teamsters (IBT) delivered crane training, and other award recipients will be delivering compressed-gas-bottle, ladder safety, and Department of Transportation (DOT) shipper training. LANL Institutional Training coordinated the delivery of these courses in 2022. Training needs at LANL are predicted to continue.
- **Training material library:** The federal sponsor of the Training EFCOG, chair of the Training EFCOG, and senior DOE leadership have started discussions about reducing the amount of duplicate training content DOE contractors currently require of employees. For example, at LANL, both the laboratory and the environmental management contractor currently utilize the same fundamental material, provided by CPWR, for HAZWOPER training. The NTC

is preparing to host a library of courses and providers, and to share information about training delivery. As a result of the WTP collaboration and partnership with the NTC and the Training EFCOG's existing award recipients, course deliveries will be included in the library. These efforts could provide opportunities to reduce duplication, improve consistency, and improve access to high-quality training.

- The WTP Fall 2023 workshop**:** A Pulse on the Nation's Workforce: Addressing the Implications of Emerging Hazards, Careers, and Technologies took place October 18-19, 2023. During the workshop, several DOE award recipients made impactful presentations.

Figure 8: WTP Fall Workshop Banner.

- **Keynote Interview:** Workforce Development — Focus on Apprenticeships: Keynote speaker Bernadette Oliveira-Rivera, co-chair of the U.S. Department of Labor's Advisory Committee on Apprenticeship and assistant director of the Laborers' International Union of North America (LIUNA) Training and Education Fund, highlighted growing support at the state and federal level for apprenticeships, which provide paid on-the-job training. Registered apprenticeships are reaching new sectors and audiences as industries realize that well-paying jobs and workforce retention are a boon to workers and employers alike. An intermediary role has also evolved among local organizations to help employers create apprenticeship programs and recruit applicants.
- **All Eyes on Us Panel:** Implications of Evolving Technologies: Incorporating artificial intelligence (AI) can enhance worker safety and improve productivity, among other benefits. However, these systems can also undermine job security and subject workers to different occupational hazards. Three award recipients shared benefits and drawbacks to AI and other computer-based technologies: Chris Cain with CPWR – The Center for Construction Research and Training, Charles Austin with the International Brotherhood of Teamsters, and James Burgess with the IAFF.
- **Creating Working Groups:** In the second half of the workshop, participants representing all award-recipient entities took part in working groups on youth engagement, implications of emerging technologies, and implications of clean energy — all issues pertinent to the NIEHS/DOE Nuclear Worker Training Program community. Working groups have continued to meet following the workshop.



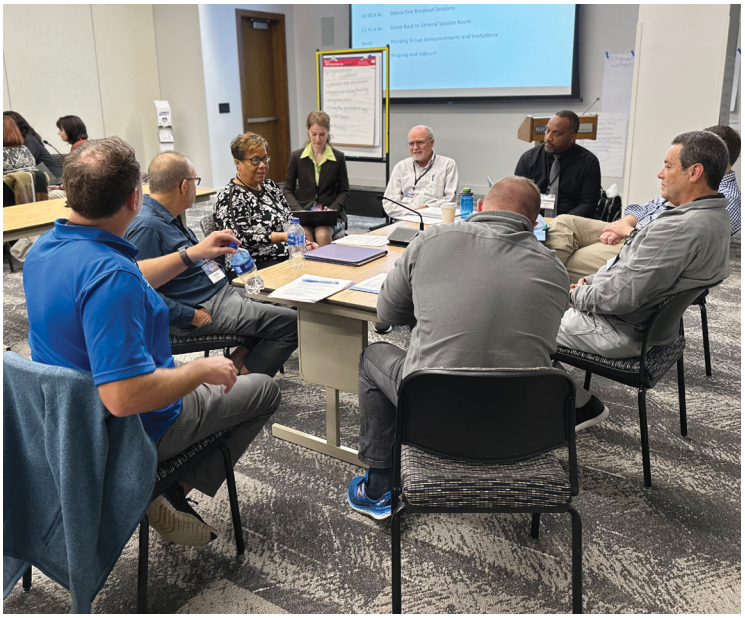


Figure 9 (left): Ashlee Fitch, director of the United Steelworkers Tony Mazzocchi Center, holds a large piece of paper with workshop topics. (Photo courtesy of the Clearinghouse)

Figure 10 (right): Workshop participants, including Charmaine Woolard, third from left in foreground, program manager of the International Brotherhood of Teamsters, broke into small groups to discuss different themes related to workplace health and safety. (Photo courtesy of the Clearinghouse)

- **The Spring 2024 workshop:** Closing the Gaps: Designing Training with Occupational Health Disparities in Mind took place April 30 – May 2, 2024. During the workshop, several DOE award recipients made impactful presentations.
  - **Congressional Briefing:** On the afternoon of April 30, award recipients and workshop attendees traveled to the Dirksen Senate Office Building for a Congressional Briefing, in which multiple DOE award recipients presented on the importance of partnerships with federal agencies in delivering high-quality health and safety training to their respective members.
  - Kirk Laflin of the National Partnership for Environmental Technology Education (NPETE) described how his organization is working to build capacity in communities to train and educate their workers adequately. Working with the National Workforce Education Council, NPETE has helped establish community and Tribal college workforce development initiatives.
  - Ashlee Fitch of the USW TMC spoke about how the NIEHS/DOE partnership creates educational capacity in communities by providing opportunities for training and education. Notably, through their training initiatives, USW TMC sees a 90% graduation rate and 60% job placement rate, which Fitch stated would not be possible without the NIEHS/DOE partnership.
  - Chris Cain of CPWR – The Center for Construction Research and Training described how her organization has leveraged its federal partnerships to bring apprenticeship programs to communities, building workforces and providing high-paying jobs to young workers. CPWR's apprenticeship programs have an 81% job-placement rate and help students secure jobs with benefits and pensions.

- Charles Austin of the IBT outlined his organization's work to provide its members with an array of training courses, including 40-hour HAZMAT courses. Partnering with organizations nationwide, IBT has helped facilitate disaster response training for wildfire outbreaks in California and railroad environment and safety training in Ohio.

Figure 11: Charles Austin of IBT. (Photo courtesy of the Clearinghouse)

- **Panel Presentations**
  - In addition to the Congressional Briefing, several award recipients presented on panels that highlighted the critical work being done through federal partnerships.
    - Chris Cain spoke about how the North America's Building Trades Union (NABTU) created the RESPECT Initiative to work with project developers to prioritize worker health and safety.
    - Ashlee Fitch spoke about how USW TMC is implementing practices to enhance worker health and safety, including ensuring PPE fit and access to bathrooms. USW created an Action Guide that offers ways to evaluate protection levels in a workplace and ways in which workplaces can improve to be safer.

Additionally, since the end of the program year, NIEHS has accomplished the following with DOE partners:

- **Safety Culture Improvement Panel (SCIP) Meeting:** Ted Giltz attended the August 2023 SCIP Meeting in Idaho Falls, Idaho, on behalf of NIEHS, where he provided information about NIEHS award recipients CPWR and IAFF and their safety culture curricula, available for delivery through grant-funded training.
- **Idaho Environmental Coalition (IEC):** The DOE Idaho National Laboratory's (INL) contractor IEC continues to schedule at least one National Fire Protection Association (NFPA) 70E training per quarter at INL, avoiding the cost of contracting to a vendor. NFPA 70E training protects workers by instructing them on how to reduce electrical hazards such as shocks, electrocutions, arc flashes, and arc blasts. Since the inception of this support in 2019, over $500,000 in contractor training course costs have been avoided. This training is available to other DOE contractors and their subcontractors.

Reciprocity Through the National Training Center (NTC)

The NIEHS Worker Training Program continues to participate in the DOE Reciprocity Certification program. Over half of the DOE award recipients participate in the program and hold certification for over 40 courses.

Reciprocity course certification allows workers to transfer fundamental training between DOE contractors and sites, improves project mobilization, and enhances course consistency between contractors. Reciprocity saves money for DOE by eliminating redundant fundamental training and allowing contractors to redirect resources to job- or site-specific training or other training prior to job qualification. The EFCOG Training Working Group supports this initiative, and a task team has been formed to implement improvements to methods of sharing training completion records.

DOE P 364.1 describes the department's expectations for the program, which supports reducing the repetition of fundamental training material before final qualification to perform work. The Training EFCOG evaluates methods to improve participation and expand the use of reciprocity in the Training EFCOG annual work plan.

An indirect benefit of NIEHS/DOE Program award recipients participating in reciprocity has been the ability to help DOE contractors address in-house instructor needs. Examples are discussed under the National and Site-Specific Collaborations With the DOE Site Contractor Community section.

The current organizations funded by the NIEHS/DOE Program that have reciprocity certifications are:

- CPWR: HAZWOPER, Confined Space Entry, Safety Culture TLP-100
  - CPWR Consortium Members
    - National Ironworkers and Employers Apprenticeship Training and Journeyman Upgrading Fund: HAZWOPER, Fire Watch, Scaffold Safety
    - United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States, Canada: Confined Space Construction
    - Electrical Training Alliance/International Brotherhood of Electrical Workers (IBEW): National Fire Protection Association (NFPA) 70E Standard for Electrical Safety, NFPA 70 Code Update.
- International Union of Operating Engineers (IUOE): HAZWOPER, Bloodborne Pathogens, Fall Hazard Recognition and Prevention, Hazard Communication (HAZCOM)
- LIUNA Training and Education Fund: HAZWOPER, Radiological Worker I and II, HAZCOM, Asbestos Awareness, Excavation/Trenching Awareness, Basic Crane and Basic Rigging Safety, Fire Watch, Scaffold Safety for Inspectors, Silica Awareness, Heat Stress Prevention and First Aid, Lead Worker Initial, Mobile Crane Hazard Awareness, Portable Metal Ladders for Construction, Radiation Worker I and II, Construction Occupational Noise Awareness, and Apprenticeship Certification.
- USW TMC for Health, Safety, and Environmental Education: HAZWOPER, Resource Conservation and Recovery Act (RCRA) Initial, and Radiological Control Technician (RCT) Academics.

National and Site-Specific Collaborations With the DOE Site Contractor Community

- The NIEHS/DOE Program continued its collaborations with the contractor community. The desired goal is to establish relationships that enable award recipients to deliver training at no or reduced cost to the sponsoring contractor, which could reduce redundancy and contractor costs and fill contractor training gaps. WTP is working with the NTC and EFCOG to improve manager and contractor leadership regarding the availability of award-recipient-provided training support.

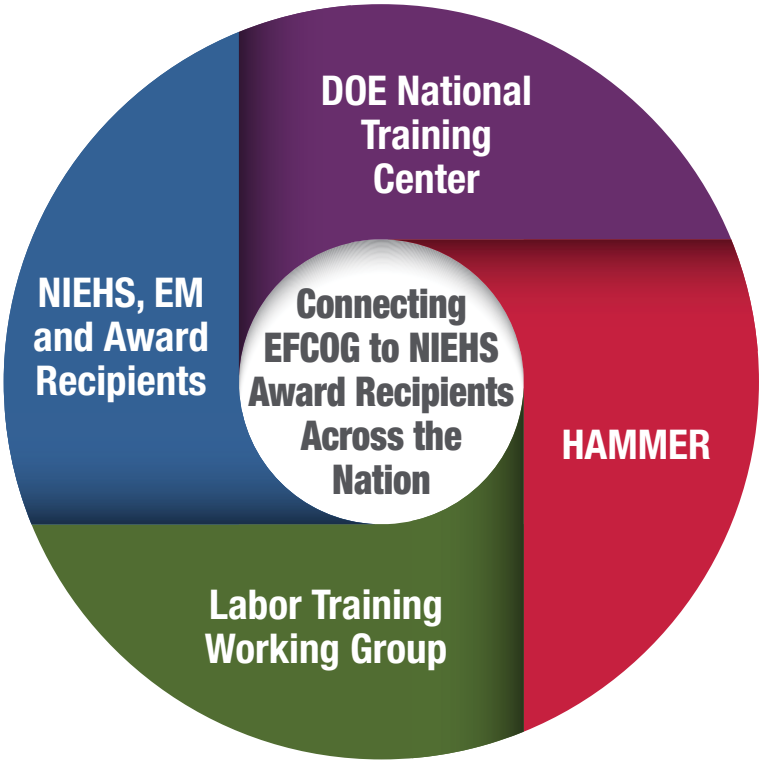


Figure 12: This model shows expanding training delivery at DOE sites through partnership and collaboration.

DOE Liaison

NIEHS WTP continued a relationship with a part-time liaison with extensive DOE experience to leverage existing training capacity and educate new DOE contractors. Ted Giltz started in the position in October 2018 and will continue into 2025 to assist with many of the initiatives described in this report. Giltz is leading discussions with the EFCOG Training Working Group and NTC to better understand contractors' needs and educate them on award-recipient capabilities.

> "DOE has partnered with the NIEHS Worker Training program for thirty years and looks forward to continuing this collaborative partnership with the DOE community, the WTP, EFCOG, and other stakeholders."
>
> **— John E. Dupuy, Director, Office of Enterprise Assessments**

Award Recipient Training for Contractor Employees

NIEHS WTP continues to engage in communicating our training capabilities and availability to DOE staff and contractors at sites. DOE and contractor leadership are often unaware of the skills and services offered through award-funded training, due to DOE personnel changes, attrition of both DOE and contractor leadership, and routine promotions and changes in DOE contractor organizations. The DOE liaison has increased participation with the EFCOG Training Working Group to improve their knowledge of award-recipient capabilities.

Collaboration and partnerships with the DOE contractor community is being pursued through several efforts.

- Developing materials that help explain how DOE sites can partner with WTP award recipients for training delivery:
  - NIEHS/DOE partnership fact sheet, providing information for sites and contractors to partner with award recipients for training at DOE sites.
  - NIEHS/DOE partnership process and roles and responsibilities document, to provide guidance and facilitate discussions with new or ongoing NIEHS award-recipient/DOE site-contractor partnerships.
- Approaching sites already using NIEHS/DOE Program award recipients for training to maintain and expand training support, as their contractor organizations undergo continued fiscal and attrition pressure.
- NIEHS staff, award recipients, and the training working groups participated in EFCOG Training Working Group meetings and Lessons Learned and Monthly Learning Sessions webinars, while continuing to educate EFCOG members on available training options.

Benefits of using NIEHS/DOE Program award-recipient training include:

- Using worker-trainers, highly qualified instructors who deliver the training material as a peer and as an experienced and skilled employee in their specific trade.
- Assisting with issues of staff attrition, notably at smaller contract organizations. NIEHS/DOE Program award recipients offer the benefits of providing quality training materials, staff, and, in some cases, safety and health subject matter experts (SMEs) and mobile training to organizations that do not have full-time training staff.
- Providing more effective safety training through instructors who are experts and who have worked in the field on the topic, since many organizations no longer have in-house competencies in specialty electrical training, scaffold awareness, fire-system maintenance, condensate-induced water hammer, crane/rigging, and trenching.
- Providing specialty training by expert trainers from around the country nationwide through award-recipients' mobile training support.
- Expanding training access to a workforce that has already completed fundamental safety training in many areas, through improved contractor acceptance of certified reciprocity and award-recipient safety and health training.
- Assisting with DOE initiatives and programs such as safety culture.
- Avoiding retraining and other project-mobilization costs through reciprocity certifications.

As WTP has engaged in these interactions and partnerships, each site has brought unique situations and challenges, and the lessons learned are applied as WTP moves forward. These lessons learned have allowed the refinement in the process to begin conversations with a site (see figure below).

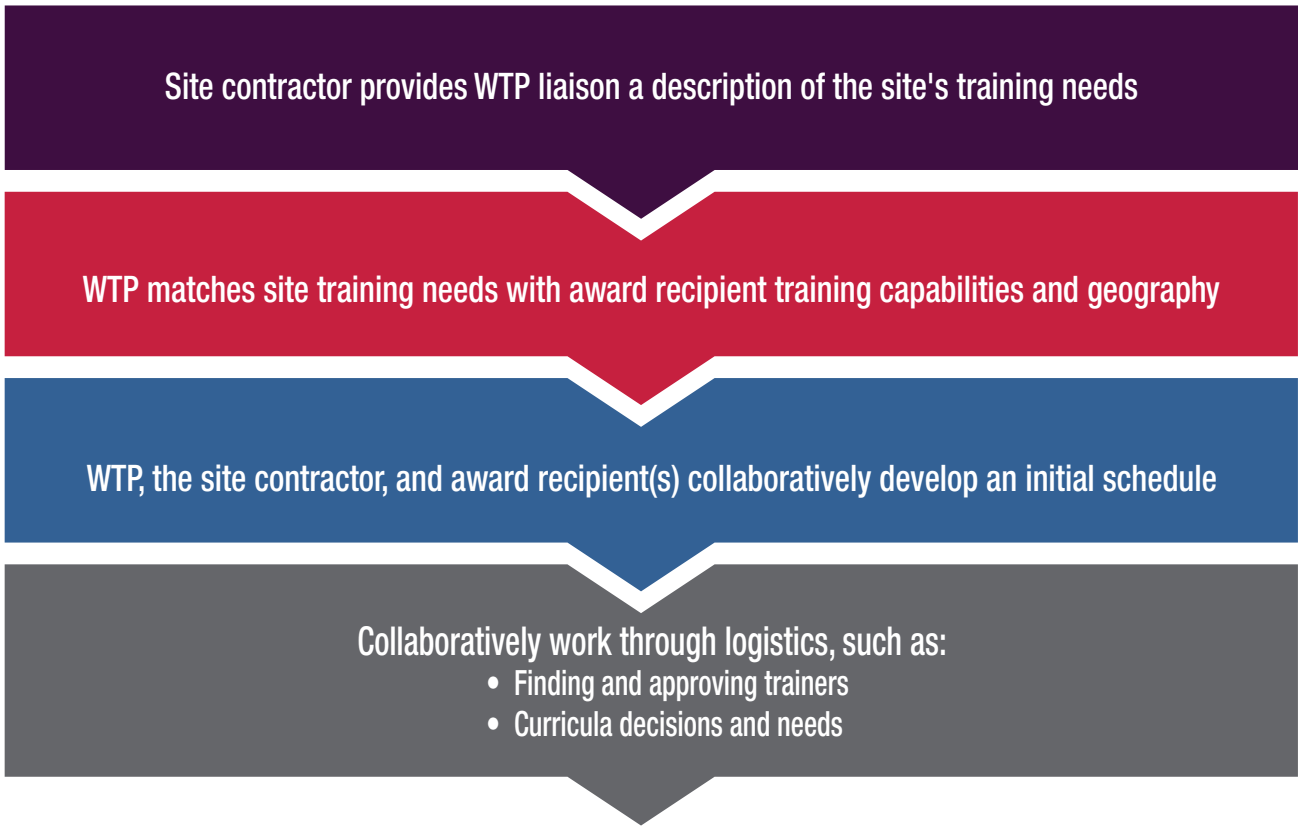


Figure 13: The process used to connect award recipients to DOE site contractor training needs.

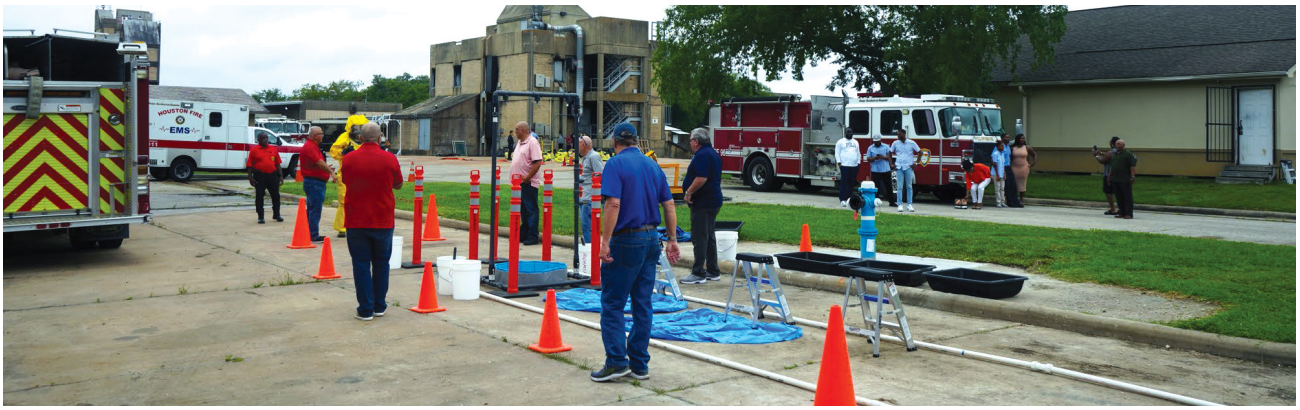
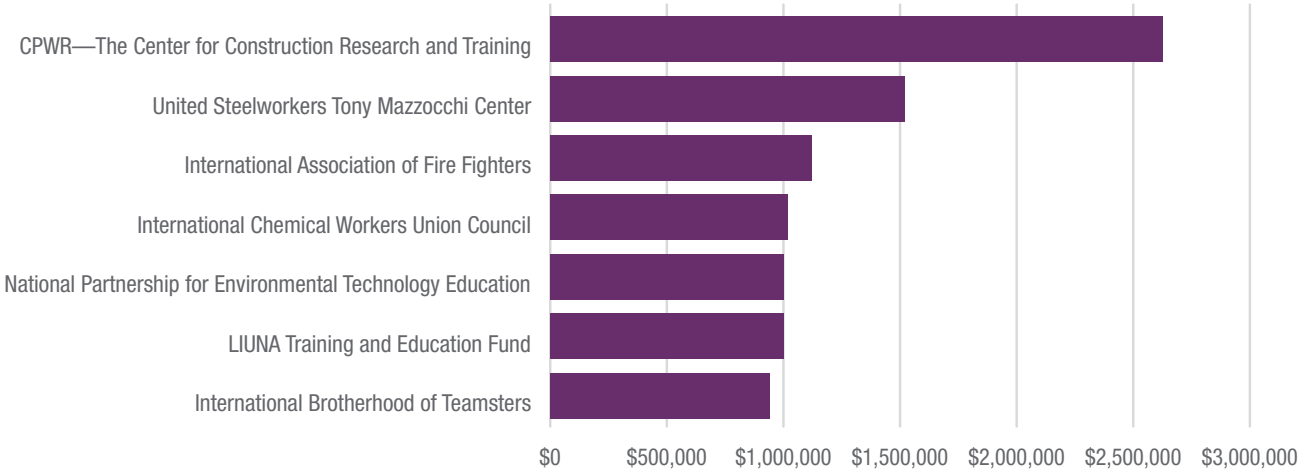


Figure 14: Exercises set up for the Instructor Development Program at the Val Jahnke Training Facility, Houston, Texas. (Photo courtesy of IBT)

Program Funding and Award Recipients

Funding

Through an interagency agreement, NIEHS WTP provided $9,230,799 in funding to NIEHS/DOE Program award recipients. Seven award recipients were funded to implement training during the 2023–2024 funding period.



Award Recipient	2023-2024 Funding (FY23 Dollars)
CPWR – The Center for Construction Research and Training	$2,625,953
United Steelworkers Tony Mazzocchi Center	$1,520,579
International Association of Fire Fighters	$1,120,000
International Chemical Workers Union Council	$1,018,218
National Partnership for Environmental Technology Education	$1,002,953
LIUNA Training and Education Fund	$1,002,724
International Brotherhood of Teamsters	$940,372
Total	**$9,230,799**

Program Award Recipients (Sept. 2020 – July 2025)

CPWR – The Center for Construction Research and Training

CPWR is sponsored by North America's Building Trades Unions, which represents 14 international and national building trades unions. Their training consortium includes international and national unions in the following construction fields: insulators and asbestos workers, iron workers, boilermakers, painters, bricklayers, plasterers and cement masons, carpenters, plumbers and pipe fitters, electrical workers, roofers, and sheet metal workers. CPWR provides training for many DOE sites across the country.

International Association of Fire Fighters (IAFF)

IAFF represents full-time professional firefighters and paramedics in more than 3,200 affiliates. Its members protect more than 85% of the population, in communities throughout the U.S. and Canada. IAFF implements national training programs for all-hazards emergency response and recovery, meeting or exceeding minimum federal regulations and national industry standards requirements. IAFF provides training at or around many DOE sites across the country.

International Brotherhood of Teamsters (IBT)

Through partnerships with major trucking and rail unions, IBT works with:

- Remediation site workers and supervisors at DOE facilities.
- Construction workers and supervisors involved in the remediation of DOE facilities, including drivers of specialized off-road and waste-hauling vehicles.
- Truck transportation workers and supervisors are involved in the transportation of radioactive and chemical waste from DOE facilities.
- Railroad workers and supervisors involved in the transportation of radioactive and chemical hazardous waste from DOE facilities.
- IBT delivers training for many DOE sites, bringing members to their regional training centers across the country.

International Chemical Workers Union Council (ICWUC) Center for Worker Health and Safety Education

The ICWUC Center for Worker Health and Safety Education provides training on the dangers of hazardous materials and waste at nuclear facilities. The DOE program's consortium partners are the International Association of Machinists and Aerospace Workers and the University of Cincinnati. ICWUC primarily trains workers at Hanford, Kansas City, Los Alamos National Laboratory, and Oak Ridge.

LIUNA Training and Education Fund

LIUNA services the training needs of hundreds of LIUNA local unions and thousands of construction-related contractors by providing relevant and necessary training to LIUNA members and apprentices. Each year, thousands of LIUNA members and apprentices receive training at one of the state-of-the-art training facilities that comprise LIUNA's training network.

Figure 15: Trainees trying on personal protective equipment during worker training classes. (Photo courtesy of LIUNA)

Partnership for Environmental Technology Education (PETE)/Community College Consortium of Health and Safety Trainers (CCCHST)

The CCCHST, administered by PETE, represents more than 150 training organizations, including colleges and universities, community-based organizations, governmental units, independent training providers, and a union. These groups offer hazardous waste training in most states. PETE primarily provides training at colleges near Oak Ridge, Pantex, and Savannah River.

United Steelworkers Tony Mazzocchi Center for Health, Safety, and Environmental Education

USW TMC offers well-established health and safety training programs and has more than 200 national and site-specific trainers who recruit and train workers. Many USW members are concentrated in the paper, petroleum, chemical, rubber, plastics, and primary metals industry groups, all of which generate large quantities of hazardous waste and experience large quantities of toxic releases. USW TMC primarily provides training at Hanford, Idaho National Laboratory, Oak Ridge, Paducah Gaseous Diffusion Plant, and Portsmouth Gaseous Diffusion Plant.

Examples of Use of Skills and Utility of Courses by Training Participants and DOE Site Contractors

CPWR – The Center for Construction Research and Training

During the 2024 program year, CPWR has undertaken significant trainer development initiatives, including trainer enhancement, fall-protection train-the-trainer, hazardous-waste worker train-the-trainer, and OSHA trainer courses.

CPWR holds a development program called trainer enhancement, which allows instructors to recertify hazardous waste, confined space, and asbestos trainer certificates by reviewing the latest developments in their respective areas. Ninety-two trainers participated in the program Oct. 31 –Nov. 2, 2023.

Each participant had the opportunity to attend two of six all-day topic trainings: electrical safety, trench and excavation safety, using safer chemicals, health hazard awareness, fall hazard awareness, and incident/accident investigation. Because these trainings were based on OSHA Training Institute Education Center protocol, CPWR was permitted to award each participant with a completion certificate from the National Resource Center.

In addition to the trainer enhancement, eight painters successfully completed a 40-hour fall-protection train-the-trainer course Nov. 14 – 17, 2023. This course included 24 hours of classroom lessons and 16 hours of hands-on sessions, covering fall-protection codes, regulations, standards, inspection, donning, and rescue.

On April 16 – 23, 2024, trainers took a deeper dive into hazardous waste worker training through a train-the-trainer course that expanded upon the initial Hazardous Waste Worker training. Ten operating engineers successfully completed this course, learning tips and tricks from veteran trainers.

Lastly, trainers participated in OSHA 500, 501, 502, and 503 trainer courses related to both the construction industry and general industry. These courses explored OSHA regulations in-depth and informed trainers of critical worker health-and-safety requirements. These train-the-trainer events also included CPWR's Disaster Response Training (DRT) program. As of April 30, CPWR conducted three OSHA 500 and 501 train-the-trainer courses and four OSHA 502 and 503 courses.

International Association of Firefighters (IAFF)

The IAFF conducted an 80-hour HazMat Technician course for 24 students at the Denver, Castle Rock, North Metro, Poudre, South Adams County, and Aurora Fire Departments. Through a mutual aid assistance agreement, these fire departments support emergency response at the Rocky Flats DOE site 25 miles northwest of Denver, Colorado. The HazMat Technician course has students apply the Analyze, Plan, Implement, and Evaluate (APIE) response method, which includes hazard detection, response planning, PPE, and decontamination, among other elements.

Because of this course, firefighters were well equipped to respond to a trash truck rollover that resulted in a hazardous-materials spill and two-way highway closures. As the truck spilled, it released compressed natural gas, but the responding firefighters were able to plug the leak using techniques learned from the HazMat Technician course.

Figure 16: An overturned trash truck galvanized IAFF-trained responders to utilize their HazMat Technician training. (Photo courtesy of the Denver Gazette)

International Brotherhood of Teamsters (IBT)

IBT used Zoom and the Moodle Learning Management System to provide virtual OSHA 10 Construction, General Industry, and COVID-19 classes to staff and the community.

In addition, IBT has provided 40-hour, 24-hour, and 8-hour HAZWOPER refresher; 8-hour hazardous materials transportation; and 8-hour load-securement, incidental, and qualified crane certification classes at the HAMMER Federal Training Center. IBT is also entering into an agreement with HAMMER to provide load-securement training and warehouse health-and-safety training for warehouse workers at the Hanford Nuclear Site.

IBT's training development efforts are instrumental to students and instructors seeking safer and higher-quality industries and environments.

Figure 17: Trainees testing out respiratory protection devices during a 40-hour HAZWOPER training at Teamsters Local Union 519, Knoxville, Tennessee. (Photo courtesy of IBT)

International Chemical Workers Union Council (ICWUC)

ICWUC held its first Safety Fest Tennessee at Oak Ridge since 2019, following the COVID-19 pandemic. Safety Fest Tennessee is designed to exchange knowledge and expertise among Oak Ridge DOE site employees and improve health and safety through training.

The goal of Safety Fest Tennessee is to share the expertise and knowledge of employees at DOE sites in Oak Ridge and provide training to promote safety and health in businesses and homes across the region.

"We feel it's our responsibility to not only keep our people safe at the site but, through this free platform, our experts can share their knowledge to help the community," said Gene Patterson, an event organizer who supports Safety Fest Tennessee.

Chris Roscetti, DOE Office of Environmental Management's Deputy Director for Environment Health and Safety, gave a keynote address titled, "Safety Culture – Boomers to Zoomers," focusing on how safety is viewed across generations.

A number of Tennessee organizations were represented and provided demonstrations at Safety Fest Tennessee, including the Tennessee Valley Authority, Knoxville Utility Board, Tennessee Army National Guard, University of Tennessee's Medical Center, and Tennessee Highway Patrol.

"The safety and health information shared at this event is an invaluable tool for our workforce, the local community, and for those attending from other states," said Clint Wolfley, United Cleanup Oak Ridge (UCOR) chief safety officer. "We're proud to once again help make this event possible to ensure safety and health remain a key focus in our lives."

Figure 18: Knoxville Utilities Board's Power Line Safety Demonstration at Safety Fest Tennessee. (Photo courtesy of DOE Youtube channel)

LIUNA Training and Education Fund (LIUNA)

Below are testimonials from Dennis Cronin, an auditor for Local 872 of LIUNA, and Tony Dagley, the vice president of the Knoxville Building and Construction Trades Council (KBCTC).

> "I'm writing this letter to highlight how essential the Local 872 Training Center has been to the Test Site since I have been responsible for Mission Support & Test Services (MSTS). The Asbestos and Hazardous Waste Worker training programs have had a tremendous impact on our ability to effectively support the DOE. Over the last two years, we have trained and dispatched over 60 members to the test site. The skilled training of members of Local 872 allows us to finish jobs safely and on time. The Mine Worker training has been exemplary. We have completed several projects on or before the deadline and have sent at least 30 members through our Mine Worker training class. If it weren't for the training received by Local 872 members, these projects would not be able to move forward."
>
> **— Dennis Cronin**

> "I would like to commend the Laborer's Training Program for ensuring we have a skilled workforce at the DOE facilities in Oak Ridge, Tennessee. We are very pleased with the quality training that Laborers' Southeast Training Fund provided to the members of our Local Union 818 this past year. The Local has been able to supply trained and qualified workers to our DOE contractors very quickly, largely due to the Training Fund's ability to immediately and effectively train our membership. On more than one occasion this year, we would not have been able to meet contractors' needs without this training program. Continued, high-quality training is extremely important in meeting the upcoming demands at the DOE sites this year. Additionally, the training provided has increased overall safety and productivity in our industry. I strongly support the continuation of the training program."
>
> **— Tony Dagley**

National Partnership for Environmental and Technical Education (NPETE)

NPETE supports in-person and virtual training programs at colleges across the United States, including at Amarillo College, Greenville Technical College, Roane State Community College, and Santa Fe Community College, delivering students critical training hours and experience to prepare them for their industries.

Employees at the Pantex Site in Amarillo, Texas, took HAZWOPER, Hazardous Materials, Confined Space Entry and Rescue Training courses through Amarillo College's Safety and Environmental Technology program. Through these courses, students received 8,514 contact-hours of instruction. Twenty-six percent of these courses included a hybrid element, meaning they were partially online. Student evaluations indicated that they were highly satisfied with the course contents and quality of instruction.

Greenville Technical College in Greenville, South Carolina, taught 26

Figure 19: Trainees trying out respiratory protection devices. (Photo courtesy of NPETE)

asbestos-related courses to 206 workers for a total of 2,264 contact-hours. As with the Amarillo courses, all students who responded indicated a high degree of satisfaction with their experience with both the course content and instructors.

At Roane State Community College in Oakridge, Tennessee, instructors held 63 in-person courses for 681 workers, totaling 7,518 contact-hours.

Santa Fe Community College provided 41 in-person courses and 49 online courses. These 90 courses taught 1,562 students altogether for 5,789 contact-hours. As with students from the other colleges, students were highly satisfied with their experiences. The main feedback was that the Los Alamos National Laboratory manual may need to be revised to match the online version.

Figure 20: Trainees in PPE learning how to take samples from mystery contaminants and neutralizing them. (Photo courtesy of NPETE)

Figure 21: Trainees using the "pipe chase" to practice stopping leaks with a smoke machine to simulate vapor. (Photo courtesy of NPETE)

United Steelworkers (USW)

In December 2023, eight DOE worker-trainers became OSHA-authorized trainers. To put the trainers' new skills to use, Paducah Gaseous Diffusion Plant and Idaho National Laboratory (INL) partnered with local community colleges to provide OSHA and HAZWOPER courses to increase their students' prospects for employment on DOE sites.

Since the initial course, even more community colleges have expressed interest in partnering with USW to facilitate OSHA training. INL is also meeting with local high schools to facilitate career discussions through OSHA.

INL's DOE Lead Trainer, Steve Higdon, noted he is confident in their ability to increase the number of classes and students taught even more.

Figure 22: At the 2024 TEE, DOE worker-trainer Kyle Brogle from INL presents a new workshop entitled "Introduction to Industrial Hygiene." (Photo courtesy of USW)

Clearinghouse Activities

Clearinghouse Overview

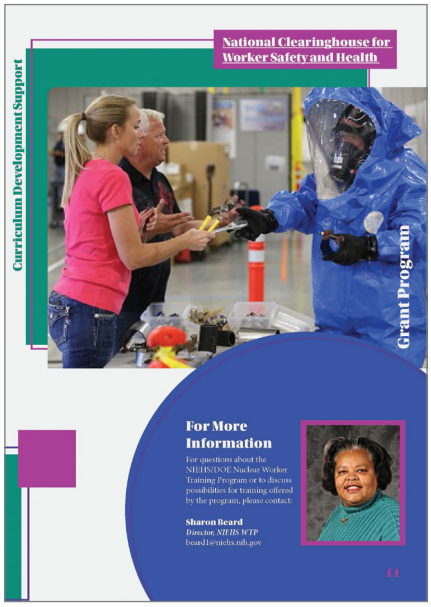
The National Clearinghouse for Worker Safety and Health Training (Clearinghouse), operated by MDB, Inc., and directed by Deborah Weinstock, provides technical support to NIEHS/DOE Program award recipients who conduct hazardous waste worker training for the DOE weapons complex. The Clearinghouse regularly features articles about chemical and radiological issues around the complex in its electronic newsletter, the Weekly E-Newsbrief, which is distributed to more than 1,200 subscribers. Newsbrief articles cover critical issues such as cleanup completion at sites, include links to recently released DOE reports, and feature DOE health and safety meetings in the Calendar of Events section.

The Clearinghouse website houses numerous reports on environmental, health, and safety topics specifically related to DOE. The website contains many resources and a database of health and safety training curricula developed for DOE workers by NIEHS/DOE program award recipients.

New and Notable Materials

The Clearinghouse continues to work with NIEHS WTP program staff to develop reports, fact sheets, and other communication products to support the NIEHS/DOE Nuclear Worker Training Program.

In 2023, "Training Connections" incorporated a section on WTP. This is a major step toward further integrating the NIEHS Nuclear Worker Training Program into the DOE community.



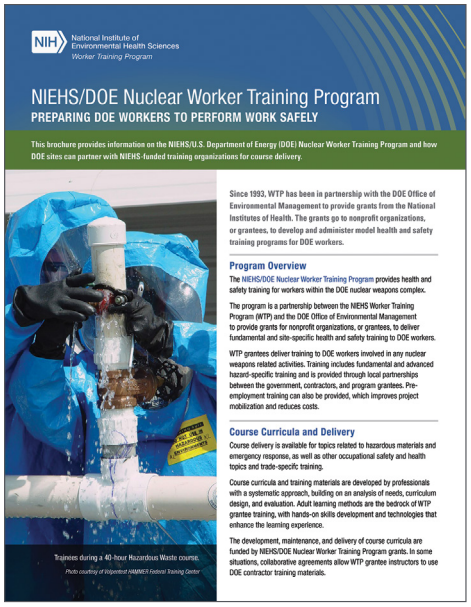


Figure 23 (left): A page excerpt highlights WTP in Program "Training Connections."
Figure 24 (right): NIEHS/DOE Nuclear Worker Training Partnership Factsheet

WTP, working with award recipients and participating contractors, has developed a partnership fact sheet and partnership process and roles and responsibilities document to help new individuals learn core information. WTP staff have noted that, due to attrition, job turnover, and contractor changes, new contractor employees are often not aware of what WTP provides. WTP created these documents to facilitate communications and engagement with DOE contractors by providing information on how DOE sites can partner with NIEHS-funded training organizations for course delivery. WTP shared these documents at the March 2023 Training EFCOG meeting and made them available on the WTP Clearinghouse web page.

Background of the NIEHS/DOE Program Partnership

NIEHS WTP Authorization

Section 126(g) of the Superfund Amendments and Reauthorization Act of 1986 authorizes an assistance program for training and education of workers engaged in activities related to hazardous waste generation, removal, containment, or emergency response, and hazardous materials transportation and emergency response. Congress assigned responsibility for administering this program to NIEHS.

Defense Authorization

Section 3131(a)(1)(A)-(B) of the National Defense Authorization Act for fiscal years 1992 and 1993 (42 USC 7274(d)) authorized the Secretary of Energy to award grants to provide training and education to persons who are or may be engaged in hazardous substance response or emergency at DOE nuclear weapons facilities, and to develop curricula for such training and education. The secretary was further authorized in section 3131(a)(2)(A)-(B) to award grants to nonprofit organizations demonstrating capabilities in implementing and conducting effective training and education programs relating to the general health and safety of workers and identifying, and involving in training, groups of workers whose duties include hazardous-substance response or emergency response.

Annual Funding

Every year, Congress directs the transfer of $10 million from DOE to the NIEHS hazardous waste worker training program in the Energy and Water Development and Related Agencies Appropriations language.

NIEHS/DOE Agreement

To implement this, DOE entered into an Interagency Agreement with NIEHS to award and administer the grants and to adapt its existing program to meet the needs of the DOE nuclear weapons complex. A memorandum of understanding supports ongoing communication and requirements between the federal partners.

OSHA Regulations and DOE Directives

To provide protection for workers' health and safety, all workers at DOE sites engaged or potentially engaged in environmental restoration activities, including hazardous-substance response or emergency response, are required by the Comprehensive Environmental Response, Compensation, and Liability Act and DOE directives 10 CFR 850 and 851 to meet the requirements of OSHA regulation 20 CFR 1910.120 and the Environmental Protection Agency HAZWOPER training requirements (40 CFR 300.150).

Additionally, NIEHS and award recipients support the implementation of DOE's 10 C.F.R. 851: Worker Safety and Health Program and Integrated Safety Management as described in DOE P 450.4, Safety Management System Policy. These policies provide a framework for health and safety training for award recipients and are included in curricula where appropriate. Lastly, NIEHS/DOE award recipients CPWR and IAFF are active supporters of training courses developed to support the Safety Culture Improvement Panel annual work plan. Occupational Radiation Protection Final Rule, 10 CFR 835, training support is available to DOE contractors.

For more information on the NIEHS/DOE Program, visit https://www.niehs.nih.gov/careers/hazmat/training_program_areas/doe/index.cfm**.**

Data Tables

Total Training by NIEHS Award Recipients 2024

Award Recipient	Courses Completed	Workers Trained	Contact Hours
CPWR – The Center for Construction Research and Training	676	9,688	128,392
International Association of Fire Fighters	19	426	25,920
International Brotherhood of Teamsters	187	2,762	33,114
International Chemical Workers Union	197	2,892	25,885
Laborers' International Union of North America	248	2,881	48,634
Partnership for Environmental Technology Education	370	5,291	41,589
United Steelworkers of America	314	5,471	44,368
Total	**2,011**	**29,411**	**347,902**

Courses Provided Through the DOE Program by NIEHS Award Recipients 2024

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
Asbestos Abatement	Asbestos Abatement Supervisor	21	180	6,816
	Asbestos Abatement Supervisor Refresher	63	652	5,568
	Asbestos Abatement Worker Basic	19	257	9,624
	Asbestos Abatement Worker Refresher	56	762	6,144
	Asbestos Awareness	4	37	264
	Asbestos Control Certification	13	103	1,680
	Asbestos Inspector Certification	1	16	384
	Asbestos Inspector Refresher	7	36	144
	Asbestos Operations & Maintenance Refresher	24	292	2,056
	Total	**208**	**2,335**	**32,680**
Confined Space	Confined Space	113	1,273	14,353
	Total	**113**	**1,273**	**14,353**
Construction Safety	Silica Hazards	19	370	2,928
	Total	**19**	**370**	**2,928**
Electrical Safety	Basic Electrical Training	4	129	1,256
	Electrical Safety	17	268	2,508
	Total	**21**	**397**	**3,764**
Emergency Response	CAMEO	1	1	32
	Emergency Response Basic Operations	11	146	1,168
	Emergency Response Incident Command	1	7	56
	Emergency Response Train-the-Trainer	1	1	40
	Emergency Response/HazMat Technician	10	222	17,760
	Wildland Urban Interface	1	14	112
	Total	**25**	**391**	**19,168**

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
Equipment Safety	Crane Operators	18	275	5,208
	Cutting & Burning	1	7	112
	Fall Protection	33	443	2,336
	Forklift Operator Training Program	5	66	1,056
	Rigging and Signaling	20	172	2,928
	Scaffold	19	170	1,960
	Scissor Lift/Aerial Lift	5	52	416
	Total	**101**	**1,185**	**14,016**
Hazard Communication	Hazard Communication	15	314	1,256
	Total	**15**	**314**	**1,256**
Hazmat Transport	HazMat Transportation Awareness	12	208	1,080
	HazMat Transporter/Basic	21	481	4,416
	Load Securement	16	203	1,624
	Total	**49**	**892**	**7,120**
Infectious Disease	Blood Borne Pathogen Awareness Course	2	38	94
	Total	**2**	**38**	**94**
Lead Abatement	Lead Abatement Supervisor	9	72	2,304
	Lead Abatement Supervisor Refresher	11	171	1,368
	Lead Awareness	6	69	552
	Total	**26**	**312**	**4,224**
OSHA Outreach	General Construction Safety	140	1,515	24,165
	General Construction Train-the-Trainer	16	162	4,364
	General Industry Safety	50	926	8,301
	General Industry Train-the-Trainer	2	14	440
	Total	**208**	**2,617**	**37,270**
Other	Training Methods/Trainer Development	27	284	4,912
	Total	**27**	**284**	**4,912**
Personal Protective Equipment	Respiratory Protection	40	538	3,704
	Total	**40**	**538**	**3,704**

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
Radiological	Rad. Protection Worker/Basic	2	31	412
	Radiation Worker II Training	12	154	4,616
	Radiation Worker Refresher	5	33	264
	Radiological Control Technician Training	72	1,373	10,659
	Total	**91**	**1,591**	**15,951**
RCRA/Industrial	Fire Watch	12	136	833
	Hazardous Waste Characterization	45	1,195	5,420
	Pollution Prevention	26	214	877
	RCRA TSD Site Refresher	28	416	1,664
	RCRA TSD Site Worker	17	174	3,868
	Total	**128**	**2,135**	**12,662**
Refresher – Site Worker/ Superfund Cleanup	Site Worker Refresher	662	11,834	94,672
	Total	662	11,834	94,672
Safety Culture	Safety Culture/Safety Leadership	1	17	544
	Total	**1**	**17**	**544**
Site Worker/Superfund Cleanup	Basic Superfund Site Worker	147	1,770	65,504
	Hazardous Waste Operations	3	35	1,400
	Hazardous Waste Site Inspector/Awareness	3	18	120
	Hazardous Waste Operations Awareness	22	296	2,368
	HazMat Chemistry	1	23	920
	Site Supervisor Basic	6	39	312
	Site Worker Train-the-Trainer	3	21	532
	Superfund Bridge Training	23	216	4,672
	Total	**208**	**2,418**	**75,828**
Triage/First Aid	Adult CPR	11	79	432
	Basic First Aid	56	391	2,324
	Total	**67**	**470**	**2,756**
Total		**2,011**	**29,411**	**347,902**

Total NIEHS Training by DOE Site, Aug. 1, 2023 – July 31, 2024

DOE Site	Courses Completed	Course Percentage	Workers Trained	Worker Percentage	Contact Hours	Contact Hours Percentage
Argonne East	113	6%	1,664	6%	24,334	7%
Barker Brothers	4	0%	100	0%	5,040	1%
Brookhaven National Laboratory	35	2%	473	2%	8,420	2%
Fermi National Accelerator Laboratory	1	0%	22	0%	1,760	1%
Formerly Utilized Sites Remedial Action Program	13	1%	112	0%	1,976	1%
Hanford Site	303	15%	4,991	17%	53,328	15%
Idaho National Engineering Laboratory	97	5%	1,215	4%	11,831	3%
Kansas City Plant	15	1%	171	1%	3,028	1%
Lawrence Berkeley	9	0%	83	0%	1,544	0%
Lawrence Livermore National Laboratory	17	1%	219	1%	4,496	1%
Los Alamos National Laboratory	352	18%	5,725	19%	45,822	13%
Mound Plant	1	0%	22	0%	1,760	1%
Multiple DOE sites	41	2%	528	2%	11,928	3%
Nevada Test Site	66	3%	836	3%	14,439	4%
Non-DOE Sites	5	0%	10	0%	360	0%
Nuclear Fuel Services	18	1%	349	1%	3,276	1%
Oak Ridge Field Office	358	18%	4,683	16%	59,923	17%
Paducah Gaseous Diffusion Plant	120	6%	1,714	6%	16,494	5%
Pantex Plant	99	5%	1,586	5%	15,076	4%
Portsmouth Gaseous Diffusion Plant	136	7%	2,396	8%	20,849	6%
Princeton Plasma Physics Laboratory	52	3%	562	2%	12,396	4%
Rocky Flats Office	2	0%	43	0%	3,440	1%
Santa Susana Field Laboratory	27	1%	378	1%	4,652	1%
Savannah River Site	78	4%	734	2%	10,524	3%
Separations Process Research Unit at Knolls Lab	1	0%	24	0%	1,920	1%
St. Louis Airport Site	1	0%	21	0%	168	0%
Weldon Springs	34	2%	530	2%	6,756	2%
West Valley Demonstration Project	13	1%	220	1%	2,362	1%
Total	**2,011**	**100%**	**29,411**	**100%**	**347,902**	**100%**

10-Year Training Summary: NIEHS/DOE Nuclear Worker Training Program, 2014 – 2024

Training Year	Number of Award Recipients**	Courses Completed	Workers Trained	Contact Hours	Dollars Awarded	Cost Per Contact Hour
2014	8	1,900	28,334	311,412	$8,760,685	$28.13
2015	8	1,830	26,396	323,316	$9,543,426	$29.52
2016	8	1,927	28,162	368,680	$8,827,223	$23.94
2017	8	2,066	32,202	389,786	$8,852,400	$22.71
2018	7	1,679	27,769	343,923	$9,425,498	$27.41
2019	7	1,795	29,714	368,276	$9,346,048	$25.38
2020* **	7	1,387	19,572	214,129	$8,365,309	$39.07
2021** **	8	1,901	23,095	280,377	$9,244,023	$32.97
2022	7	1,890	26,163	327,619	$9,608,823	$29.33
2023	7	2,378	35,095	421,842	$9,393,463	$22.27
2024	7	2,011	29,411	347,902	$9,230,799	$26.53
Total	**8**	**20,764**	**305,913**	**3,697,262**		

** Number of award recipients does not include those in a no-cost extension status.
**** 2020 numbers were impacted by COVID-19 and restrictions on training delivery.
**** 2021 had an eleven-month award year due to a shift in project end date by NIEHS.

Summary of NIEHS Training at DOE Sites, 1994-2024

Training Year	Courses Completed	Workers Trained	Contact Hours
1994	486	7,107	184,604
1995	1,091	13,566	249,704
1996	1,199	18,642	290,938
1997	1,277	18,394	244,212
1998	983	15,048	217,666
1999	922	14,049	202,997
2000	1,152	15,860	218,087
2001	1,379	18,833	245,436
2002	1,954	25,399	302,723
2003	1,959	23,187	303,633
2004	2,367	29,240	374,957
2005	1,961	25,442	329,840
2006	2,044	26,365	325,533
2007	2,283	34,074	400,491
2008	2,225	33,702	414,746
2009	2,265	36,266	530,271
2010	2,188	35,329	523,287
2011	1,987	31,238	405,556
2012	1,963	29,842	365,083
2013	1,790	27,737	309,977
2014	1,900	28,334	311,412
2015	1,830	26,396	323,316
2016	1,927	28,162	368,680
2017	2,066	32,202	389,786
2018	1,679	27,769	343,923
2019	1,795	29,714	368,276
2020	1,387	19,572	214,129
2021	1,901	23,095	280,377
2022	1,890	26,163	327,619
2023	2,378	35,095	421,842
2024	2,011	29,411	347,902
Total	**54,239**	**785,233**	**10,137,003**

Projected Versus Actual Training, Aug. 1, 2023 – July 31, 2024

Consort	Projected Courses	Actual # of Courses to Date	Difference	Projected Workers	Actual # of Workers	Difference	Projected Hours	Actual Contact Hours	Difference
CPWR – The Center for Construction Research and Training	642	676	34	11,111	9,688	-1,423	153,526	128,392	-25,134
International Association of Fire Fighters	7	19	12	140	426	286	10,400	25,920	15,520
International Brotherhood of Teamsters	195	187	-8	3,084	2,762	-322	37,194	33,114	-4,080
International Chemical Workers Union	101	197	96	1,509	2,892	1,383	19,766	25,885	6,119
Laborers International Union of North America/ Laborers Associated General Contractors Education	161	248	87	1,610	2,881	1,271	32,440	48,634	16,194
PETE/Hazardous Materials Training & Research Institute	437	370	-67	7,695	5,291	-2,404	57,317	41,589	-15,728
United Steelworkers of America/PACE	279	314	35	4,456	5,471	1,015	50,488	44,368	-6,120
Total	**1,822**	**2,011**	**189**	**29,605**	**29,411**	**-194**	**361,131**	**347,902**	**-13,229**

Projected Training Courses for Next Budget Period (Aug. 1, 2023 – July 31, 2024)

Course Name	Number of Course Projected	Projected Contact Hours
Adult CPR	23	1,520
Asbestos Abatement Supervisor	15	8,000
Asbestos Abatement Supervisor Refresher	32	3,424
Asbestos Abatement Worker Basic	18	7,184
Asbestos Abatement Worker Refresher	30	3,272
Asbestos Awareness	1	60
Asbestos Control Certification	4	912
Asbestos Inspector Certification	5	1,300
Asbestos Inspector Refresher	10	368
Asbestos Management Planner	6	1,208
Asbestos Operator & Maintenance Refresher	13	1,984
Basic First Aid	29	3,244
Basic Superfund Site Worker	115	63,560
CAMEO	4	1,016
Confined Space	58	7,888
Crane Operators	9	3,060
Cutting & Burning	1	160
Electrical Safety	26	4,786
Emerg. Resp. Awareness	2	165
Emerg. Resp. for Specific Hazards	92	6,748
Emerg. Resp. Incident Command	4	1,600
Emerg. Resp./HazMat Tech.	6	9,600
Ergonomics (DOE)	1	256
Evaluation of Industrial Ventilation	6	4,790
Fall Protection	25	4,617
Fire Watch	8	320
Forklift Operator Training Program	1	160
Gen. Haz. Waste Train-the-Trainer	2	1,632
General Construction Safety	114	31,584
General Industry Safety	46	9,528
GHS-Hazard Communication	1	225
Hazardous Waste Operations	31	2,200
Hazard Communication	44	2,360

Course Name	Number of Course Projected	Projected Contact Hours
HazMat Transportation Awareness	18	2,100
HazMat Transporter/Basic	25	5,660
Incident Management Systems Awareness	3	768
Industrial Hygiene Technician Training	20	3,200
Lead Abatement Instructor	1	400
Lead Abatement Supervisor	4	1,920
Lead Abatement Supervisor Refresher	9	1,080
Lead Abatement Worker Basic	1	480
Lead Awareness	9	700
Load Securement	15	1,416
Lockout/Tagout	23	598
Off Road Equipment	24	1,440
Process Safety Mgmt.	1	480
Rad. Protection Worker/Basic	23	690
Radiation Worker II Training	21	5,752
Radiation Worker Refresher	4	460
Radiological Control Technician Training	27	9,920
RCRA TSD Site Worker	56	14,164
Respiratory Protection	37	6,384
Rigging and Signaling	38	7,384
Safety Culture/Safety Leadership	5	1,200
Scaffold	6	960
Scissor Lift/Aerial Lift	4	320
Site Supervisor Refresher	14	1,568
Site Worker Refresher	600	84,680
Site Worker Train-the-Trainer	4	1,320
Superfund Bridge Training	15	5,536
Training Methods/Trainer Development	25	9,278
Trench Protection Principles	5	1,728
Tunnel/Shaft	1	800
Work Zone Safety	2	80
Total	**1,822**	**361,197**

National Institute of
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