

The National Institute of  
Environmental Health Sciences/  
Department of Energy

# Nuclear Worker Training Program

Accomplishments and Highlights

Sept. 1, 2019 – Aug. 31, 2020



# 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 grantees in the 2020 program year (Sept. 1, 2019 – Aug. 31, 2020), as well as some program updates from Sept. 2020 to Mar. 2020. The training year included the response to COVID-19. Grantee activities reflect the impacts and necessary adjustments for the pandemic, such as substantially reduced training delivery from March to May 2020 and the introduction of infectious disease curricula.

---

<b>Overview of the National Institute of Environmental Health Sciences (NIEHS)/ Department of Energy (DOE) Nuclear Worker Training Program .....</b>	<b>1</b>
<hr/>	
<b>Program Training Data, 2019-2020 .....</b>	<b>3</b>
Training Summary.....	3
Training Locations.....	3
Top Courses at Top Sites.....	5
Training Course Categories .....	6
ACTIVITY HIGHLIGHT: Partnering with Native American Tribes around DOE Sites to Support Skills Development, Job Safety, and Environmental Justice .....	7
<hr/>	
<b>Ongoing, New, and Upcoming Initiatives .....</b>	<b>9</b>
NIEHS Program Leadership and Activities .....	9
Coronavirus Response.....	11
ACTIVITY HIGHLIGHT: International Association of Fire Fighters (IAFF) COVID-19 Supplemental Funding Project .....	12
Reciprocity through the National Training Center (NTC) .....	14
National and Site-Specific Collaborations with the Site Contractor Community .....	15
National Initiative on Opioids .....	18
<hr/>	
<b>Program Funding and Grantees .....</b>	<b>19</b>
ACTIVITY HIGHLIGHT: Examples of Use of Skills and Utility of Courses by Training Participants and DOE Site Contractors.....	21
<hr/>	
<b>Clearinghouse Activities.....</b>	<b>23</b>
<hr/>	
<b>Background of the NIEHS/DOE Program Partnership.....</b>	<b>24</b>
<hr/>	
<b>Data Tables .....</b>	<b>25</b>



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



*CPWR Trainer Enhancement Participants during UCOR Tour at Oak Ridge National Laboratory, October 2019*

---

## 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, and to support DOE Office of Environmental Management (EM) mission completion. Training aids DOE's commitment to safe work performance, providing skills and knowledge for workers to identify hazardous situations and to take appropriate actions to protect themselves, fellow workers, and the environment. To accomplish this, NIEHS funds programs to deliver both site-specific and trade-specific training that address complicated DOE site missions with ongoing and emerging hazards. The missions often include 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, quality health and safety training to workers in a timely and cost-effective manner, with an average cost of \$27 per contact hour. Since the beginning of the program, 671,822 workers have received 8,759,751 contact hours of training in 46,074 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 Criteria for Worker Health and Safety Training for Hazardous Waste Operations and Emergency Response \(HAZWOPER\)](#) (Minimum Criteria) document.

Protecting worker health and safety through training delivery has been a priority of the secretary of energy and is a primary goal of EM. As the DOE's mission has shifted from weapons production to environmental restoration, the site worker is exposed to new operations and hazards. The training offered under the NIEHS/DOE Program supports and integrates with DOE safety culture; 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 WTP training is available to all DOE workers, including represented and non-represented individuals. In some circumstances, acceptance of training performed before hire improves project mobilization and can reduce hiring costs.

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

Additionally, some training is extended to communities surrounding DOE sites, who then gain certifications and skills that increase eligibility for employment at a nearby DOE site or keep them prepared if called upon in an emergency. These fenceline communities include Native American tribes, as discussed in a 2018 NIEHS WTP [report on training with Native Americans](#) that includes examples from the NIEHS/DOE Program.

---

## Collaboration with DOE National Organizations and Programs

NIEHS and grantees collaborate with the [DOE Energy Facility Contractors Group \(EFCOG\)](#) and the DOE National Training Center (NTC) [Training Reciprocity program](#). These efforts can reduce duplication of training, improve consistency in core training content, and improve communications with site contractors.

---

## 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 events, a benefit and a national security asset. Additionally, NIEHS WTP's network has the capacity to 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, 2019-2020

## Training Summary

For the 2019-2020 program year (Sept. 1, 2019 – Aug. 31, 2020):



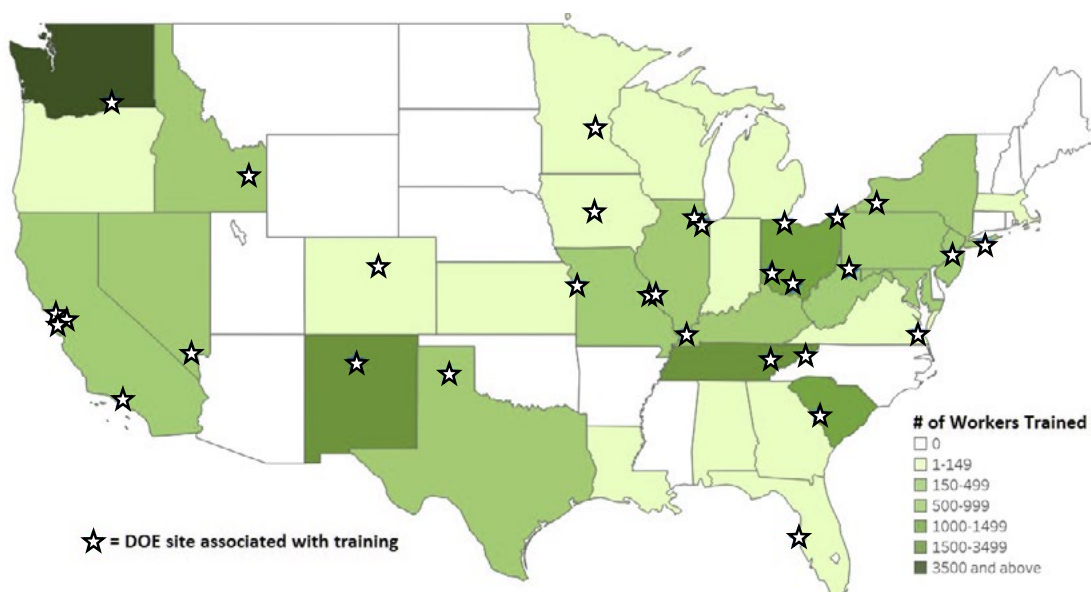
Overall, 2020 training numbers decreased and average cost per contact hour increased as compared to previous years due to COVID-19 impacts and restrictions on training delivery. See the Coronavirus Response section of this report for more details, and the 10-Year Training Summary Table in the Data Tables section for prior year comparisons.

The five-year competitive project period ended on Aug.31, 2020. During those five years, grantees trained 137,733 workers in 8,865 courses.

## Training Locations

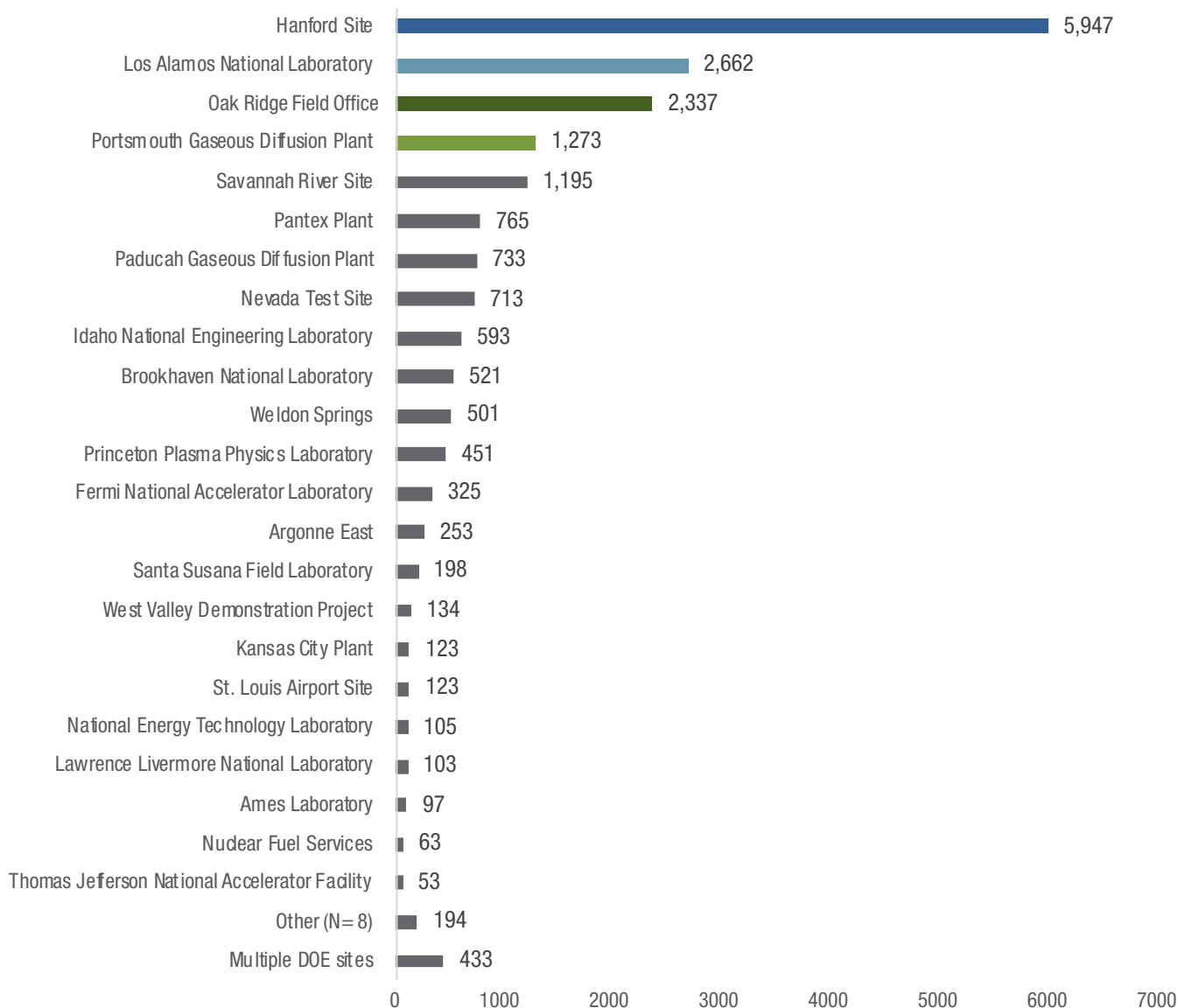
Training was conducted at or around 31 different sites, as shown in the map. The training for many sites, both large and small, demonstrates the national scope of this program. A full list of DOE sites is available in the Data Tables section of this report.

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 largest cleanup operations for DOE EM.



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

The **Hanford Site** had the highest number of workers trained, followed by **Los Alamos**, **Oak Ridge**, and **Portsmouth Gaseous Diffusion Plant**. Overall, grantees trained at or around 31 sites this year. (Sept. 1, 2019 – Aug. 31, 2020)



















**Multiple DOE Sites:** When trainees are brought in from across various sites to a specific training center for a course.



## Top Courses at Top Sites

The figure below shows the courses in which the highest numbers of workers received training at the sites with the highest numbers of workers trained during the 2019-2020 program year.

### Top Courses, by Workers Trained, by Site

Hanford Site	Los Alamos National Laboratory	Oak Ridge Field Office	Portsmouth Gaseous Diffusion Plant
 <p>3,243</p> <p>Site Worker Refresher</p>	 <p>777</p> <p>Site Worker Refresher</p>	 <p>1,494</p> <p>Site Worker Refresher</p>	 <p>690</p> <p>Site Worker Refresher</p>
 <p>1,908</p> <p>Respiratory Protection</p>	 <p>473</p> <p>Confined Space</p>	 <p>336</p> <p>Radiation Worker II Training</p>	 <p>163</p> <p>General Industry Safety</p>
 <p>327</p> <p>Radiological Protection Worker/Basic</p>	 <p>241</p> <p>Hazardous Waste Operations</p>	 <p>99</p> <p>Basic Superfund Site Worker</p>	 <p>85</p> <p>Asbestos Abatement Supervisor Refresher</p>
 <p>272</p> <p>Basic Superfund Site Worker</p>	 <p>224</p> <p>Emergency Response for Specific Hazards</p>	 <p>86</p> <p>General Industry Safety</p>	 <p>73</p> <p>Basic Superfund Site Worker</p>

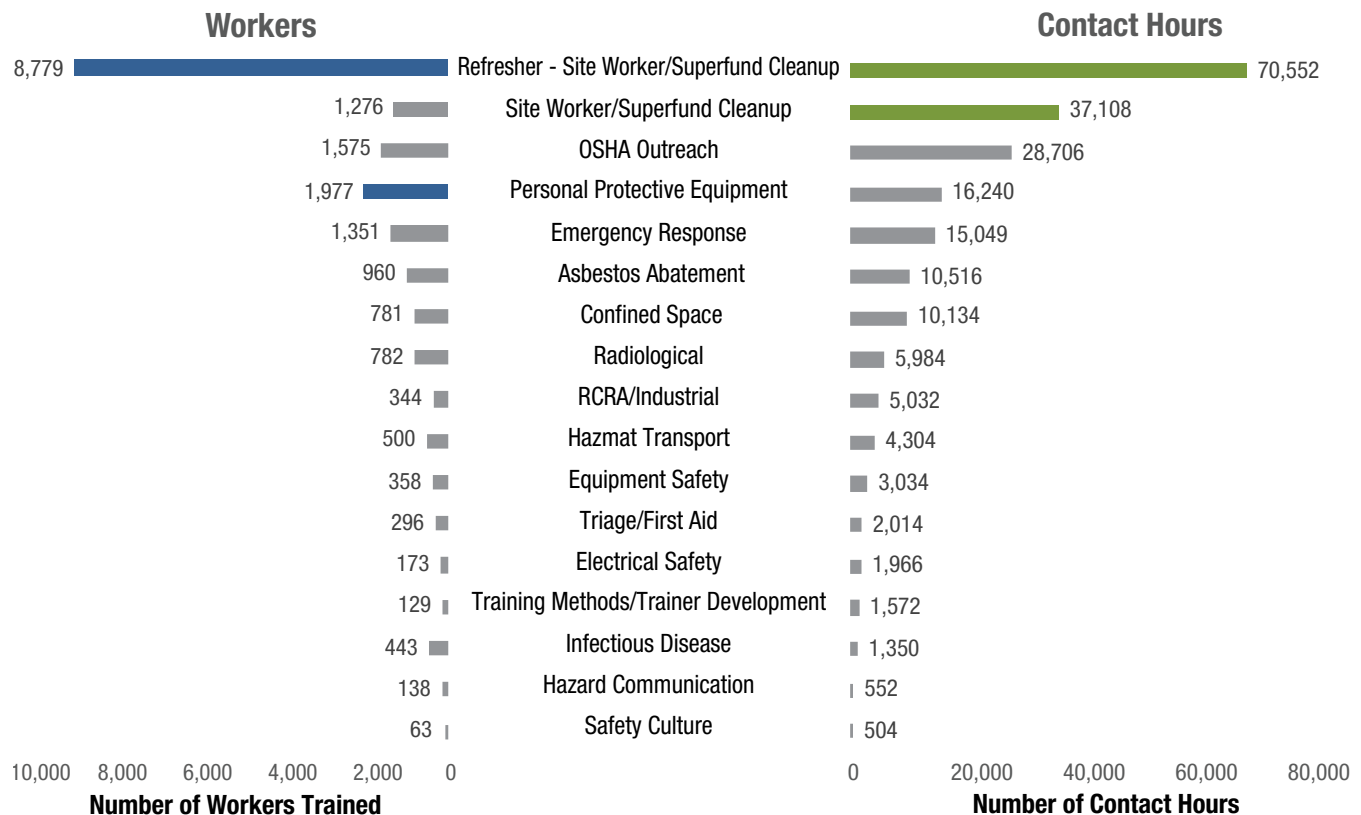
## Training Course Categories

The figure below shows the numbers of workers trained and total contact hours for various courses during the 2019-2020 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 19,925 **workers trained**, the highest numbers of workers received training in **Refresher for Site Worker** and **Personal Protective Equipment** courses.

Of the 214,617 **contact hours**, grantees delivered the highest numbers of contact hours through **Refresher for Site Worker** and **Site Worker** courses.

(Sept. 1, 2019 – Aug. 31, 2020)







USW trainers with a participant from training with the Umatilla tribe, 2019 (Photo courtesy of USW TMC)

## ACTIVITY HIGHLIGHT: Partnering with Native American Tribes around DOE Sites to Support Skills Development, Job Safety, and Environmental Justice

Some NIEHS/DOE Program grantees provide health and safety training to tribal groups whose lands are close to the Hanford and Los Alamos National Laboratory (LANL) sites. These tribal members gain skills and certifications that can lead to jobs in industrial and environmental settings, or that can help keep them safe in their current jobs. The training also increases the tribe's ability to respond to incidents or emergencies that may happen on or surrounding these DOE sites, such as radiological events, train derailments, underground pipe breaks or leaks, or transport truck accidents.

The training represents the use of DOE funding towards environmental justice efforts. The tribes in these areas are concerned about legacy contamination in the water and soil, for example in the Columbia River adjacent to Hanford. The tribal-grantee partnerships sustained by the NIEHS/DOE Program around key DOE sites supports the secretary's commitment to the goals of environmental justice.

### United Steelworkers (USW) Training with the Yakama Nation and Confederated Tribes of the Umatilla Reservation (CTUIR)

The United Steelworkers Tony Mazzocchi Center (USW TMC) has partnered with both the Yakama Nation and CTUIR on health and safety training near the HAMMER training center and the Hanford site. Over the last few years, USW TMC worked with the Tribal Employment Rights Office (TERO) of the Yakama Nation to deliver Train-the-Trainer courses in Occupational Safety and Health Administration (OSHA) General Industry (OSHA 511/501 track) for tribal members, allowing them to then teach future OSHA 10 and OSHA 30 courses. These trainers will be receiving their reauthorization training from the USW TMC in early April 2021. The trainees will be affiliated with the Washington State OSHA training institute.

The ongoing success of this training has generated an enthusiastic response, with a desire for continued programming. "As a result of several joint [USW/Yakama] OSHA trainings in spring of 2018, two of our youth who successfully completed OSHA 10-hour classes in construction were so inspired by their participation that they enrolled at The Evergreen University. Their goal is to

pursue Public Health and Environmental Studies degrees,” said the TERO director for the Yakama Nation at the HAMMER Steering Committee’s Tribe Subcommittee meeting.

Another youth member from the Yakama was able to secure employment with the Laborers International Union of North America (LIUNA) due to her receiving USW-sponsored OSHA training. At the same meeting, the Yakama Nation leadership expressed interest in including OSHA 10-hour classes in the curriculum at two secondary schools on tribal lands. The tribe discussed how their youth are in great need of activities that might lead to personal career choices. The tribe is also hoping that those careers might directly supplement the tribe’s overall capacity to engage on industrial and environmental issues.

At the same meeting, leaders of the Confederated Tribes of the Umatilla Reservation (CTUIR), outlined a plan to train a critical number of 100 or more tribal members in order to acquire the capacity to respond to incidents of hazardous waste exposure on tribal lands, such as from truck or train accidents. For example, in June 2016, the tribe responded to an overturned truck en route from the Hanford nuclear facility. In September 2015, there was an occurrence of broken pipes originating from the Hanford site. “Although our tribe has an on-site fire department ready to respond to such incidents, given the geographic expanse of our tribal lands, a good portion of our population remains too vulnerable to such incidents,” a CTUIR tribal elder explained. Seven members of CTUIR also participated in the USW-sponsored two-week training, authorizing them to teach OSHA-10 and 30-hour trainings in construction. The USW and CTUIR are currently in the process of creating an active cadre of hazardous waste trainers. An emphasis will be put on recruiting young adults to the effort.

While COVID-19 interrupted these expanded programs, discussions will continue between the USW TMC and these community organizations on how to fulfill their training needs as soon as conditions permit.

## International Brotherhood of Teamsters

The International Brotherhood of Teamsters (IBT) Worker Training Program delivered training to rail workers living on Native American reservations near Albuquerque, New Mexico. These workers support the transportation of radiological materials to and from LANL as well as other DOE facilities. The training delivered to these workers included the OSHA-10 Hour General Industry Safety and Health course and the Condensed Modular Emergency Response Radiological Transportation Training (C-MERRTT). These courses help ensure that the tribal rail workers supporting LANL have safety certifications and skills, including an understanding of basic radiological response hazards and how to safely monitor for radiation.



Los Alamos National Laboratory (Photo courtesy of U.S. DOE / Flickr.com)



# Ongoing, New, and Upcoming Initiatives



*Meeting with EMCBC, at ICWUC training center, January 2020*

## NIEHS Program Leadership and Activities

NIEHS WTP staff engage in ongoing work with DOE partners. During the 2019-2020 year, this included:

- Briefings and update meetings
  - Nov. 2019, program overview and administration with NIEHS and EM
  - Apr. 2020, general program briefing with grantees
  - May 2020, COVID-19 information briefing for EFCOG Training Working Group members
  - July 2020, COVID-19 updates and lessons learned with grantees
- Strategic in-person meetings
  - **LANL:** An in-person meeting of grantees, NIEHS, NTC, DOE EM, and the Newport News Nuclear BWXT Los Alamos LLC (N3B) and LANL contractors took place on Feb. 20, 2020, to reinforce partnerships and to improve coordination based on lessons learned.
  - **EM Consolidated Business Center and Headquarters (EMCBC):** An in-person meeting was held on January 21, 2020, to discuss how EMCBC and NIEHS can work together to encourage small sites to use grant-funded training. The visit included a trip to the International Chemical Workers Union Council training facilities in downtown Cincinnati, to learn more about the center's training courses and possible support of EMCBC staff training needs.



*Members of the Flatirons Campus EHS team maintain social distancing as per COVID-19 Return-to-Campus Strategy at National Renewable Energy Laboratory (Photo courtesy of U.S. DOE / Flickr.com)*

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

- **Visioning Workshop, Sept. 2020:** held a [visioning workshop for the next five-years of the overall NIEHS WTP](#), which included visioning for the DOE program. Invited speakers for the DOE portion were Rochelle Zimmerman from DOE EM; Shayne Eyre, co-lead of the EFCOG Training Working Group; and Patricia Aldridge, ANR Group, Inc. at HAMMER Volpentest Training Center.
- **National Environmental Justice Conference and Training Program, Oct. 2020:** NIEHS WTP presented on a panel for this virtual meeting partially sponsored by DOE. The panel was titled [Federal Government Capacity Building, Training, and Technical Assistance for Vulnerable Communities in Natural Disaster Preparedness, Response, and/or Recovery](#) and provided conference participants with a background on the Federal Interagency Working Group on Environmental Justice (EJ IWG) and its EJ and Natural Disasters Subcommittee. Panelists discussed coordination between federal government emergency management and EJ offices in supporting at-risk communities related to natural disaster preparedness, response, and recovery, and how to ensure that EJ perspectives and concerns are incorporated into the disaster response and recovery process for all levels of government. The presentation shared that the subcommittee was developing a [series of town hall meetings](#) to gather stakeholder input on actions and processes to help minimize and prevent these impacts in the future. The town halls are now complete, and a final report will define the best approaches to address EJ concerns in vulnerable, overburdened, and underserved communities related to natural disaster preparedness, response, and recovery. The report will also outline major EJ IWG findings and recommendations for future improvements in addressing EJ concerns and needs.
- **EM Meeting, Nov. 2020:** NIEHS met with EM to provide COVID-19 and general updates.
- **EFCOG Training Working Group meeting, Nov./Dec. 2020:** NIEHS and the Labor Training Working Group (LTWG) gave an update on training available under the NIEHS/DOE Program and shared NIEHS COVID-19 response tools.



These meetings, presentations, and discussions allow NIEHS and DOE to collaborate, keep each other up-to-date, and receive feedback on initiatives.





*Sandia teamed with local hospitals and medical device manufacturers to increase availability of respirator masks for health care workers. (Photo courtesy of U.S. DOE / Flickr.com)*

---

## Coronavirus Response

As of mid-March 2020, NIEHS WTP training stopped with the shut-down of DOE sites across the country due to the COVID-19 pandemic. During this time, NIEHS WTP developed a national response, supported by a \$10 million appropriation from Congress for worker-based training to prevent and reduce exposure of hospital employees, emergency first responders, and other workers who are at risk of exposure to coronavirus through their work duties.

Part of the early response was a workshop held in March 2020, [Protecting Infectious Disease Responders During the COVID-19 Outbreak](#). The virtual forum featured timely discussions among federal agency representatives, infectious disease experts, and health and safety professionals. Speakers and participants shared information about COVID-19 symptoms, transmission, and worker protections; challenges for biopreparedness and response; concepts to manage perception and stress; and training strategies to respond to bioemergencies.

## Use of Congressional Coronavirus Funding

The \$10 million in Congressional funds have been used to provide: 1) supplemental funding for NIEHS WTP grantees, and 2) contractual support for the development of training tools and other resources.

The contractual funds supported development and delivery of training tools and webinars, implementation of a [grantee needs assessment](#), and provision of grantee technical assistance. Most notably, two training tools were developed in spring 2020, [Protecting Yourself from COVID-19 in the Workplace](#) Training Tool and [Protecting Workers from COVID-19 in the Workplace](#):

[Essential and Returning Workers Training Tool](#), available in multiple languages. More than 14,000 individuals completed the online versions of these training courses via a learning management system as of Mar. 4, 2021. All resources developed are available on the [COVID-19 Resource page](#) and the [COVID-19 Webinars and Presentations page](#).

Using supplemental funds, one NIEHS/DOE Program grantee, the International Association of Firefighters (IAFF), created several resources (see highlight below).

## ACTIVITY HIGHLIGHT: International Association of Fire Fighters (IAFF) COVID-19 Supplemental Funding Project

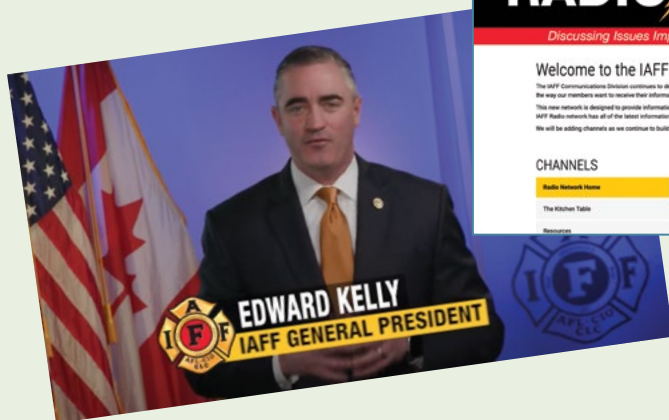
Since the start of the COVID-19 pandemic, IAFF and its members have been on the frontlines defending themselves and the public from this highly infectious disease that created an urgent demand for COVID-19 related training. With the supplemental award received from NIEHS WTP's COVID-19 Congressional appropriations, IAFF's Communications, Media, and Strategic Campaigns Department and E-18 Media production team researched, developed, and released several COVID-19 related awareness videos and podcasts. E-18 Media produced over 20 COVID-19 educational videos. Many of these segments were also created in Spanish and French to reach a broader audience.

Six COVID-19 related public service announcement videos were developed to provide the public with basic COVID-19 information and recommendations. Three COVID-19 related podcast episodes were created, in addition to three COVID-19 Kitchen Table episodes that engage a small group of IAFF members about their practices during the pandemic.

Specific topics addressed include:

- Public service announcements on *A Message from Your Fire Fighters and Paramedics*, and *Doffing (of PPE)*, *Self-Monitoring Preparation and Protection*, and *More than Fires-Keeping Communities Safe During COVID-19*.
- Podcasts on COVID-19 (overview, impact on members, and myths), *Tackling Behavioral Health During COVID-19*, and *I am a Fire Fighter...And I Had COVID-19*
- Kitchen Table Series episodes on the *COVID-19 Health and Safety Update*, *Leaders on the Frontline of COVID-19*, and *Communicating During COVID-19*.

The videos and podcasts have had thousands of views and downloads. All resources are accessible on the IAFF's [YouTube channel](#), [Facebook page](#), and [Radio Network page](#).

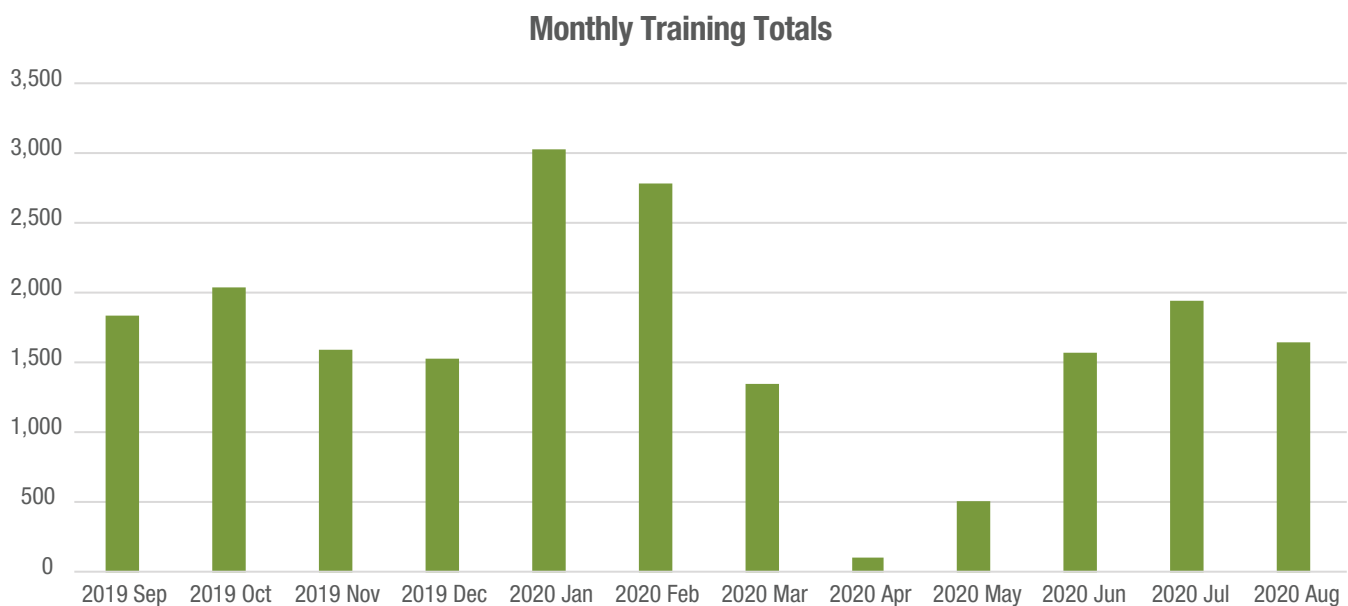


## NIEHS WTP Training at DOE Sites, March – Aug., 2020

Overall, NIEHS/DOE Program grantee training dramatically decreased from March to May 2020, followed by a large increase shown between May and July. In-person training started up at most sites around June 2020, and grantees were able to support DOE in this return to work and the backlog of training needs.

## Workers Trained Monthly, Sept. 1, 2018 - Aug. 31, 2019

The total number of workers trained each month reflects the impact of COVID-19 and the timing of site closures and reopenings.



To respond to the COVID-19 crisis, grantees delivered 47 courses to 443 DOE workers on the topic of infectious diseases between February and August 2020 (see the Training Course Categories chart). Courses included Infectious Disease Awareness and Infection Control Risk Assessment. The Volpentest HAMMER Federal Training Center Steering Committee Report for fall 2020 stated that all six NIEHS HAZWOPER grant leads at Hanford worked collaboratively to create COVID-19 training modules. As the DOE sites began to open back up in late spring and summer, NIEHS/DOE Program grantees worked closely with contractors to implement safety protocols and practices for in-person training delivery.

The contractors primarily request in-person training from our grantees, and by fall of 2020, the demand was quite high in places due to training backlogs from earlier in the year. However, regional spikes in COVID-19 cases have caused additional shutdowns or the need to halt in-person training at some sites.

Virtual, instructor-led training has been minimal under the NIEHS/DOE Program but is expanding with some grantees, mostly dependent upon requests from site contractors. In the future, hybrid delivery of in-person and virtual training may be more frequently requested by DOE contractors.

## Lessons Learned and Challenges

As grantees navigated training delivery for DOE sites during COVID-19, they encountered the following challenges:

- The lack of ability to travel trainers to sites when local trainers are not available. There are many restrictions due to individual health concerns, state or site restrictions, or organizational policies.
- The ability to get workers and instructors released for training due to production and work schedules, especially with the demands of returning to the workplace.
- Implementing common COVID-19 safety guidance and training courses with much variety across the sites.
- Grantees unable to use Zoom as their training delivery platform at sites due to DOE security restrictions. Early in the pandemic, grantees evaluated various platforms and have mostly landed on Zoom as the most user-friendly for virtual training.

Grantees are collaborating with sites to work through these challenges and continue to support DOE in meeting training goals and requirements under the pandemic situation.

---

## Reciprocity through the National Training Center (NTC)

Several grantees have been [certified for reciprocity for multiple training courses](#) by NTC in accordance with the DOE policy on health and safety training reciprocity (DOE P 364.1). NIEHS WTP is working with grantees and the NTC to complete DOE reciprocity course evaluations and expand use by DOE contractors. NTC completed certification of the LIUNA Training and Education Fund apprentice training program and certified 13 safety and health courses that are provided during their 5-year program. Individuals presenting a journey card to DOE contractors should be approved for core training as applicable to the work activity. While not funded under the NIEHS/DOE Program for the year reflected in this report, they were previously funded and continued to provide some training at DOE sites under the [NIEHS Hazardous Waste Worker Training Program](#). Additionally, their DOE funding began again in September 2020.

Reciprocity course certification allows for portability of worker 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.

An indirect benefit of NIEHS/DOE Program grantee participation in reciprocity has been the ability to help DOE contractors address in-house instructor needs. Examples are discussed under the Grantee Training for Contractor Employees section.

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

- CPWR—The Center for Construction Research and Safety: HAZWOPER, Confined Space Entry
  - 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: HAZWOPER, Bloodborne Pathogens, Fall Hazard Recognition and Prevention, HAZCOM.



- The Laborers' International Union of North America (LIUNA) Training and Education Fund: HAZWOPER, Radiological Worker I and II, Hazard Communication (HAZCOM), Asbestos Awareness, Excavation/Trenching Awareness, Basic Crane and Basic Rigger 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, Rad Worker I&II, Construction Occupational Noise Awareness, and Apprenticeship Certification.
- United Steelworkers Tony Mazzocchi Center (USW TMC) for Health, Safety, and Environmental Education: HAZWOPER.

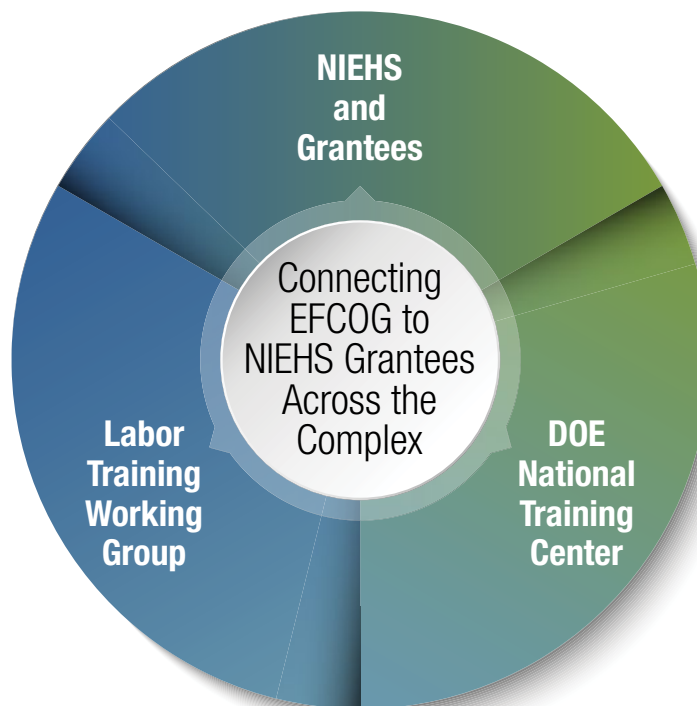
### Accepting Apprentice/Journey Training

NIEHS WTP and NIEHS/DOE Program grantees supported the NTC pilot program to evaluate the apprentice training curriculum for DOE reciprocity. Union craft and trade workers typically complete a five-year apprentice program that contains an extensive emphasis on health and safety. National labor apprentice programs are validated by the U.S. Department of Labor or a state apprenticeship agency and many hold accreditations through third party organizations or granting of college credit.

NTC finished their pilot with LIUNA Training and Education Fund (described above) after reviewing specific apprentice and journey training content to understand how it aligns with DOE requirements. This expanded use of the DOE reciprocity program can be offered to other grantees in the future, and will create additional efficiencies for DOE, workers, and contractors.

### National and Site-Specific Collaborations with the Site Contractor Community

NIEHS/DOE Program grantees continued their collaborations with the contractor community. The desired goal is to develop relationships to facilitate delivery of training by grantees at no or reduced cost to the sponsoring contractor, which could reduce redundancy and contractor costs, and fill contractor training gaps. The training delivery could occur through improved use of the DOE Training Reciprocity Program at NTC and existing DOE EM funding to NIEHS.



Expanding training delivery at DOE sites through partnership and collaboration.

## DOE Liaison

To better leverage existing training capacity and educate new DOE contractors, NIEHS WTP established a part-time liaison with extensive DOE experience, Ted Giltz. Giltz started in the position in October 2018 and has continued into 2021 to assist with many of the initiatives described in this report.

## Grantee Training for Contractor Employees

NIEHS WTP has been engaging in an initiative to communicate 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 grant-funded training, due to DOE personnel changes, attrition of both DOE and contractor leadership, and routine promotion and changes in DOE contractor organizations. The DOE liaison has increased participation with the EFCOG Training Working Group to improve their knowledge of grantee capabilities.

Although significantly impacted by COVID-19 requirements, expanding collaboration and support continues to be a focus area. One area that has received significant attention is virtual delivery of selected courses. Giltz and grantees have participated in several discussions on virtual delivery lessons learned, platform selection considerations, and maintaining compliance with the NIEHS Minimum Criteria document.

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

- Sites already using NIEHS/DOE Program grantees for training are being approached to maintain and expand training support as their contractor organizations undergo continued fiscal and attrition pressure.
- NIEHS staff, grantees, and the LTWG have participated in EFCOG Training Working Group meetings. We continue to educate EFCOG members on available options.
- NIEHS WTP attendance at ongoing EFCOG COVID-19 Lessons Learned webinars.

Benefits of using NIEHS/DOE Program grant training include:

- Using worker-trainers, who are highly qualified instructors that deliver the training material as an experienced employee and peer.
- Assisting with issues of staff attrition, particularly smaller contract organizations. NIEHS/DOE Program grantees offer the benefits of providing quality training materials and staff, including mobile training to organizations that do not have full time training staff, or safety and health subject matter experts (SMEs) in some cases. Many organizations no longer have the depth and competencies in topics such as specialty electrical training topics, scaffold awareness, fire system maintenance, condensate-induced water hammer, crane/rigging, and trenching. However, more effective safety training is provided by instructors who are experts and who have worked in the field on the topic.
- Providing specialty training by expert trainers from around the country through grantee mobile training support, particularly once COVID-19 travel restrictions are lifted.
- Expanding training access to a workforce that has already completed fundamental safety training in many areas through improved contractor acceptance of certified reciprocity and grantee safety and health training.
- Avoiding retraining and other project mobilization costs through reciprocity certifications.

The following examples show where contractors have started planning for use of NIEHS/DOE Program grantee training beyond the existing HAZWOPER training delivery that has been in place for several years.

- **Los Alamos National Laboratory (LANL):** NIEHS WTP and grantees are closely working with training staff and SMEs at LANL (the laboratory and the N3B managed legacy cleanup site) to better utilize the capacity of the grantees to deliver training. As stated above, an in-person meeting of grantees, NIEHS, NTC, DOE EM, and the Newport News Nuclear BWXT Los Alamos LLC (N3B) and LANL contractors took place on Feb. 20, 2020, to reinforce partnerships and to improve coordination based on lessons learned. Currently, progress has been made that allows for grantee trainers to deliver the following courses:
  - CPWR—The Center for Construction Research and Safety
    - Implemented a virtual delivery of the 8-hour and 24-hour HAZWOPER course (early 2021) for the laboratory. Other virtual courses are under discussion, such as the 40-hour HAZWOPER.
    - Radiological Worker I and II.
    - Electrical Training for Non-Electrical Workers, through the International Brotherhood of Electrical Workers (early 2021).
  - International Chemical Workers Union Council – through the International Association of Machinists and Aerospace Workers (IAM)
    - Confined Space Awareness.
    - Fall Protection.
    - Ladder Safety.
    - Scaffold Awareness.
  - LIUNA Training and Education Fund
    - Plans are underway for the piloting of a virtual delivery of the 8-hour HAZWOPER course for N3B (early 2021).
  - National Partnership for Environmental Training and Education (PETE) – through Santa Fe Community College
    - Hazard Communication.
    - Waste Generator Orientation.
    - Resource Conservation and Recovery Act (RCRA).
- **Idaho National Laboratory (INL):** Worker trainers have historically been used for HAZWOPER training at INL. Starting in November 2018, CPWR consortium member Electrical Training Alliance/International Brotherhood of Electrical Workers (IBEW) started delivery of required NFPA 70E electrical training to Idaho cleanup contractors. This satisfies the requirements of 10 CFR 851 and aids individual electricians in maintaining their state of Idaho electrician license for work. The training continued in 2020 and was provided at no cost to the contractor, resulting in a savings of over \$100,000 per year when compared to their previous decision to broker training to general industry vendors. The laboratory contractor, Battelle, is now participating in training. The WTP liaison and CPWR are making plans to expand training support during 2021.

As NIEHS 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 us to refine the process to begin conversations with a site (see figure below).



The process used to connect grantees to DOE site contractor training needs

## National Initiative on Opioids

### Opioids: Prevention of Occupational Exposure, and Workforce Training on Use and Abuse

NIEHS WTP is at the forefront of addressing the opioid crisis from the worker health and safety perspective, looking at the issue from two viewpoints.

First, there are the workers who may encounter toxic exposures from illicitly manufactured drugs during their daily work, such as emergency medical services providers, firefighters, environmental cleanup workers, families of users, coworkers, health care providers, and law enforcement personnel. An awareness-level training tool, [Prevention of Occupational Exposure to Fentanyl and Other Opioids](#), (developed under separate funding), is available from NIEHS.

Second, there are workers in the construction, manufacturing, and service industries that have been identified as a primary vulnerable population for both potentially harmful opioid exposure and potentially deadly opioid use and abuse. Over time it has become increasingly evident that the opioid crisis is connected to reducing the burden of pain and mitigating risks that arise from the use of prescription opioids. Although opioids are commonly prescribed by doctors to treat pain, they can be highly addictive to patients. WTP developed another training, under separate funding, to address the risks for these workers.

As reported last year, this [Opioids and the Workplace: Prevention and Response](#) curriculum was piloted at the DOE's Hanford/Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Training Facility on July 22, 2019. The pilot was organized in conjunction with an activity held by the International Chemical Workers Union Council (ICWUC) consortium. Participants included trainers who are members of IAM and IBEW, as well as industrial hygiene technicians and radiological control technicians from HAMMER, Oak Ridge, and the Kansas City Plant. The training was followed by a community meeting on July 23, 2019, with a variety of Hanford stakeholders.

A [leadership version of this course](#) was developed between late 2019 and early 2020. The leadership version of the course is designed to train top leaders from participating organizations who have influence or authority to change organizational policy, procedures, and culture to prevent and respond to opioid misuse in the workplace. This may include company or organizational directors, union officials, and other key stakeholders. In non-union settings it is imperative that some rank and file workers are included so that voices from the front lines are heard.

A pilot of this course had been scheduled at HAMMER during June 2020. However, due to the pandemic, that pilot did not occur. We are hopeful that once pandemic restrictions have lessened, the leadership course can be brought to HAMMER.



# Program Funding and Grantees

## Funding

Through an interagency agreement, NIEHS WTP provided \$8,365,309 in funding to NIEHS/DOE Program grantees (\$7,240,547 in the primary grant and \$1,124,762 in supplemental funds) during the 2019-2020 program year. Funding was from fiscal year 2019 DOE appropriations. Seven grantees were funded to implement training during the year.

[Insert Funding Table chart]

## Five-Year Competitive Renewal

The competitive renewal phase for the 2020-2025 funding cycle of the NIEHS/DOE Program was completed. Under the NIH funding opportunity announcement (FOA), [HAZMAT Training at DOE Nuclear Weapons Complex \(UH4 Clinical Trial Not Allowed\)](#), seven grantees were awarded to begin training in September 2020. There were two changes in the new funding period:

- The LIUNA Training and Education Fund was added. LIUNA was a previous NIEHS/DOE Program grantee, and consistently provides some training at DOE sites under the [NIEHS Hazardous Waste Worker Training Program](#).
- The International Union of Operating Engineers National Training Fund will be funded as a subawardee under the grant for CPWR—The Center for Construction Research and Training, rather than as a primary awardee.

## Program Grantees (Sept. 2019 – Aug. 2020)

### 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 the following international and national construction unions: 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 fire fighters 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 requirements of federal regulations and national industry standards. 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: 1) remediation site workers and supervisors at DOE facilities; 2) construction workers and supervisors involved in the remediation of DOE facilities, including drivers of specialized off-road and waste hauling vehicles; 3) truck transportation workers and supervisors who are involved in the transportation of radioactive and chemical waste from DOE facilities; and 4) 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 in 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 and includes the following consortium partners for the DOE program: International Association of Machinists and Aerospace Workers and the University of Cincinnati. ICWUC primarily trains workers at Hanford, Kansas City, LANL, and Oak Ridge.

### International Union of Operating Engineers (IUOE) National Training Fund (NTF)

The workers IUOE represents include operating engineers (heavy equipment operators, mechanics, and surveyors), stationary engineers who maintain buildings and industrial complexes, nurses and other health workers, and a variety of public employees. IUOE provides training for many DOE sites across the country.

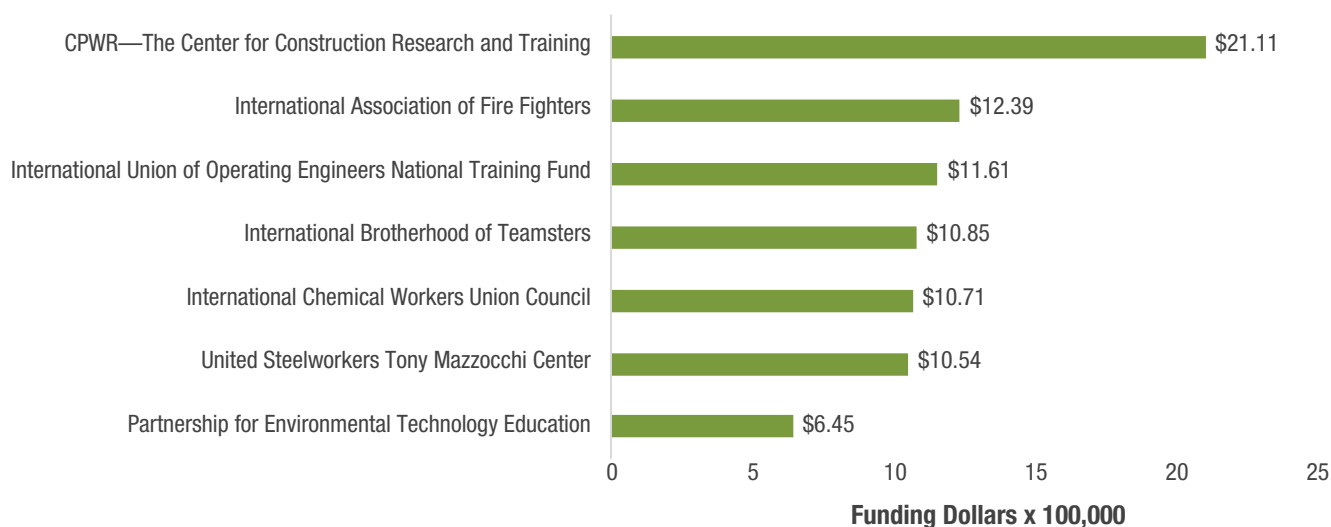
### National Partnership for Environmental Training and Education (PETE)

The Community College Consortium for Health and Safety Training (CCCHST) is administered by PETE. There are more than 150 training organizations represented in CCCHST, including colleges and universities, community-based organizations, governmental units, independent training providers, and a union. These groups offer hazardous waste training in most states in the nation. PETE primarily provides training at colleges near Oak Ridge, Pantex, and Savannah River.

### United Steelworkers Tony Mazzocchi Center (USW TMC) for Health, Safety, and Environmental Education

USW TMC has 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 contain large quantities of hazardous waste and experience large quantities of toxic releases. USW TMC primarily provides training at Hanford, INL, Oak Ridge, Paducah Gaseous Diffusion Plant, and Portsmouth Gaseous Diffusion Plant.

#### NIEHS/DOE Nuclear Working Training Program Funding by Grantee, September 2019 - August 2020



## ACTIVITY HIGHLIGHT: Examples of Use of Skills and Utility of Courses by Training Participants and DOE Site Contractors

### International Association of Fire Fighters (IAFF)

Under the NIEHS/DOE Program grant, IAFF delivers training to first responder agencies located within a perimeter around DOE sites who could be called upon in case of a disaster or emergency at a site. Since 2016, the IAFF Hazmat Training Department has been training students from the Nashville Fire Department that is approximately 150 miles from the Oak Ridge National Laboratory in Oak Ridge, Tennessee. In all, the department has delivered seven Confined Space Rescue and two Technician classes to 205 students during 10,160 contact hours of instruction. Both programs are designed to educate emergency responders about strategies to safeguard health and safety when their work involves entering confined spaces for rescue operations and also when their work involves offensive operations during hazardous materials incidents.

On July 10, 2020, a team of hazmat members from the Nashville Fire Department who most recently participated in two separate IAFF Confined Space Rescue classes in 2019 under the FY 2018 NIEHS/DOE Program grant were first to arrive on the scene of a box truck carrying 2,500 gallons of 34% sodium hydroxide that was leaking onto the main expressway through the city. The chemical spill closed the northbound lanes of I-65. The rescue technicians were able to provide reconnaissance and mitigate the hazard by stopping the leak using patching and plugging techniques learned from the hazmat training classes that were conducted by the IAFF. Without these actions, the stopping and subsequent cleanup of the leaking product could have caused many citizen and fire fighter injuries and possibly even deaths. Furthermore, the swift action by the Nashville Fire Department's Hazardous Materials Special Operations Team potentially saved the city thousands of dollars by not having to hire a private company to provide clean-up services.



*Hazmat team members from the Nashville Fire Department prior to a response. (Photo courtesy of IAFF)*

## CPWR – The Center for Construction Research and Training

CPWR provides training for building trades union members across the DOE complex. In addition, a CPWR staff member serves as co-chair on the DOE Labor Training Work Group and provides support to the Energy Facility Contractors Group (EFCOG) Training Work Group and the DOE Hoisting and Rigging Advisory Committee.

A CPWR evaluator interviewed trainees who volunteered during training that they had a story to tell. They spoke about the importance of training and how it makes a difference. One story is an example of how training saves lives and prevents serious illness and injury:

A carpenter construction manager told about a recent incident at Hanford that demonstrates the value of training. He had workers building scaffolding inside a valve galley to replace a valve. Out of sight there were operators whose job included moving radioactivity around. The interviewee had notified the operators where the scaffolding team was working. Sometimes when the radiation moves along, it contains a crud burst. A crud burst occurred in this situation, and when it did, a sensor went off indicating a problem. That was the signal to the workers to set down their tools and climb down. Ten seconds later a second sensor sounded, meaning the problem was serious. The workers listened to that signal, telling them to drop everything and jump. In the end, the workers were exposed to some radiation where the crud burst caused a leak, but because of training they knew to take action immediately and therefore avoided further injury.

*“The low incidence of injuries at the site is because of training,”* said another interviewee who is a union safety representative at Hanford.

## National Partnership for Environmental Training and Education (PETE)/Community College Consortium for Health and Safety Training (CCCHST)

PETE/CCCHST represents more than 130 training organizations, including colleges and universities. At the DOE Pantex Plant/Y-12 National Security Complex, Amarillo College provides training through the grant for the DOE site contractor, Consolidated Nuclear Security, LLS (CNS). PETE/CCCHST received the following feedback from the safety and industrial hygiene manager at CNS:

*“I wanted to pass along thanks and appreciation for the additional training that has been set up through Amarillo College and the DOE grant money for safety related training. Several trainings have been offered as this program has expanded each year. We have sent personnel to 30-hour OSHA, Fundamentals of Industrial Hygiene, Trenching and Excavating, and others. This is a great benefit to our organization in Safety and Industrial Hygiene as it has allowed us to send more individuals to training, save money through not having to travel out of town for training or bring training vendors to the plant with contract funding, and provide a more extensive selection of training.*

*The Fundamentals of Industrial Hygiene [IH] course is a great example of benefit to the department. This course allowed us to send new IH technicians to the course to gain additional knowledge of IH, send current certified Industrial Hygienists to refresh and gain continuing education credits, and send MTC safety representatives for IH knowledge to better serve in their roles. [The MTC Safety Reps are Metal Trades Council union safety officers]. It is a course which deals in the concepts of IH and the instrumentation used to implement safety controls from an industrial hygiene standpoint.*

*I also know that the DOT, Advanced RCRA, and Advanced DOT are very good courses as I have attended them in the past and are great to continue through this program.*

*Again, thank for the work with setting up and continuing this program.”*



# 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 grantees that 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 [WTP weekly e-Newsbrief](#), which is distributed to more than 1,500 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 grantees.

---

## Participation in the Labor Training Working Group (LTWG)

Weinstock participated in the LTWG meetings. One of these meetings was held during the 2019-2020 program year (Sept. 15 and 16, 2020).

---

## HAMMER Steering Committee Meetings

Weinstock attended the HAMMER Steering Committee and Medical Surveillance Subcommittee meetings in Richland, Washington, on Oct. 23-24, 2019. There was no spring meeting due to the COVID-19 pandemic.

---

## WTP/DOE Annual Report

The Clearinghouse provides the graphic design for the annual interagency report submitted by WTP to DOE and designed the NIEHS/DOE Program fact sheet.

# Background of the NIEHS/DOE Program Partnership

---

## 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 Department of Energy 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.

---

## NIEHS/DOE Agreement

To implement this, DOE entered into an 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.

---

## OSHA Regulations

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 respective DOE directives to meet the requirements of OSHA regulation 20 CFR 1910.120 and the Environmental Protection Agency HAZWOPER training requirements (40 CFR 300.150).

**For more information on the NIEHS/DOE Program, visit [https://www.niehs.nih.gov/careers/hazmat/training\\_program\\_areas/doe/index.cfm](https://www.niehs.nih.gov/careers/hazmat/training_program_areas/doe/index.cfm).**

# Data Tables

Training delivery during the 2020 program year was impacted by the COVID-19 pandemic and related restrictions and site closures. For more details, see the Coronavirus Response section of this report.

## Total Training by NIEHS/DOE Program Grantee, Sept. 1, 2019 – Aug. 31, 2020

Grantee	Courses Completed	Workers Trained	Contact Hours
CPWR - The Center for Construction Research and Training	323	4,953	61,564
International Association of Fire Fighters	19	361	17,864
International Brotherhood of Teamsters	150	2,188	21,379
International Chemical Workers Union Council	163	2,290	17,853
International Union of Operating Engineers	189	3,658	39,104
Partnership for Environmental Technology Education	324	3,101	19,759
United Steelworkers Tony Mazzocchi Center	235	3,386	37,574
<b>Totals:</b>	<b>1,402</b>	<b>19,925</b>	<b>214,617</b>

## Courses Provided by the NIEHS/DOE Program Grantees, Sept. 1, 2019 – Aug. 31, 2020

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
<b>Asbestos Abatement</b>	Asbestos Abatement Supervisor	7	63	2,392
	Asbestos Abatement Supervisor Refresher	48	491	3,932
	Asbestos Abatement Worker Basic	6	60	1,536
	Asbestos Abatement Worker Refresher	20	224	1,792
	Asbestos Inspector Refresher	6	48	272
	Asbestos Operations & Maintenance Refresher	5	74	592
	<b>Asbestos Abatement Total</b>	<b>92</b>	<b>960</b>	<b>10,516</b>
<b>Confined Space</b>	Confined Space	58	781	10,134
	<b>Confined Space Total</b>	<b>58</b>	<b>781</b>	<b>10,134</b>
<b>Electrical Safety</b>	Electrical Safety	16	173	1,966
	<b>Electrical Safety Total</b>	<b>11</b>	<b>170</b>	<b>1624</b>

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
<b>Emergency Response</b>	CAMEO	1	2	64
	Emergency Response Awareness	6	60	412
	Emergency Response Train-the-Trainer	1	2	80
	Emergency Response for Specific Hazards	51	1,151	3,613
	Emergency Response/HazMat Technician	8	136	10,880
	<b>Emergency Response Total</b>	<b>67</b>	<b>1,351</b>	<b>15,049</b>
<b>Equipment Safety</b>	Crane Operators	2	22	880
	Fall Protection	12	183	930
	Rigging and Signaling	15	135	1,080
	Scaffold	2	18	144
	<b>Equipment Safety Total</b>	<b>31</b>	<b>358</b>	<b>3,034</b>
<b>Hazard Communication</b>	Hazard Communication	6	138	552
	<b>Hazard Communication Total</b>	<b>6</b>	<b>138</b>	<b>552</b>
<b>Hazmat Transport</b>	HazMat Transportation Awareness	9	133	864
	HazMat Transporter/Basic	12	264	2,616
	Load Securement	7	103	824
	<b>Hazmat Transport Total</b>	<b>28</b>	<b>500</b>	<b>4,304</b>
<b>Infectious Disease</b>	Community-Level Infectious Disease Awareness	8	325	994
	HazMat Training for Infectious Diseases	1	9	36
	Infection Control Risk Assessment	2	34	170
	Infectious Disease Awareness	4	75	150
	<b>Infectious Disease Total</b>	<b>15</b>	<b>443</b>	<b>1,350</b>
<b>OSHA Outreach</b>	General Construction Safety	58	880	21,248
	General Industry Safety	42	692	7,386
	General Industry Train-the-Trainer	1	3	72
	<b>OSHA Outreach Total</b>	<b>101</b>	<b>1,575</b>	<b>28,706</b>
<b>Other</b>	Training Methods/Trainer Development	15	129	1,572
	<b>Other Total</b>	<b>15</b>	<b>129</b>	<b>1,572</b>
<b>Personal Protective Equipment</b>	Respiratory Protection	107	1,977	16,240
	<b>Personal Protective Equipment Total</b>	<b>107</b>	<b>1,977</b>	<b>16,240</b>

Course Category	Course Name	Courses Completed	Workers Trained	Contact Hours
<b>Radiological</b>	Radiation Protection Worker/Basic	20	352	2,846
	Radiation Worker II Training	31	336	2,420
	Radiation Worker Refresher	7	94	718
	<b>Radiological Total</b>	<b>58</b>	<b>782</b>	<b>5,984</b>
<b>RCRA/Industrial</b>	Basic Industrial Emergency Responder Operations	2	5	160
	Hazardous Waste Characterization	3	49	392
	Process Safety Management	1	15	480
	RCRA TSD Site Worker	21	275	4,000
	<b>RCRA/Industrial Total</b>	<b>27</b>	<b>344</b>	<b>5,032</b>
<b>Refresher - Site Worker/Superfund Cleanup</b>	Site Worker Refresher	589	8,779	70,552
	<b>Refresher - Site Worker/Superfund Cleanup Total</b>	<b>589</b>	<b>8,779</b>	<b>70,552</b>
<b>Safety Culture</b>	Safety Culture/Safety Leadership	3	63	504
	<b>Safety Culture Total</b>	<b>3</b>	<b>63</b>	<b>504</b>
<b>Site Worker/Superfund Cleanup</b>	Basic Superfund Site Worker	123	886	31,272
	General Hazardous Waste Train-the-Trainer	1	10	400
	Hazardous Waste Operations	8	241	964
	Site Worker Train-the-Trainer	3	54	2,720
	Superfund Bridge Training	18	85	1,752
	<b>Site Worker/Superfund Cleanup Total</b>	<b>153</b>	<b>1,276</b>	<b>37,108</b>
<b>Triage/First Aid</b>	Adult CPR	33	265	1,766
	Basic First Aid	3	31	248
	<b>Triage/First Aid Total</b>	<b>36</b>	<b>296</b>	<b>2,014</b>
<b>Grand Total</b>		<b>1,402</b>	<b>19,925</b>	<b>214,617</b>



## Total NIEHS/DOE Program Training by DOE Site, Sept. 1, 2019 – Aug. 31, 2020

Site Name	Courses Completed	Course Percentage	Workers Trained	Workers Percentage	Contact Hours	Contact Hours Percentage
Ames Laboratory	7	0%	97	0%	1,192	1%
Argonne East	19	1%	253	1%	6,311	3%
Ashtabula	1	0%	18	0%	720	0%
Barker Brothers	2	0%	39	0%	3,120	1%
Brookhaven National Laboratory	18	1%	521	3%	6,077	3%
Elk River Reactor	1	0%	14	0%	112	0%
Fermi National Accelerator Laboratory	9	1%	325	2%	3,112	1%
Hanford Waste Vitrification Plant	331	24%	5,947	30%	58,612	27%
Idaho National Engineering Laboratory	52	4%	593	3%	5,366	2%
Kansas City Plant	12	1%	123	1%	3,766	2%
Lawrence Berkeley	1	0%	22	0%	880	0%
Lawrence Livermore National Laboratory	6	0%	103	1%	2,288	1%
Los Alamos National Laboratory	142	10%	2,662	13%	19,708	9%
Mound Plant	2	0%	21	0%	840	0%
Multiple DOE sites	32	2%	433	2%	10,204	5%
National Energy Technology Laboratory	5	0%	105	1%	840	0%
Nevada Test Site	54	4%	713	4%	7,433	3%
Nuclear Fuel Services	4	0%	63	0%	504	0%
Oak Ridge Field Office	309	22%	2,337	12%	21,695	10%
Paducah Gaseous Diffusion Plant	72	5%	733	4%	9,152	4%
Pantex Plant	57	4%	795	4%	7,466	3%
Pinellas Plant	3	0%	38	0%	304	0%
Portsmouth Gaseous Diffusion Plant	94	7%	1,273	6%	16,782	8%
Princeton Plasma Physics Laboratory	31	2%	451	2%	6,224	3%
Rocky Flats Office	1	0%	20	0%	1,600	1%
Santa Susana Field Laboratory	14	1%	198	1%	1,584	1%
Savannah River Site	67	5%	1,195	6%	5,937	3%
St. Louis Airport Site	7	0%	123	0%	3,982	1%
Stanford Linear Accelerator Center	1	0%	22	1%	880	2%
Thomas Jefferson National Accelerator Facility	3	0%	53	0%	424	0%
Weldon Springs	35	0%	501	0%	6,274	0%
West Valley Demonstration Project	10	2%	134	3%	1,228	3%
<b>Totals</b>	<b>1,402</b>	<b>100%</b>	<b>19,925</b>	<b>100%</b>	<b>214,617</b>	<b>100%</b>

## 10-Year Training Summary: NIEHS/DOE Nuclear Worker Training Program, 2010-2020\*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Number of Grantees</b>	8	8	8	8	8	8	7	7	7	7	7
<b>Courses Completed</b>	2,188	1,987	1,963	1,797	1,900	1,830	1,927	2,066	1,678	1,792	1,402
<b>Workers Trained</b>	35,329	31,238	29,842	27,755	28,334	26,396	28,162	32,202	27,739	29,705	19,925
<b>Contact Hours</b>	523,287	405,556	365,083	310,369	311,412	323,316	368,680	389,786	343,203	368,044	214,617
<b>Dollars Awarded</b>	\$9,670,474	\$9,577,000	\$9,599,741	\$8,760,715	\$8,760,685	\$9,543,426	\$8,827,223	\$8,852,400	\$9,425,498	\$9,346,048	\$8,365,309
<b>Cost Per Contact Hour</b>	\$18.48	\$23.61	\$26.29	\$28.26	\$28.13	\$29.52	\$23.94	\$22.71	\$27.46	\$25.39	\$38.98

\* 2020 numbers were impacted by COVID-19 and restrictions on training delivery. See the Coronavirus Response section of this report for more details

## Summary of NIEHS/DOE Program Training at DOE Sites, 1994-2020

Training Year	Total Courses	Total Workers	Total 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	1,797	27,755	310,369
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	1,678	27,739	343,203
2019	1,792	29,705	368,044
2020	1,402	19,925	214,617
<b>Totals:</b>	<b>46,077</b>	<b>671,801</b>	<b>8,759,191</b>

## Projected Versus Actual Training, Sept. 1, 2019 – Aug. 31, 2020

Grantee	2020 Projected Courses	2020 Courses Completed	Percentage of projected courses that were delivered	2020 Projected Workers to be Trained	2020 Workers Trained	Percentage of projected workers that were trained
<b>CPWR - The Center for Construction Research and Training</b>	190	323	170%	3,229	4,953	153%
<b>International Association of Fire Fighters</b>	17	19	112%	340	361	106%
<b>International Brotherhood of Teamsters</b>	198	150	76%	2,923	2,188	75%
<b>International Chemical Workers Union</b>	205	163	80%	2,806	2,290	82%
<b>International Union of Operating Engineers</b>	345	189	55%	7,218	3,658	51%
<b>Partnership for Environmental Technology Education</b>	250	323	129%	2,500	3,089	124%
<b>United Steelworkers of America</b>	304	235	77%	5,812	3,386	58%
<b>Totals:</b>	<b>1,509</b>	<b>1,402</b>		<b>24,828</b>	<b>19,925</b>	



## Projected Training Courses for Sept. 1, 2020 – July 31, 2021

Course Name	Number of Courses Projected	Total Course Hours Projected
15-hour Disaster Site Worker	2	30
Adult CPR	44	256
Advanced Training Technology Train-the-Trainer	1	40
Asbestos Abatement Supervisor	4	160
Asbestos Abatement Supervisor Refresher	12	88
Asbestos Abatement Worker Basic	11	232
Asbestos Abatement Worker Refresher	20	160
Basic Superfund Site Worker	134	5,232
Confined Space	60	684
Disaster Site Worker Train-the-Trainer	2	80
Electrical Safety	4	32
Emergency Response Awareness	60	120
Emergency Response Train-the-Trainer	1	40
Emergency Response//HazMat Technician	8	640
Fall Protection	35	136
Final Rule Awareness	10	40
General Construction Safety	92	1,858
General Hazardous Waste Train-the-Trainer	1	40
General Industry Safety	54	818
HazMat Transportation Awareness	10	120
HazMat Transporter/Basic	30	60
Industrial Emergency Response Awareness	30	60
Lead Abatement Worker Basic	1	32
Lead Abatement Worker Refresher	1	8
Load Securement	17	136
Process Safety Management	24	216
Radiation Worker II Training	23	232
Radiation Worker Refresher	16	138
RCRA TSD Site Worker	19	456
Respiratory Protection	99	580
Rigging and Signaling	27	336

Course Name	Number of Courses Projected	Total Course Hours Projected
Safety Culture/Safety Leadership	4	64
Scaffold	4	48
Silica Hazards	1	32
Site Supervisor Refresher	4	32
Site Worker Refresher	594	4,759
Site Worker Train-the-Trainer	1	80
Superfund Bridge Training	27	632
Training Methods/Trainer Development	22	668
<b>Totals:</b>	<b>1,509</b>	<b>19,375</b>



National Institute of  
Environmental Health Sciences  
*Worker Training Program*

This publication was made possible by contract number 75N96020F00102 from  
the National Institute of Environmental Health Sciences, NIH. | April 2021