National Institute of
Environmental Health Sciences
Worker Training Program

The National Institute of Environmental Health Sciences
Worker Training Program with the Department of Energy

NUCLEAR WORKER TRAINING PROGRAM

Accomplishments and Highlights

September 1, 2015 to August 31, 2016

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Cover photo: Standing near a pipe providing access to the tank below, workers initiate a water soak aimed at loosening hard-to-remove-waste from the bottom of the underground tank known as C-109 at Oak Ridge.

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

Program Goal

The goal of the NIEHS DOE Nuclear Worker Training Program is to provide high quality training to ensure that DOE site workers are prepared to work safely in hazardous environments, and that workers have sufficient knowledge to identify hazardous situations and to take appropriate actions to protect themselves, fellow workers, and the environment. To accomplish this, the NIEHS funds programs to deliver both site-specific and trade-specific training to address complicated DOE sites, featuring a combination of nuclear, industrial, demolition, and construction activities.

Program Overview

Crane operators, carpenters, welders, laborers, boilermakers, chemical operators, firefighters, construction workers, electricians, environmental technicians, insulators, laboratory technicians, machinists, painters, pipe fitters, truck drivers: these are the people who make up the workforce engaged in environmental restoration activities at DOE nuclear weapons sites. And these are the workers receiving health and safety training under the DOE/National Institute of Environmental Health Sciences (NIEHS) Nuclear Worker Training Program.

Administered since 1993 by the NIEHS Worker Training Program, the program has provided site-specific, quality safety and health training to workers in a timely and cost-effective manner, through a partnership involving government, contractors, and labor organizations. A cornerstone of the program is the use of "worker-trainers," employees well versed in performing a given task in a hazardous environment who are trained to instruct other workers.

Protecting worker health and safety through the delivery of safety and health training has been a priority of the Secretary of Energy and is a primary goal of the Office of Environmental Management (EM). As the DOE's mission has shifted from weapons production to environmental restoration, the site worker is exposed to new operations and hazards while conducting restoration activities, many of which are associated with potential exposure to hazardous substances and wastes.

A more detailed background of the program is described later in this report.

A National Asset in Emergency Response

The DOE/NIEHS program represents a large pool of trained, certified workers who respond in case of accidental or deliberate radiological events. While it was never imagined that this program would result in a capacity to respond to such events, this is an actual benefit and a national security asset. NIEHS WTP has developed a mechanism for identifying and mobilizing these workers.

A container of waste is excavated from an underground storage trench at the Hanford Site.

2016 AWARDEE HIGHLIGHT: Steelworker Charitable and Educational Organization's Tony Mazzocchi Center

Implementation, Evaluation, and Capacity Building

The Steelworker Charitable and Educational Organization's (SCEO) Tony Mazzocchi Center (TMC) has provided training at DOE sites to workers, DOE personnel, and contractor management through the NIEHS-DOE Nuclear Worker Training Program for 22 years. In 2016, the TMC continued to provide trainings at seven sites (Hanford Site, Paducah Gaseous Diffusion Plant, Portsmouth Gaseous Diffusion Plant, Oak Ridge Field Office, Idaho National Engineering Laboratory, Waste Isolation Pilot Plant, and Nuclear Fuel Services). From September 1, 2015 through August 31, 2016, the TMC conducted 193 training courses reaching 2,808 students for 33,059 contact hours.

This year, the TMC courses at DOE sites reached 201 students in the 40-hour HAZWOPER class; 98 workers in the 24-hour HAZWOPER class; and 2,184 workers for their 8-hour annual refresher HAZWOPER class. Additionally, the TMC provided 52 workers with the OSHA 10-hour General Industry outreach class; 104 workers the OSHA 10-hour Construction outreach class; 13 workers the technical based OSHA 32-hour 511 course; and 20 workers the OSHA 24-hour 521 Guide to Industrial Hygiene.

For the DOE 8-hour refresher class, the following concepts were evaluated by participants:

Concept	Percent of Course Participants Rating Excellent or Good
TMCs trainers and curricula	89%
Effectiveness of the teaching methods	97%
Usefulness of the materials, hand-outs, and activities	97%
Utility of the information received in their job or health and safety work	96%

The TMC also ensures their trainers have ongoing and updated capacity to deliver high-quality training. Forty-eight site worker trainers facilitated courses this budget year. These trainers participated in trainer enhancement trainings at their sites arranged and led by the TMC DOE Program Coordinator. Several of the trainers assisted in the revision of the annual 8-hour refresher workbook.

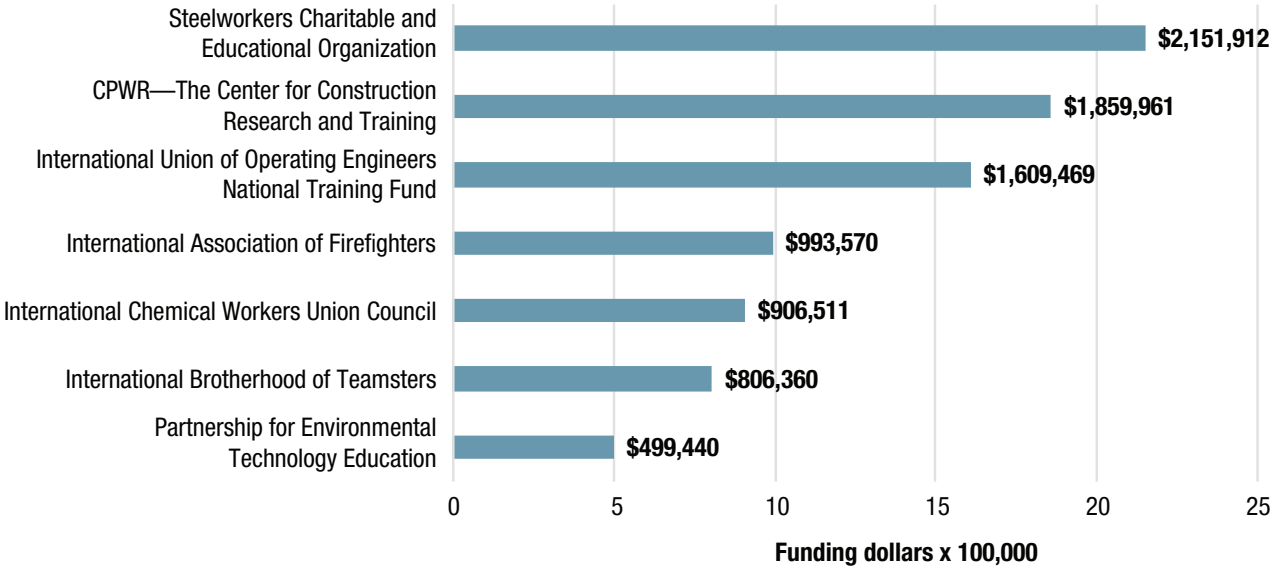
The TMC leadership continue to be a part of the Integrated Safety Management approach to Health and Safety at their represented sites, and attended specific sites, at the training center, and at the DOE meetings to maintain close communication with the DOE and contractors to support this. The involvement also includes a large effort by TMC staff to participate positively in the reciprocity process as determined by the U.S. Department of Energy National Training Center HAZWOPER Training Portability Validation criteria.

In addition to training workers, the TMC, through their partnership with the Communications Workers of America, the Labor Institute, the National Day Laborers Organizing Network and Make the Road New York, have reached out to conduct community-based training around the represented DOE training sites to provide outreach training to residents and stakeholders. This includes potential future workers that might either be employed at the site or as in the case of the Communications Workers of America members who might be called in to do work on the site. Trainings have also been conducted on tribal lands near the Hanford site in Washington state with the goal of training tribal members to become OSHA outreach trainers in the region.

Facts about the DOE NIEHS Nuclear Worker Training Program, 2015-2016

Program Funding and Awardees

Through an Interagency Agreement with the DOE, NIEHS provided $8,827,223 in funding to NIEHS awardees during the past year (September 1, 2015 to August 31, 2016) with funding from FY 2015 DOE appropriations. In 2015-2016, there were seven funded awardees, plus one awardee in a no-cost extension grant status, implementing trainings. Grantees are described in more detail on pages 15-16.



Training Data

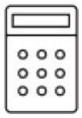
Since the beginning of the program in 1994:

39,139
Courses Provided

562,230
Workers Trained

7,443,541
Contact Hours

$199,527,472
Dollars Awarded



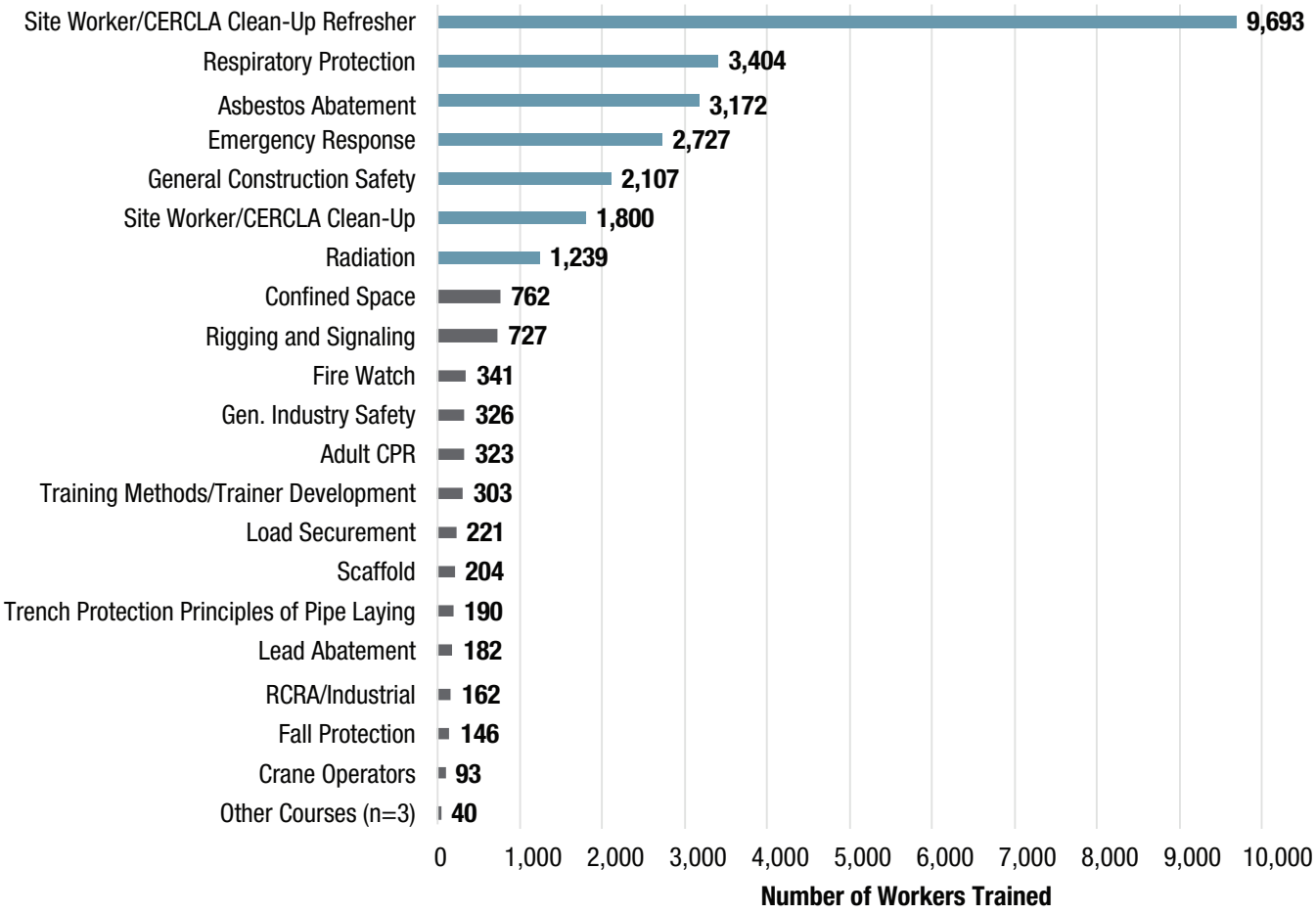
$29.13
Average Cost per Contact Hour

In 2015-2016: 28,162 workers received 368,680 contact hours of training in 1,927 courses covering 34 DOE sites.

Training Course Categories

Of the 1,927 courses provided September 1, 2015 to August 31, 2016, the highest numbers of workers trained were in courses critical for DOE site safety: CERCLA clean-up (initial and refresher trainings), respiratory protection, asbestos abatement, emergency response, general construction safety, and radiation safety. A full list of training course categories is available in the Data Tables section of this report on page 11.

Courses with the most workers trained (over 1,000) were all courses critical for DOE site safety.

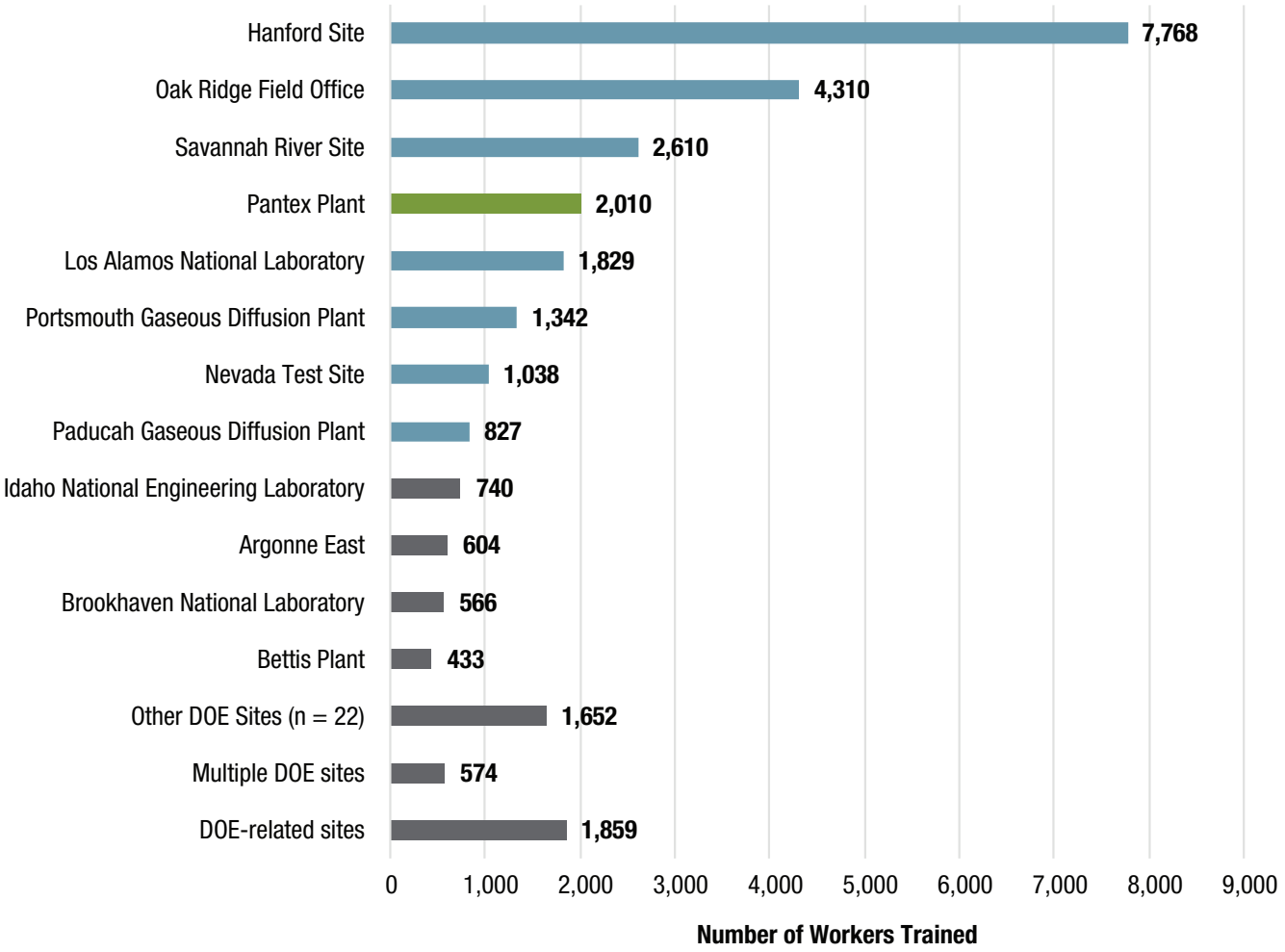


Training Locations

Training was conducted for 34 different sites from September 1, 2015 to August 31, 2016. The training for so many sites, large and small, demonstrates the national scope of this program. Additionally, the locations with the highest numbers of workers trained reflect the sites with the largest site cleanup operations for the DOE Office of Environmental Management, as discussed in their 2015 Year in Review Report.[1] A full list of DOE sites is available in the Data Tables section of this report on page 12.

The highest numbers of workers trained reflect the **sites with the largest site clean-up operations for the DOE Office of Environmental Management (EM)**, as discussed in the EM 2015 Year in Review Report.

Additionally, the **Pantex Plant in Amarillo, Texas** had a large number of workers trained this year. (See following highlight)



1 Department of Energy Office of Environmental Management. 2015 Year in Review [Internet]. [cited 2017 Jan 4]. Available from: https://energy.gov/sites/prod/files/2015/12/f27/DOE%20OFFICE%20OF%20ENVIRONMENTAL%20MANAGEMENT%202015%20YEAR%20IN%20REVIEW%20FINAL.pdf.

2016 AWARDEE HIGHLIGHT: Partnership for Environmental Technology Education (PETE)

Training for the Pantex Plant, at Amarillo Community College, Amarillo, TX

The DOE Pantex Plant in Amarillo, TX has the mission of "the assembly, disassembly, testing, and evaluation of nuclear weapons in support of the National Nuclear Security Administration stockpile stewardship program. Pantex also performs research and development in conventional high explosives and serves as an interim storage site for plutonium pits removed from dismantled weapons."[2] NIEHS grantee the Partnership for Environmental Technology Education (PETE) trains workers from the Pantex Plant through a subaward to Amarillo College. PETE works in partnership with the Hazardous Materials Training and Research Institute and the Community College Consortium for Health and Safety Training.

PETE's training through Amarillo College is filling a much-needed role for the Pantex Plant. From September 1, 2015 to August 31, 2016, 134 courses were offered to 2,010 Pantex workers with 22,076 contact hours. Over three times as many workers were trained this funding year over last year. Pantex was projected to hire 700-900 new employees in 2016, one-third of whom would need Hazwoper and related training. PETE increased Amarillo College's budget for the 2015-2016 funding year to meet this growing demand. Neither Pantex, nor its employees, are charged tuition for training supported by NIEHS.

Pantex and the college have developed a five-year training plan that reduces duplication of training and enhances efficiency. Included in the plan is a very popular online HazWoper Refresher program developed by PETE. Pantex students come to the college for the synchronous blended learning. The first four hours are spent online with others in the classroom and the instructor working collaboratively. They help one another with the software or with the actual content. The afternoon focuses on hands-on training with equipment in planned scenarios that reinforce the morning's didactic learning.

Most of the participants in Amarillo's training programs are employed and are upgrading skills, or are adding new skills for work-related activities. Amarillo College provides special services for students who are disadvantaged, although Pantex employees do not require them. Among the many services offered, the Texas Workforce commission has a full time staff member in the Career Center who helps students get work training through the Work Force Investment Act (WIA).

Pantex plant aerial.

2 Department of Energy. Pantex Plant [Internet]. [cited 2016 Dec 21]. Available from: https://energy.gov/ea/pantex-plant.

NIEHS WTP Workshops and Activity, 2015-2016

National Clearinghouse for Worker Safety and Health Training

The National Clearinghouse for Worker Safety and Health Training, operated by MDB, Inc., and directed by Deborah Weinstock, provides strong technical support to the NIEHS awardees 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 Worker Training Program Weekly e-Newsbrief. It is distributed to over 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. In addition, staff attend salient DOE meetings to provide expert review of documents, reports, and recommendations to support our training efforts.

The Clearinghouse website has a library that houses numerous reports on environmental, health, and safety topics specifically related to DOE. The Clearinghouse website contains many resources and a database of safety and health training curricula developed for DOE workers by NIEHS DOE awardees.

2016 Trainers' Exchange

A highlight of the year for NIEHS WTP DOE Program and the Clearinghouse was the June Trainers' Exchange. In conjunction with the DOE Training Institute (DTI), the WTP coordinated a Trainers' Exchange for safety and health trainers funded under the DOE Nuclear Worker Training Program from June 7-8, 2016 in Albuquerque, New Mexico. The event brought together worker trainers from across the country to share best practices, new information, and innovative techniques through workshops conducted by the trainers themselves. Participants networked and shared ideas about how to create more effective and empowering training, improved training skills, and exchanged ideas, best practices, and techniques. The event was attended by NIEHS WTP awardees, DOE staff, contractors and subcontractors, and worker-trainers. Activities on June 9, 2016 included a Labor Training Working Group Meeting to discuss safety culture and the development of a safety culture course for workers around the DOE complex. Clearinghouse staff helped shape the agenda, and provided guidance to the planning committee.

An opening session with a Key Note address from Deputy Chief, Chief in Charge, Fire Department of New York (FDNY), HazMat Division Nick Del Re set the tone for the event. Chief Del Re's presentation focused on the NIEHS-DOE grantee International Association of Fire Fighter's (IAFF) Frontline Safety Course and the concept of the normalization of deviance. Normalization of deviance is best defined as: The gradual process through which unacceptable practice or standards become acceptable. As the deviant behavior is repeated without catastrophic results, it becomes the social norm for the organization. The closing session on the first day was made by Joe Franco, the former manager of the Waste Isolation Pilot Plant (WIPP) site, on WIPP's influence on training. One of the final speakers, Mark Griffon, spoke about his work looking at safety culture across the DOE complex.

Nick Del Re

Following the Opening Session, participants attended diverse workshops that included hands-on training demonstrations, explanations of innovative teaching strategies and skills, and presentations on using new technology to enhance training. Topics ranged from respiratory training, Foundations of Safety Leadership, Enhancing Training Transfer, and many others. Over two days, 30 sessions were offered to approximately 120 participants, with seven sessions led by NIEHS-DOE program grantees and 52 NIEHS-DOE program grantees attending. In these workshops and during discussions between sessions, participants shared and exchanged best practices, experience, and techniques in health and safety training with their peers.

This is the third time that the NIEHS Worker Training Program, in conjunction with the National Training Center (NTC) and HAMMER, conducted a trainer's exchange specifically for health and safety trainers within the DOE complex. The first was in Knoxville, TN in 2012, and the second was in Richland, WA in 2015.

Integrated Safety Management System and Safety Culture Initiatives

The Clearinghouse worked with Mark Griffon, a former Chemical Safety Board member with training in chemistry and radiological sciences, to review safety and health policies and practices at DOE and how they have impacted safety culture at the complex. The white paper provides some recommendations to help DOE improve safety culture across the complex.

Looking ahead, NIEHS gave supplemental grants to CPWR – The Center for Construction Research and Training and the IAFF to work on safety culture curricula. CPWR will continue their work on safety culture and safety climate, building on their already developed Foundations for Safety Leadership (FSL) training program to make it DOE-specific. They will establish a Curriculum Development Committee (CDC) to guide the modifications of the FSL curriculum. This will include creation of new training scenarios depicting the DOE work environment. MetaMedia Training will modify and refine the 7 models/videos to be specific to DOE. There will be two pilot trainings in Oak Ridge, TN and Hanford, WA DOE Sites to refine the training content and flow.

IAFF will expand and enhance existing worker training activities on Frontline Safety. The IAFF presented a program on Safety Climate/Safety Culture at the 2016 DOE Trainers Exchange, which was well received by worker trainers from multiple DOE sites. Supplemental funding will be used to revise the program to include DOE-specific case studies and incidents related to safety climate/safety culture. Training deliveries will be geared toward workers from multiple disciplines at various DOE facilities, including Savannah River National Laboratory, Oak Ridge National Laboratory, Los Alamos National Laboratory, and/or Waste Isolation Pilot Plant.

A box of transuranic waste is removed from an underground storage trench at the Hanford Site.

NIEHS - DOE Training Institute Partnership

The DOE Training Institute (DTI) was established in response to the Secretary of Energy's continuing commitment to provide effective training to personnel at all DOE sites. Building upon the highly collaborative and successful training models offered by both the DOE NTC and Volpentest Hazardous Materials Management and Emergency Response (HAMMER) Federal Training Center, the Secretary established expectations to provide enterprise training support to a national user base.

The partnership allows the NTC and HAMMER to build upon their existing success and adjust their operations to support DOE enterprise training needs. In addition to achieving a reduction in training redundancy and introducing significant opportunities for cost reduction and avoidance, the DTI improves training quality by ensuring a consistent enterprise message and incorporation of complex-wide lessons learned from Enterprise Assessments.

Over the past few years, NIEHS has worked with the DTI to help leverage the training resources available to employees and contractors across the DOE complex by having its grantees receive reciprocity for specific courses. In the upcoming year, NIEHS plans to formalize the partnership with DTI. NIEHS brings additional experienced trainers and additional safety and health courses to the DTI, further benefiting DOE.

Evan Dunne, National Training Center at the DOE Trainer's Exchange

Data Tables

Total Training by NIEHS Awardee, September 1, 2015-August 31, 2016

Awardee	Courses Completed	Workers Trained	Contact Hours
CPWR - The Center for Construction Research and Training	299	4,984	82,302
International Association of Fire Fighters	21	426	25,160
International Brotherhood of Teamsters	213	3,536	35,576
International Chemical Workers Union Council	253	3,456	31,103
International Union of Operating Engineers	292	4,518	53,624
Laborers' International Union of North America	400	4,358	74,656
Partnership for Environmental Technology Education	256	4,076	33,200
The Steelworkers Charitable and Educational Organization	193	2,808	33,059
Totals:	**1,927**	**28,162**	**368,680**

Categories of Courses Provided through the DOE Program by NIEHS Awardees, September 1, 2015-August 31, 2016

Course Category	Courses Completed	Workers Trained	Contact Hours
Adult CPR	48	323	2,232
Asbestos Abatement	246	3,172	53,214
Confined Space	63	762	15,594
Crane Operators	6	93	904
Emergency Response	139	2,727	36,120
Ergonomics (DOE)	1	13	234
Fall Protection	16	146	1,516
Fire Watch	33	341	1,364
General Construction Safety	164	2,107	41,470
General Industry Safety	27	326	4,359
Lead Abatement	9	182	2,584
Load Securement	25	221	1,768
Off Road Equipment	9	19	760
Microbial Remediation: Mold and Mildew	1	8	64
Radiation	97	1,239	16,104
RCRA/Industrial	18	162	3,028
Respiratory Protection	202	3,404	26,679
Rigging and Signaling	75	727	12,114
Scaffold	16	204	2,928
Site Worker/CERCLA Clean-Up	141	1,800	58,408
Site Worker/CERCLA Clean-Up Refresher	558	9,693	77,544
Training Methods/Trainer Development	18	303	7,528
Trench Protection Principles of Pipe Laying	15	190	2,164
Totals:	**1,927**	**28,162**	**368,680**

Total NIEHS Training by DOE Site, September 1, 2015-August 31, 2016

Site Name	Courses Completed	Course Percentage	Workers Trained	Workers Percentage	Contact Hours	Contact Hours Percentage
Amchitka Island Test Site	1	0%	13	0%	52	0%
Argonne East	32	2%	604	2%	11,754	3%
Ashtabula	15	1%	207	1%	2,710	1%
Barker Brothers	10	1%	146	1%	4,230	1%
Bettis Plant	29	2%	433	2%	7,612	2%
Brookhaven National Laboratory	31	2%	566	2%	10,684	3%
Department of Energy - Headquarters	5	0%	38	0%	690	0%
Fernald Integrated Demonstration Site	1	0%	18	0%	144	0%
Formerly Utilized Sites Remedial Action Program	26	1%	251	1%	3,190	1%
Grand Junction	2	0%	13	0%	184	0%
Hanford Site	440	23%	7,768	28%	75,096	20%
Idaho National Engineering Laboratory	71	4%	740	3%	12,208	3%
Kansas City Plant	31	2%	202	1%	2,012	1%
Lawrence Berkeley	5	0%	52	0%	858	0%
Lawrence Livermore National Laboratory	14	1%	168	1%	3,622	1%
Los Alamos National Laboratory	115	6%	1,829	6%	16,246	4%
Mound Plant	1	0%	17	0%	680	0%
Nevada Test Site	82	4%	1,038	4%	16,898	5%
Oak Ridge Field Office	324	17%	4,310	15%	63,324	17%
Paducah Gaseous Diffusion Plant	63	3%	827	3%	14,792	4%
Pantex Plant	134	7%	2,010	7%	22,076	6%
Pinellas Plant	2	0%	33	0%	2,120	1%
Portsmouth Gaseous Diffusion Plant	93	5%	1,342	5%	18,426	5%
Princeton Plasma Physics Laboratory	6	0%	121	0%	2,928	1%
Rocky Flats Office	2	0%	42	0%	3,360	1%
Sandia Albuquerque	1	0%	12	0%	960	0%
Santa Susanna Field Laboratory	3	0%	56	0%	1,770	0%
Savannah River Site	183	9%	2,610	9%	20,932	6%
St. Louis Airport Site	11	1%	125	0%	3,392	1%
Stanford Linear Accelerator Center	2	0%	18	0%	144	0%
Umtra Project Office	1	0%	14	0%	112	0%
Waste Isolation Plant	1	0%	15	0%	150	0%
Weldon Springs	3	0%	21	0%	280	0%
West Valley Demonstration Project	3	0%	70	0%	1,082	0%
Multiple DOE sites	43	2%	574	2%	17,860	5%
Non-DOE Sites	86	4%	1,233	4%	17,706	5%
Data Not Available	55	3%	626	2%	8,396	2%
Totals:	**1,927**	**100%**	**28,162**	**100%**	**368,680**	**100%**

10 Year Training Summary: DOE\NIEHS Worker Training Program 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of Awardees	8	8	8	8	8	8	8	8	8	7
Courses Completed	2,283	2,225	2,265	2,188	1,987	1,963	1,797	1,900	1,830	1,927
Workers Trained	34,074	33,702	36,266	35,329	31,238	29,842	27,755	28,334	26,396	28,162
Contact Hours	400,491	414,746	530,271	523,287	405,556	365,083	310,369	311,412	323,316	368,680
Dollars Awarded	$9,571,671	$9,358,264	$9,510,125	$9,670,474	$9,577,000	$9,599,741	$8,760,715	$8,760,685	$9,543,426	$8,827,223
Cost Per Contact Hour	$23.77	$22.56	$17.93	$18.48	$23.61	$26.29	$28.26	$28.13	$29.52	$23.94*

**The $23.94 cost per contact hour represents training completed by 7 funded grantees plus one grantee on a no-cost extension. If you exclude the grantee on a no-cost extension, the total contact hours are 294,024 and the cost per contact hour is $30.02.*

Summary of NIEHS Training at DOE Sites, 1994-2016

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
Totals:	39,139	562,230	7,443,541

Background of the NIEHS/DOE Program Partnership

Worker Training Program Authorization

The Superfund Amendments and Reauthorization Act of 1986 (SARA), Section 126(g), 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. The Congress assigned responsibility for administering this program to the National Institute of Environmental Health Sciences (NIEHS), an Institute of the National Institutes of Health (NIH) within the Public Health Service (PHS) of the US Department of Health and Human Services (DHHS).

Defense Authorization

The National Defense Authorization Act for fiscal years 1992 and 1993 (42 USC 7274(d)) authorized the Secretary of Energy in section 3131(a)(1)(A)-(B) to make awards: "to provide training and education to persons who are or may be engaged in hazardous substance response or emergency at Department of Energy (DOE) nuclear weapons facilities; and to develop response curricula for such training and education." The Secretary was further authorized in Section 3131(a)(2)(A)-(B) to make the training awards to non-profit 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."

DOE-NIEHS 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 to 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 CERCLA and respective DOE Orders to meet the requirements of the Occupational Safety and Health Administration's (OSHA) regulations 20 CFR 1910.120 and the EPA Hazardous Waste Operations and Emergency Response (HAZWOPER) training requirements (40 CFR 300.150).

DOE/NIEHS Awardees, 2015-2016

CPWR—The Center for Construction Research and Training

CPWR- The Center for Construction Research and Training is sponsored by North America's Building and Construction Trades Unions (BCTD), which represents 14 international/national building trades unions and over 3 million workers. Their training consortium includes the following international and national construction unions: Insulators & Asbestos Workers, Iron Workers, Boilermakers, Painters, Bricklayers, Plasterers & Cement Masons, Carpenters, Plumbers & Pipe Fitters, Electrical Workers, Sheet Metal Workers. These unions represent over 3,000,000 workers.

International Association of Firefighters (IAFF)

IAFF has more than 3,100 affiliates, representing over 300,000 fire fighters and paramedics in more than 3,500 communities in the U.S. and Canada.

International Brotherhood of Teamsters (IBT)

Through partnerships with major trucking and rail unions, The International Brotherhood of Teamsters – National Labor College Consortium 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 waste and chemical waste from DOE facilities; and 4) railroad workers and supervisors involved in the transportation of radioactive waste and chemical hazardous waste from DOE facilities.

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

The ICWU Center for Worker Health & 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 (IAM), the American Federation of Government Employees (AFGE), the Coalition of Black Trade Unionists (CBTU), the United Food and Commercial Workers Union (UFCW) and the American Federation of Teachers (AFT), and the University of Cincinnati.

International Union of Operating Engineers (IUOE) National Training Fund

The International Union of Operating Engineers (IUOE) represents approximately 329,000 workers including 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.

LIUNA Training and Education Fund‡

Laborers' International Union of North America (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 the Laborers' training network.

‡LIUNA participated in the program this year through a no-cost extension.

Partnership for Environmental Training and Education (PETE)

The Community College Consortium for Health and Safety Training (CCCHST) is administered by PETE. There are over 120 partners 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.

The Steelworkers Charitable and Educational Organization (SCEO)

The SCEO represents approximately 875,000 members who form 3,500 local unions located in every state, with more than 3,800 members in seven states, through six union locals, at six DOE reservations. USW has established health and safety training programs and fields more than 200 national and site worker-trainers who recruit and train workers. Approximately 336,000 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.

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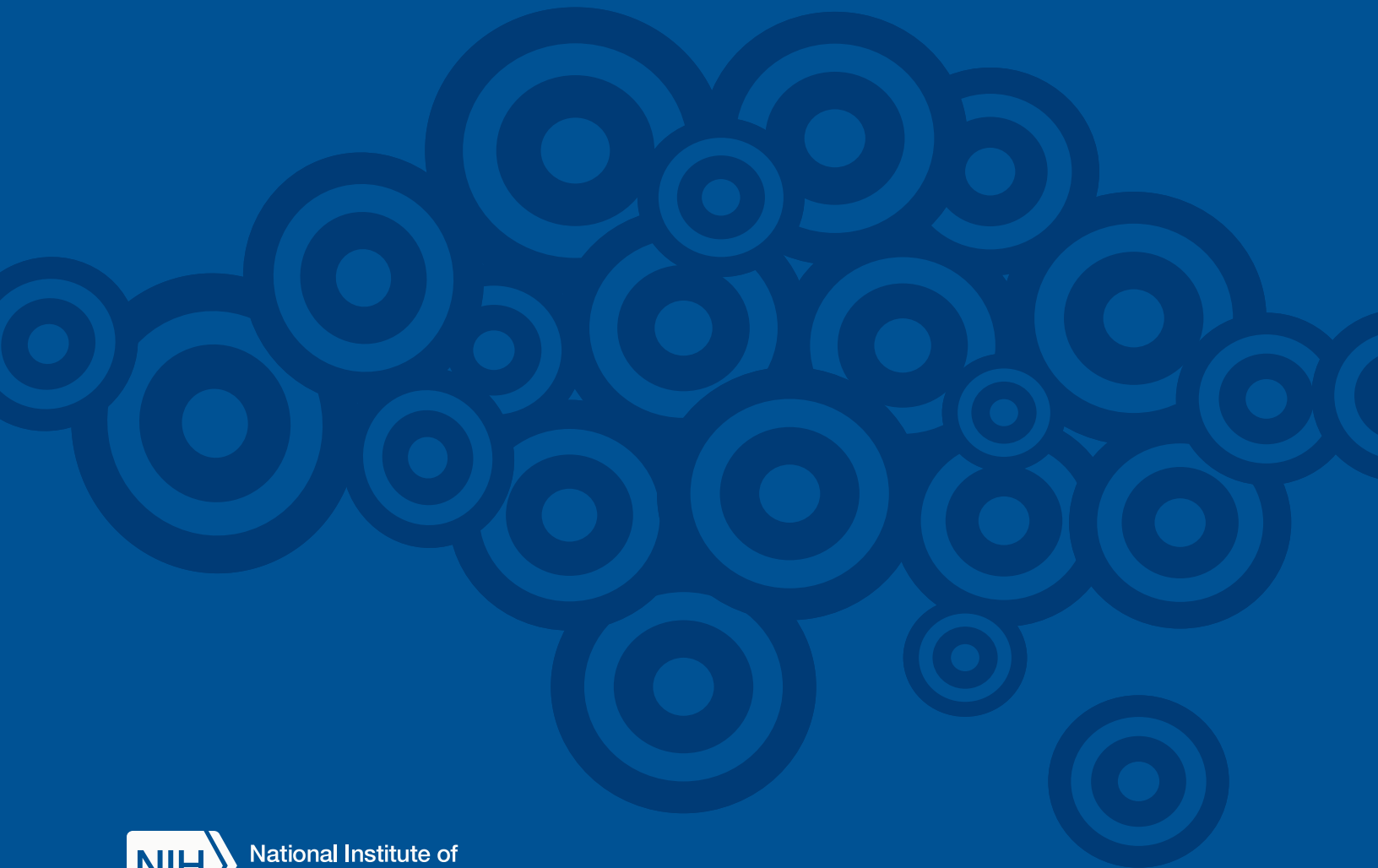

NIH National Institute of Environmental Health Sciences
Worker Training Program