

# The Center for Construction Research and Training (CPWR) Snapshot:

<b>DOE TRAINING:</b>
<b>Principal Investigator:</b>
<ul style="list-style-type: none"> <li>Erich (Pete) Stafford</li> </ul>
<b>Evaluator(s):</b>
<ul style="list-style-type: none"> <li>Ruth Ruttenberg and Associates</li> <li>Instructor Performance Evaluation from Don Ellenberger provided</li> </ul>
<b>Grant Number:</b>
<ul style="list-style-type: none"> <li>U45ES09764</li> </ul>
<b>Goal(s) of Evaluation:</b>
<ul style="list-style-type: none"> <li>Measure knowledge gained through training</li> <li>Determine how to improve the curricula</li> <li>Ensure the accuracy, credibility, comprehensiveness, clarity and practicality of courses and course materials</li> <li>Measure program success through the utility of the training as expressed by the graduates</li> <li>Determine effectiveness of instructors</li> </ul>
<b>Evaluation tools:</b>
<ul style="list-style-type: none"> <li>CPWR collects work-site and exposure history information from its trainees, with a survey on the back page of the registration form. This form asks them about their experience with hazardous waste.</li> <li>Pre- and post-tests to measure knowledge gained through training.</li> <li>Instructor recommendations and student feed back in order to determine how to improve curriculum.</li> <li>CPWR maintains detailed records of trainees working for contractors conducting hazardous work throughout the country by # of employers and workers per state.</li> <li>The accuracy of curricula materials is routinely evaluated by CPWR's in-house industrial hygienists and occupational health and safety professionals.</li> <li>CPWR's Training Director conducts regular site-visits of training courses to evaluate performance of instructors and peer instructors.</li> </ul>
<b>Population Served:</b>
<ul style="list-style-type: none"> <li>Hazardous Waste Workers. Unions involved include Insulators &amp; Asbestos Workers, Carpenters, Electrical Workers, Iron Workers, Sheet Metal Workers, Painters &amp; Allied Trades, etc</li> <li>97% of the trainees were male and 79% were White</li> </ul>
<b>Types of Courses/ Training Curricula Offered:</b>
<ul style="list-style-type: none"> <li>Hazardous Waste Worker courses, Confined Space courses, Train-the-Trainer courses, Lead RRP courses, Asbestos Worker courses, etc.</li> </ul>
<b>Trainers:</b>
<ul style="list-style-type: none"> <li>CPWR employs worker trainers</li> <li>CPWR fields a wide range of instructors from most of the trade involved in receiving training</li> <li>Continuing support and development is provided for health and safety trainers from the participating unions and joint employer-union training committees in the Consortium</li> </ul>
<b>Proof of effectiveness/value?</b>

- A 99.7% completion rate noted in 2012 for students enrolled in training classes conducted directly by CPWR.
- In 2012, the average score on the post tests for those completing exams was 92%.
- In a summary report of student evaluations conducted on an Asbestos Worker class for a group of carpenters, 88% of responders stated that the instructors presented the material clearly so that they could understand it and 84% said that the course helped them to improve their ability to understand the problems of working with hazardous materials or conditions.
- According to the 2012 progress report, more than 90 percent of all trainees reported that training made a difference in their workplace behavior.

**Most beneficial aspects/well received methods:**

- Due to the diversity of the consortium and the transient, sporadic, and cyclical nature of our industry, the types and amounts of training are continually adjusted as demanded by the target population. This demand-driven quality is a strength of the CPWR/NIEHS program.
- Efforts to include minorities in training programs such as highlighting health and safety concerns of the Latino construction workforce and making training materials available in Spanish.
- Efforts to address literacy issues through awareness and hands-on training.
- A dynamic, de-centralized and very flexible relationship between construction employers and the representatives of the trainees who pass through the programs.
- Emphasis on hands-on instruction, interaction, problem-solving, and group activities enhances quality of training.

**HDPT TRAINING:**

**Principal Investigator:**

- Erich (Pete) Stafford

**Evaluator(s):**

- Ruth Ruttenberg and Associates
- Instructor Performance Evaluation from Spencer Schwegler conducted for new Master Instructors

**Grant Number:**

- U45ES06185

**Goal(s) of Evaluation:**

- Evaluate student opinions of instructors, courses, and course materials
- Evaluate effectiveness of trainers

**Evaluation tools:**

- Anecdotal feedback is collected.
- The responsibility of following up on trainees normally falls to the local union representatives and the local directors of joint labor/management training programs.
- A previously submitted third party evaluation of course materials and course delivery.
- Trainer courses evaluated through the use of written tests and trainer observations.
- Scannable evaluation forms are completed with all courses, and reports are generated by the project director.
- Trainers are evaluated by direct observation by project director and through trainee feedback.
- Trainers provide additional written comments on the programs.

<b>Population Served:</b>
<ul style="list-style-type: none"> <li>• Construction workers</li> </ul>
<b>Types of Courses/ Training Curricula Offered:</b>
<ul style="list-style-type: none"> <li>• Include Disaster Site Worker courses, Trainer Enhancement Courses, and OSHA 500 courses</li> </ul>
<b>Trainers:</b>
<ul style="list-style-type: none"> <li>• A comprehensive network of local instructors within the building trades.</li> <li>• Each instructor completes a data form that is entered into CPWR's database detailing name, address, contact information, etc. These forms are used for communication and tracking.</li> </ul>
<b>Proof of effectiveness/value?</b>
<ul style="list-style-type: none"> <li>• Some trained members who took part in a Disaster Response class were able to aid in responding to devastating tornados in Joplin, MO while untrained volunteers were turned away by the State Police and National Guards.</li> <li>• Student evaluations for the HDPT program between Aug 1, 2011 and April 30, 2012 showed on a scale of one to five, average ratings for instructors were 4.80, the courses 4.68, and the teaching methods and materials 4.65</li> </ul>
<b>Most beneficial aspects/well received methods:</b>
<ul style="list-style-type: none"> <li>• Focuses on pre-disaster training, while at the same time being flexible enough to be used as post incident training.</li> </ul>

<b><i>HWWT TRAINING:</i></b>
<b>Principal Investigator:</b>
<ul style="list-style-type: none"> <li>• Erich (Pete) Stafford</li> </ul>
<b>Evaluator(s):</b>
<ul style="list-style-type: none"> <li>• Ruth Ruttenberg and Associates</li> <li>• Instructor Performance Evaluation from Don Ellenberger provided</li> </ul>
<b>Grant Number:</b>
<ul style="list-style-type: none"> <li>• U45ES06185</li> </ul>
<b>Goal(s) of Evaluation:</b>
<ul style="list-style-type: none"> <li>• Determine extent of knowledge gained by trainees after training</li> <li>• Ensure the accuracy, credibility, comprehensiveness, clarity and practicality of courses and course materials</li> <li>• Evaluate trainee opinions, observations and impressions of courses and trainers</li> <li>• Determine the extent of changes in workplace behavior</li> </ul>
<b>Evaluation tools:</b>
<ul style="list-style-type: none"> <li>• A survey on the back page of the registration form asks trainees about their experience with hazardous waste.</li> <li>• Pre - and post-tests in many courses are used.</li> <li>• Incorporation of student feedback and instructor recommendations in curriculum updates.</li> <li>• The responsibility of following up on trainees normally falls to the local union representatives and the local directors of joint labor/management training programs.</li> </ul>

- The accuracy of materials is routinely evaluated by CPWR's in-house industrial hygienists and occupational health and safety professionals.
- Instructor/course evaluations conducted by course participants for every course provided through CPWR's Training Consortium.

#### **Population Served:**

- Construction workers, many of whom have worked in the past, are working now, and/or will work in the future at EPA Superfund sites. Focus on those who may be exposed to chemical or biological hazards on the job.
- Various unions are a part of the consortium, including Insulators & Asbestos Workers, Carpenters, Electrical Workers, Iron Workers, Sheet Metal Workers, Painters & Allied Trades, etc.
- The majority of trainees are male and White

#### **Types of Courses/ Training Curricula Offered:**

- Include Train-the-trainer courses, Hazardous Waste Worker classes, Lead RRP courses, Confined Space courses, OSHA 30 courses, Asbestos Worker courses

#### **Trainers:**

- Use of peer instructors
- Support and development of health and safety trainers from the various participating unions and join-employer-union training committees

#### **Proof of effectiveness/value?**

- Within the 536 students who enrolled in training classes conducted directly by CPWR in the 2012 fiscal year, there was a 99% course completion rate.
- The average score on the post tests for those completing exams was 93% in 2012.
- In the evaluation of a Hazardous Waste Worker course, 88.24% of trainees reported that their instructors presented the material clearly, so that they could understand it; and 94.12% that the course helped them to improve their ability to recognize health hazards on the job.
- More than 90 percent of all trainees said that training made a difference in their workplace behavior – encouraging them to discontinue work in unsafe conditions, change tasks due to unsafe conditions, report unsafe working conditions, request PPE if needed, request an MSDS, and/or request monitoring of a confined space.
- 

#### **Most beneficial aspects/well received methods:**

- Efforts to include minorities in training programs such as highlighting health and safety concerns of the Latino construction workforce and making training materials available in Spanish.
- Use of a National Library of Medicine computer-based tool called WISER. This is a mobile application providing a wide range of information on hazardous substances (identification, health info, and containment/suppression). Appeals to web and tech savvy trainees. Also developing a construction solutions database for hand-held devices.
- Strength lies in a dynamic, de-centralized and very flexible relationship between construction employers and the representatives of the trainees who pass through the programs.
- Peer instructors who can "speak the language" and relate to course participants from a career in the trade.
- Efforts to address literacy issues through awareness and hands-on training.

## **MWT TRAINING:**

### **Principal Investigator:**

- Erich (Pete) Stafford

### **Evaluator(s):**

- Dr. Sue Ann Sarpy (principal of Sarpy and Associates, LLC) - third party evaluation

### **Grant Number:**

- U45ES06185

### **Goal(s) of Evaluation:**

- Determine post-training employment longevity
- Examine the qualitative and quantitative effectiveness of the training program, impact of training relative to the five NIEHS criteria
- Implement quality improvement action plans
- Measure efficacy using the five NIEHS criteria: recruitment, enrollment, retention, placement, and effective utilization of community partners
- Collect overall data on work practice changes, use of training resources, impact on workplace policies, and reduction in hazards and exposures
- Ascertain trainee perceptions of training and trainers

### **Evaluation tools:**

- For a one year period beyond graduation, track those placed in jobs to identify post-training employment longevity.
- All students pre-tested prior to entry into the program and tested throughout the training. If test results indicated areas requiring improvements, individualized guidance and technical support was provided. Post-tests administered prior to graduation to measure skills/knowledge improvement gains.
- All students received post-training performance evaluations from the instructors in job readiness, trade-related math and vocabulary, carpentry, and other trade skills.
- Use of CPWR Health and Safety Survey to gather information on work practice changes, use of training resources, impact on workplace policies, and reduction in hazards and exposures.
- Previous years graduates (2010-11), were tracked by each MWTP Program Coordinator on a monthly basis, starting 30 days after program completion and initial job placement, continuing up to 1 year.
- Focus groups discussions held with trainees to ascertain perception of training and trainers.
- Site visits by Program Director including on-site observations of training, review of student case management and program files, meetings with program partners, grant compliance, and review of student tracking processes.
- Bi-monthly conference calls held with all program coordinators to facilitate sharing of lessons learned, best practices and quality improvements.
- Third-party 360° feedback evaluation of all stakeholders which incorporates elements of both impact (i.e., what effects a program had with respect to its intended goals and objectives) and process (i.e., how and why program achieved these effects) evaluations.

### **Population Served:**

- Resident minorities in communities to become engaged in meaningful, long-term careers in the communities' economic redevelopment either as environmental remediation or general construction workers

- Trainees primarily male
- Among the 60 2012 trainees, none had prior knowledge and/or work experience in environmental hazards or abatement. Approximately 27% had done some type of construction work while more than 73% had either no construction work history or no prior work history at all. 97% of the students had no prior safety training related to construction or environmental cleanup.

**Types of Courses/ Training Curricula Offered:**

- Programs focused on Life Skills (including physical fitness, computer skills, math, communication skills, conflict resolution, reading, and financial literacy), Health and Safety, Green Building Awareness, Basic Construction, Environmental Awareness, Environmental Remediation to include Hazardous Waste Worker, Confined Space, Lead, Asbestos, etc.

**Trainers:**

- CPWR provided certified environmental trainers.
- Programs also utilized local construction trainers who receive annual training and refreshers

**Proof of effectiveness/value?**

- Of the 48 graduates placed in 2010-11, 38 (79%) are still employed after one year. Twenty-seven (56%) 2010-11 graduates joined unions' apprenticeship, and 24 (89%) are still in apprenticeship after one year.
- 100% of students enrolled in fiscal year 2012 graduated from the program and 31 have been placed in jobs as of April 2012 (earning an average wage of \$14.46/hour).
- For fiscal year 2012, the MWTP Consortium achieved a 308% recruitment rate; a 100% training rate, a 100% retention rate, and a 52% placement rate as of April 2012.
- A letter received from an East Palo Alto environmental employer states: "I have hired multiple Project Build graduates ... these individuals have excelled in their current positions and received positive feedback from the companies they worked at."
- The MWTP Consortium exceeded the 80% tracking goal by tracking 90% of 2010-11 program graduates.

**Most beneficial aspects/well received methods:**

- New alliances formed through the community, unions, and governmental agencies have strengthened the Consortium support base and enhanced services to clients
- Use of testing before, during, and after course rather than just before and after. Allows for extra guidance and support as needed throughout the course.
- Combination of hands-on training, written, verbal, and physical class exercises reinforce student training experience.
- GED training and testing provided for students entering the program without their GED
- Use of an Alumni Association or After Care to support and help newly and formerly employed graduates keep their jobs and support those still seeking employment