

**2013 Annual Summary Report, CPWR-The Center for Construction Research & Training**  
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**Introduction**

2013 was a very productive year for CPWR’s National Construction Center. In the fourth year of its five-year cooperative agreement as the CDC/NIOSH-funded construction research center, CPWR continued more than 15 multi-year research projects and increased outreach activities to its industry partners. In addition to continuance of the high volume of independent construction safety and health research, in 2013 our National Construction Research Center planned and hosted two national workshops; reorganized its Construction Economics Research Network (CERN) as a separate entity-Institute for Construction Economics Research (ICERES)-the first organization to be created out of one of our National Construction Center networks as its own not-for-profit with direct industry governance and funding; published the 5<sup>th</sup> edition of the Construction Chart Book, tool box talks, hazard alerts, guides and other materials; continued to develop its standing websites, such as [www.elcosh.org](http://www.elcosh.org) (our electronic library that serves as the national repository for safety and health information and is the premier online source for the industry, which in 2013 surpassed over 15 million page views since its inception in 2000), [www.cpwrconstructionsolutions.org](http://www.cpwrconstructionsolutions.org), [www.silica-safe.org](http://www.silica-safe.org); continued as a key partner with NIOSH and OSHA in the national construction falls fatalities campaign, maintaining the main website for the campaign, [www.stopconstructionfalls.com](http://www.stopconstructionfalls.com); and funded 11 new research projects under our Small Studies Program.

**2013 Small Studies**

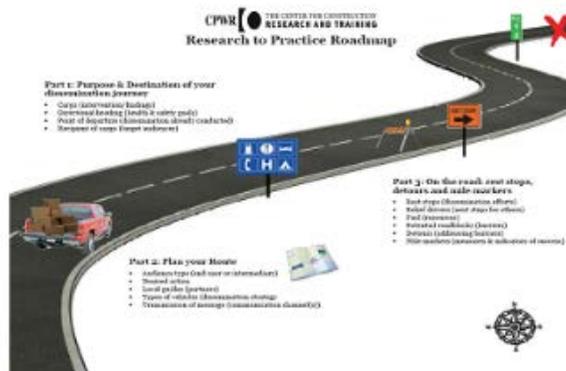
<i>Safety management in the construction industry</i> , McGraw Hill Construction
<i>Updated analysis of morbidity and mortality among sheet metal workers</i> , Duke University
<i>Use and re-use of formwork: Safety risk and reliability assessment</i> , Oregon State University
<i>Evaluating fall safety compliance among skilled trades in construction</i> , George Washington University
<i>The effects of injury and illness prevention programs and associated regulations on State level injury incidence</i> , University of Utah
<i>Fall protection resource for new home construction</i> , Washington University School of Medicine in St. Louis
<i>Safety and building information modeling (BIM): Pilot project on early fall hazard detection and prevention in construction design and planning</i> , Georgia Tech
<i>Effects of selected eye wear on the noise insertion loss of selected earmuffs</i> , University of Puerto Rico
<i>Using social media to inform Latino construction workers about fall protection</i> , PhilaPOSH
<i>Safety benefits of mandatory OSHA 10-hour training</i> , University of Tennessee
<i>Connection between lean design/construction and construction worker safety</i> , Oregon State University

Detailed information about all of the projects and activities of our National Construction Center can be found on our website, [www.cpwr.com](http://www.cpwr.com).

Below are selected highlights of the National Construction Center’s 2013 research activities, accomplishments, findings, and products.

**r2p Roadmapping**

As the leader in r2p for the NIOSH construction research program, in 2013 the National Construction Center’s r2p team completed and refined a “Research Dissemination Roadmap” to guide CPWR investigators and research consortium partners as they plan how to promote the use of their findings. Researchers are urged to consider-among other things-their “cargo” (the intervention or findings to be delivered), their “point of departure” (dissemination steps already taken), “local guides” (knowledgeable

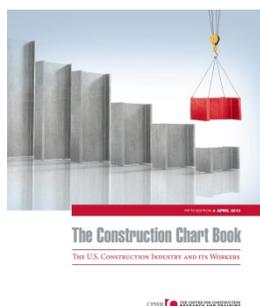


local partners who can help in the r2p effort), and the best “vehicles” for the journey (dissemination strategies that will be the most effective).

All of the National Construction Center project investigators will go through the road mapping process. The roadmapping guide is also available to any investigators interested in using it, and can be found on CPWR’s website, [www.cpwr.com](http://www.cpwr.com). In support of the NIOSH intramural construction research program, in 2013 planning was also initiated in collaboration with the NIOSH Construction Office for CPWR to conduct a r2p road mapping workshop for NIOSH investigators, particularly those engaged in construction industry research. The road mapping workshop will be conducted at NIOSH in Cincinnati, Ohio on February 25, 2014.

## Data Tracking and the Construction Chart Book

While our focus has been on collaboration with industry partners to get research findings into the hands of construction stakeholders, in 2013 CPWR also published the fifth edition of the *Construction Chart Book: The U.S. Construction Industry and its Workers*.



Published every five years, The Construction Chart Book is now widely recognized as a leading resource for U.S. construction industry information and statistics, and presents the most complete data available on all facets of the industry: economic, demographic, employment/income, education/training, and safety and health issues, plus much more.

This new edition features more charts and topics not covered in previous editions, such as green construction, employment projects, unemployment and re-employment rates, and risks of falls, MSDs, respiratory hazards, and hearing loss by trades. In addition to hard copy (a limited number printed), The Construction Chart Book is available electronically in its entirety and can be found on [www.cpwr.com](http://www.cpwr.com).

## New Survey in Collaboration with McGraw-Hill Establishes Baseline of U.S. Employer Safety & Health Practices

Over the last 20 years the practice of construction has undergone profound changes. The types of projects, the manner in which those projects are delivered and the tools used for design and communication, all have changed dramatically. Additionally, new technologies, such as building information modeling (BIM), have enabled projects to become more complex.

In 2013 CPWR partnered with McGraw-Hill Construction, publisher of Engineering News Record (ENR), to survey hundreds of construction contractors of various sizes and trades to learn about their safety management practices. Respondents were drawn from McGraw-Hill’s contractor research panel. Ninety-two percent of firms surveyed with over 500 employees report having fully inclusive and widely observed safety programs, but smaller firms lag with nearly half, 48%, reporting the same. However, individual safety practices are widely adopted across the industry demonstrating an awareness of the importance of safety programs—60% of contractors report that they use eight of 15 practices included in the survey. The most widely used practices demonstrate the value construction firms place on bringing safety practices directly to jobsites:



- Including jobsite workers in the safety practice (80%)
- Analyzing potential site safety hazards before construction

CPWR worked with McGraw-Hill on a press release, which went to all major media outlets and was picked up by the *Wall Street Journal* (<http://online.wsj.com/article/PR-CO-20130620-908684.html>).

The final report is available at [www.cpwr.com](http://www.cpwr.com).

## NIOSH FACE Reports Brought to Life

Every NIOSH Fatality Assessment and Control Evaluation (FACE) report provides exacting details of the conditions and series of events that led to a deadly incident and concludes with "recommendations for preventing similar deaths."

In 2013 CPWR used information collected by NIOSH to create three [short training videos](#), each based on the true story of a fatal construction incident. These two or three minute videos begin by describing the work being performed, the background of the crew and the worksite conditions, and then let the decisions made unfold to show, sadly, why "this death could have been prevented."

"[Look Up and Live](#)" vividly illustrates how an aluminum ladder plus power lines can be a deadly combination. "[No New Year](#)" describes how a worker washing clean-up of a new condominium fell delivers the basics of each story, plus images of work practices and safer.



tells the tragic story of a "[A Simple Task](#)" windows during final from a ladder. Each video relevant statistics, and equipment to make work

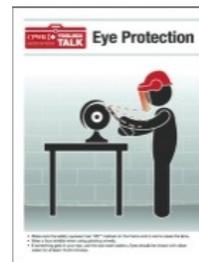
The videos are posted on our new [CPWR YouTube channel](#). Each posting has text with links to the appropriate [Toolbox Talk](#), handout, and the original NIOSH FACE Report, making for a complete training package.

## A Library of 52 New Toolbox Talks

In collaboration with NIOSH, which developed initial content, CPWR produced 52 new toolbox talks on common construction hazards in 2013. For topics from aerial lifts to eye protection, we have combined side of the page that takes only one minute to deliver. We ensure that the new incorporates effective based on real-life questions, and site-specific actions.



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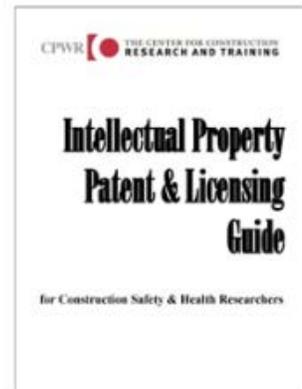


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The talks have been designed to be printed for easy use on construction sites and in the class room. All are available for free download on CPWR's website, [www.cpwr.com](http://www.cpwr.com).

## New Guide to Aid in Tech Transfer

CPWR organized and hosted a “Tech Transfer” symposium, bringing researchers together with government, manufacturing, contractor associations, labor, and insurance industry representatives to discuss barriers and strategic approaches to diffuse health and safety technologies and best practices across the construction industry. Workshop participants identified the need for a basic guide for construction safety and health investigators on the steps and options in moving proven interventions to market in the U.S. construction industry. In response to this recommendation, in 2013 the National Construction Center developed the *Intellectual Property Patent & Licensing Guide for Construction Safety and Health*. The National Construction Center’s r2p team is working with NIOSH and OSHA through the r2p workgroup in developing a dissemination plan for the new guide. In addition to making the new guide available on CPWR’s website, [www.cpwr.com](http://www.cpwr.com), industry partners have also suggested a professionally designed a hard copy print version of the guide for targeted distribution.



## Safety Culture Workshop

A NORA Construction Sector Council goal on *Safety Culture* has created a great deal of interest on the topic, as the industry strives to understand what specific elements drive safety culture organizationally and safety climate on the jobsite. In 2013 CPWR’s National Construction Center teamed with Construction Sector Council, and the Environmental Health Sciences (NIEHS) in planning and hosting a Safety Culture Workshop in Washington, D.C. More than 160 industry thought-leaders, government, employers and their associations, labor, and safety and health professionals attended, along with a mix of academia, and safety and health professionals.



A separate construction interactive, small group large and small contractor A final report has been

Planning Committee, and will be finalized for broad distribution in the coming weeks. Suggestions for follow-up activities were recommended, which CPWR’s National Construction Center is now pursuing in response to industry stakeholder recommendations.

track was planned, which included break-out discussions with a mix of representatives participating in each. drafted with input from the Workshop

## National Falls Fatalities Campaign

The campaign to prevent falls in construction is a joint effort by government-labor-management to address the top cause of construction industry fatalities. Falls consistently account for one-third of all construction fatalities in the industry, meaning that on average one construction worker is killed due to a fall every day in the U.S. The campaign, which was initially launched in 2012, was continued throughout 2013 and will continue in 2014. CPWR’s National Construction Center is responsible for the main campaign website, [www.stopconstructionfalls.com](http://www.stopconstructionfalls.com), and also



**I worked construction for 10 years before my fall. It shattered my body and my livelihood.**

Falls can be prevented:  
1-800-321-OSHA  
[www.osha.gov](http://www.osha.gov)



for evaluating the campaign's penetration and effectiveness. A draft evaluation report was completed in 2013, and is now being finalized for broad dissemination.

In 2013 the National Construction Center also continued the construction fatalities map, to track in real time 2013 construction fatalities and make information available in support of the campaign. The campaign's goal is to prevent fatal falls from roofs, ladders, and scaffolds by encouraging construction contractors to

- PLAN ahead to get the job done safely.
- PROVIDE the right equipment.
- TRAIN everyone to use the equipment safety.



### 2013 National Construction Center Research Outputs

- 1 Chart Book
- 1 Book Chapter
- 2 Abstracts
- 2 Renovated Websites launched
- 4 Reports
- 4 Webinars
- 5 Videos and Podcasts
- 6 Training Programs
- 6 Posters
- 7 Key Findings
- 8 Hazard Alert Cards
- 9 Fliers and Handouts
- 10 Trade Mag Articles authored
- 12 CPWR Updates
- 12 Test/evaluate Technologies
- 16 Peer-reviewed Journal Articles
- 22 New Tool produced/deployed
- 35 New Solutions to Hazards
- 36 Data Requests
- 52 Toolbox Talks
- 78 Presentations

