The Newsletter of The Center To Protect Workers' Rights

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ON Center

A Research, Development, and Training Arm of the Building and Construction Trades Department, AFL-CIO

PRESIDENT'S COLUMN

NIOSH Autonomy Is Key for Workers

The Centers for Disease Control and Prevention (CDC) plans to move the National Institute for Occupational Safety and Health (NIOSH) to one of four centers being formed in a restructuring. On Oct. 1, NIOSH, now one of 12 major CDC "components," will join the Agency for Toxic Substances and Disease Registry, the National Center for Environmental Health, and the National Center for Injury Prevention and Control in the new Coordinating Center for Environmental Health, Injury Prevention, and Occupational Health. In the CDC's understandable desire to streamline and focus on such issues as terrorism and obesity, we hope worker safety and health will continue to receive the full attention they merit.

President Sullivan

NIOSH was created under the 1970 law that produced OSHA, essentially as a research counterpart to the enforcement agency. Congress wanted NIOSH separate from other government agencies so as to give visibility to the issues of safety and health for working people.

Proposing what would become NIOSH, then-Sen. Jacob Javits (R-NY) wrote that he wanted, "...occupational health and safety research...on an equal footing with...research conducted...into other matters of vital social concern...if we are to make any real progress...."

The Institute meets a range of mandates. One is to set criteria for exposures to toxic substances in the workplace, which gives OSHA a scientific basis for setting standards. NIOSH also, among other things, researches new ways to reduce occupational hazards, analyzes effects of new technologies, looks at health hazards on specific worksites, and provides training and education.

The Building and Construction Trades Department has worked closely with NIOSH since 1990 through our research arm, the Center to Protect Workers' Rights (CPWR). Our *(continued on page 2)*

CPWR Report Proposes New OSHA Targeting

David Weil, of Boston and Harvard Universities, has proposed new ways for OSHA to choose construction sites to inspect, in a new report for CPWR. The problem is, OSHA's current system for targeting routine (programmed) inspections tends to identify sites where inspections won't improve safety and health much, and OSHA has far too few inspectors to begin with. An OSHA task force is reconsidering its targeting methods.

In 2002, the U.S. Occupational Safety and Health Administration, charged with enforcing workplace safety and health, reportedly had the equivalent of about 450 inspectors for hundreds of thousands of construction sites in 29 states (21 states have separate OSHA programs).

Some sites are essentially off limits to inspectors because of voluntary compliance programs, although OSHA inspects those and other sites after a complaint, reported death, or if several workers are hospitalized. For the other sites, since about 1988–after a court decision requiring a "neutral" system for choosing sites to inspect–OSHA generally targets its routine/programmed inspections using a random sample. Such a list of sites is produced monthly by the University of Tennessee Construction Industry Research and Policy Center, using reports on permits and planned construction from F.W. Dodge Inc. Some OSHA area offices select sites based also on local emphasis programs, such as one focusing on fall protection.

Targeting is difficult particularly because many construction sites are short lived and schedules are difficult to predict. In an earlier study *(continued on page 4)*

Colors Warn About Noise

On five large construction sites in Washington state, colored stickers are starting to appear on heavy equipment. Each sticker–green, yellow, orange, or red, with a sketch of an ear and a number on it–tells how noisy the equipment is. Green is the least noisiest; red is the noisiest.

The system has been developed by Build It Smart, the Building Trades Labor-Management Organization of Washington State, with input from contractor safety staff, unions, and others. The goal is to show site owners, supervisors, and workers where changes are needed to protect workers' hearing.

Scientists have demonstrated that most construction workers suffer substantial hearing loss, which probably is related to noise on the job, although there is not a federal noise standard for construction. In Washington state, which compensates workers in all industries for work-related hearing loss, the rate of hearing loss claims in construction was about 5 times higher than the all-industry average (in 1997-98), said William Daniell, MD, of the University of Washington. Claims were particularly high in road construction, with only logging having a higher rate.

Hearing loss means workers may be at increased risk on the job, if they *(continued on page 4)*

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CDC Moves NIOSH: Issues Still High Priority?

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common goal has been to reduce the alarmingly high toll of work-related injuries, illnesses, and deaths among construction workers.

NIOSH funding has enabled CPWR to do much of its work and NIOSH staff are by our side. For instance, with bricklayers, pipefitters, painters, and other union members, CPWR and NIOSH have been looking at ways to reduce toxic exposures during abrasive blasting, grinding, chipping of concrete, and other tasks. With Bovis Lend Lease, we're looking at ways to improve safety and health on their construction sites. With ironworkers, CPWR and NIOSH are working on ladder-safety training. We've held major conferences to encourage real-world and academic stakeholders to join forces. NIOSH advised us as we developed the website, **www.eLCOSH.org**.

It's difficult to isolate cause and effect, but the shared effort may be reaping results. The industry is changing toward one that recognizes the need for worker protections–to benefit the worker and cut costs. The rate of reported serious work-related injuries declined by 45% from 1991 to 2001 (the actual decline may be less). But the hazards and terrible consequences persist.

In construction alone, on average, four or five workers are killed on the job each workday. In 2001, more than 182,000 construction workers suffered injuries requiring time off. Countless others suffered cancers or lung diseases or nervous-system disorders.

When a once-separate agency is combined with others, there is a risk that its concerns will get short shrift. We appreciate the CDC's restructuring aims. But we worry. We hope NIOSH will still be able to help protect and better the safety and health of workers nationwide.

CPWR, BCTD Help with Nuclear-Worker Claims

William Wright, a member of UBC local 437, developed cancer and died in 2003. Starting in 1953, he had worked as a carpenter at the Portsmouth (Ohio) Gaseous Diffusion Plant, part of the U.S. nuclear weapons program. Because of the health risks to construction and maintenance workers in the nuclear program, Wright's widow Eunice was eligible for compensation under the Energy Employees Occupational Illness Compensation Program–a federal law–if her husband's employment at Portsmouth could be verified.

With the help of CPWR, Eunice Wright was able to provide evidence of her husband's employment at Portsmouth. A former employer provided a written statement and punch cards showing that Wright had worked more than 250 days at the plant.

"My husband worked hard, he deserves to be honored with this compensation," said Eunice Wright, who was married to William Wright for 63 years. "My husband's case seemed like a long shot, considering that records were needed of work he had done so long ago. I was skeptical the government would process this case, but am delighted it is finally completed."

The Energy Employees Occupational Illness Compensation Program Act, administered by the U.S Department of Labor since 2001 has provided for medical care for current and former nuclear weapons program workers and a one-time payment of $150,000, for workers or their survivors, if workers suffered chronic beryllium disease, radiation-related cancers, or (at some sites) chronic silicosis. The problem is, it is difficult for building trades workers to locate employment records from decades ago to verify eligibility for the program. The result has been unpaid claims or delayed payments. More than 54,000 claims have been filed with the Department of Labor. (A U.S. Department of Energy program helps workers or survivors file state workers' compensation claims.)

CPWR, the research, development, and training arm of the Building and Construction Trades Department, is working with local Building Trades offices, local unions, and union contractors to search local-union dispatch, health and welfare, and pension records to help claimants verify employment. The help of the local unions is key to this effort, in many cases making the difference between a successful and unsuccessful claim.

For information about the Energy Employees Occupational Illness Compensation Program, call 1-866-888-3322.

Expanded service. The ribbon, at left, was cut April 14 to open the office of the Paducah Building Trades Medical Screening Program, in the West Kentucky Building and Construction Trades Council Building, in Paducah, Ky. Pictured from left are Eula Bingham, PhD, principal investigator, University of Cincinnati; Mike Dorsey, CPWR field representative; and Michael Vaughn, president, West Kentucky Building and Construction Trades Department. The program provides free medical screenings for former construction workers at the U.S. Department of Energy Paducah site. For more information, call 1-800-866-9663.

New Abrasive Blasting Methods Needed

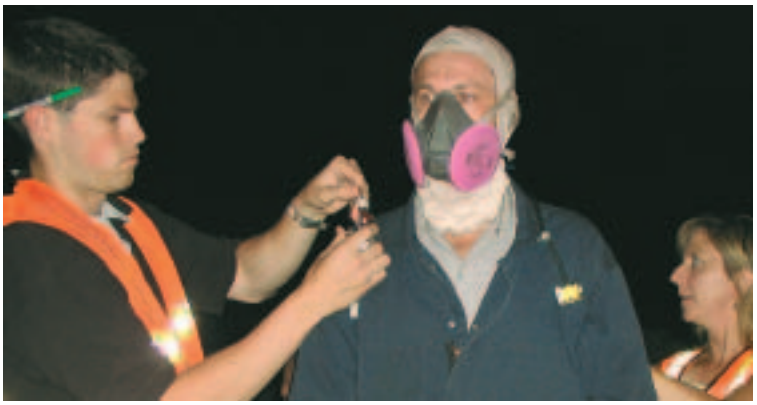
Exposures to silica in sand, which is widely used for abrasive blasting, can cause silicosis, a deadly lung disease. Unfortunately, CPWR is finding that some other abrasives have less silica, but workers doing blasting can still be at risk from some silica and heavy metals. Exposure to metals can cause serious illnesses.

The Center to Protect Workers' Rights, with the New Jersey Department of Transportation and Harvard University, has been studying the use of substitute abrasives that contain less than 1% silica. The group looked at specular hematite in 2002 and coal slag in 2003. Both were used to remove lead paint from footbridges built in New Jersey in the 1960s.

The National Institute for Occupational Safety and Health (NIOSH) 30 years ago recommended banning abrasives having more than 1% silica. A NIOSH study in the late 1990s found specular hematite to be the least toxic of abrasives it tested, including coal slag, which is widely used.

Coal slag didn't do well in the new tests either. The new tests found that workers using coal slag were exposed to more dust and silica than when using specular hematite. Plus, with coal slag, the dust produced by the blasting showed higher levels of beryllium, cadmium, chromium, manganese, nickel, and vanadium (in bulk and personal-air samples), compared with when specular hematite was used.

And the search for ways to reduce silica exposure in blasting got even more complicated. Tests showed that the old paint being removed contained not just lead and other metals–including chromium, manganese, and nickel–but silica.



Blasting for Science. John Meeker, Harvard School of Public Health, and Pam Susi, CPWR, put air monitoring equipment on a painter doing abrasive blasting in Bergen County, New Jersey, in 2002.

So, more research is needed on other methods, such as wet blasting and vacuum blasting. For now, workers need to be well-protected. For instance:

- Workers come into direct contact with old paint and contaminated spent abrasives when setting up and taking down tarp enclosures before and after blasting. Gloves, long-sleeved clothing, protective eyewear, and adequate respiratory protection should be worn during set-up and take-down tasks whenever possible.
- Employers should provide soap and clean water for workers to wash up before eating, drinking, or smoking, and before leaving work.

To learn more, contact Pam Susi, CPWR, 301-578-8500, x145.

Parkinsonism May Be Tied to Welding

Boilermakers, ironworkers, pipefitters, and others who weld or torch cut and are exposed to manganese can damage their nervous and respiratory systems. The metal is found in carbon, mild, stainless, and other steels and in the flux and wire (electrodes and flux-core wire) used for welding. If you are not well-protected from fumes and particulates containing manganese, you can develop such problems as hand tremors, trouble balancing and walking, slurred speech, memory loss, sleep and mood disorders, and impotence.

Workplace measurements taken by the Center to Protect Workers' Rights in 1995-96 showed that welders are often exposed to manganese levels that are too high to be safe. The American Conference of Governmental Industrial Hygienists threshold limit value (TLV) for manganese is 0.2 milligrams per cubic meter of air. But some experts believe that level is too high.

Doctors may mistake health problems tied to manganese with Parkinson's disease, Lou Gehrig's disease, or multiple sclerosis. If you have symptoms, tell your doctor you are a welder.

Ask your boss for an up-to-date material safety data sheet (MSDS) for the welding rod and other materials you will work with. If you can:

- Work only where there is good local-exhaust ventilation.
- Use materials that contain as little manganese as possible.
- Use the MIG (GMAW) method–which does not use flux–instead of stick or flux-core welding. Use of shielding gases instead of flux can cut the amount of manganese fume substantially.
- When welding with stick or flux core where there is not good ventilation, consider using a respirator. PAPR and supplied-air respirators are available with welding hoods. But even ordinary rubber respirators with filters can reduce exposures a lot. (You must be trained to use a respirator as part of a program specified by OSHA.)

Information on welding and manganese–including some prepared by the IBEW–is at **www.elcosh.org**. A statement from the Building Trades Safety and Health Committee, Manganese and Parkinson's Disease, is at **www.cpwr.com**.

Equipment Cuts Asphalt Fumes, Study Has Found

Measurements taken on highway paving sites in 2003 show that new equipment to control fumes from class I pavers works. Unpublished results show a drop of 80% in fumes from the auger area and a 60% cut in exposures to workers (breathing-zone samples) using highway-class pavers. The ventilation controls are on all of the large pavers manufactured since 1997, most of the pavers now in use nationwide. (The auger pushes asphalt out of the paver onto the road.)

Scientists from the Heritage Research Group, in Indiana, measured fumes at 12 sites during the summer of 2003 on behalf of the National Asphalt Pavement Association, the Asphalt Institute, the Laborers' Health and Safety Fund N.A., the International Union of Operating Engineers, the Center to Protect Workers' Rights, the National Institute for Occupational Safety and Health (NIOSH) and paver manufacturers: Blaw Knox, Caterpillar, Cedarapids, DynaPac, ProPave, and Roadtec.

The researchers conducted a user acceptance survey, as well, with work crews and foremen.

NIOSH has set a recommended exposure limit of 5 mg/m^3, for 15 minutes for fume particles. Asphalt is known to irritate the eyes and lungs. Studies are under way to evaluate whether long-term health problems may be tied to asphalt exposure.

The voluntary partnership will continue to monitor effectiveness of the new equipment and NIOSH (**www.cdc.gov/niosh**) is completing a report.

New Strategies Could Make Construction Safer

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also funded by CPWR, Weil found that, for a mix of reasons, inspectors usually go to larger, multi-million-dollar sites, which tend to have the fewest safety problems. And, after the first one or two visits to large sites, little improvement in compliance can be gauged.

The new study looks at Dodge and OSHA data, then proposes comparing new approaches to enforcement. Possible alternative methods using Dodge data would focus on general contractors known to have poor safety records, types of projects (or stages of some projects) believed to be the most dangerous, smaller projects, or a combination of these. Or, without relying on Dodge data, Weil suggests using some local emphasis programs or approaches that would focus on the residential sector or by project stage, depending on which stages are believed to be most risky.

Weil's report, *Making OSHA Inspections More Effective*, is part of a continuing analysis for CPWR (*see On Center*, XV, 2, 1997). Weil chairs the CPWR Construction Economics Research Network, succeeding Professor John T. Dunlop. The report will be available at **www.cpwr.com**, **www.elcosh.org**, and through CPWR, 301-578-8500.

Stickers Alert Workers to Protect Their Hearing

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can't hear warnings and traffic. Workers lose quality of life away from work if they can't share conversations or even listen to entertainment.

Noise levels are measured in decibels. We talk at about 70 decibels. (Decibels are like earthquake measurements, so 73 is twice as loud as 70.) OSHA regulations say it's safe to work for 8 hours at 90 decibels without hearing protection, but many experts say that level is too high. Examples of noise levels measured around construction equipment are 102-110 for a jackhammer, 88-102 for a portable saw, and 93-96 for a bulldozer.

In Washington, contractors are required to identify hazardous noise levels. (Noise levels can be measured using $50 sound meters available at electronics stores.) But there can be dozens of pieces of equipment on a work site and the noise levels change, depending on what a machine is doing and how close a worker is to it. So with support from OSHA and the Center to Protect Workers' Rights, Build It Smart is trying this new system.

It includes training and information about ways to change (or move or block with a barrier) equipment or use personal protective equipment (PPE) to protect workers. A computerized directory will show pictures of workers using equipment with labels showing usual noise levels.

The noise categories are: green circle (ok), less than 85 decibels (dBA); yellow triangle (caution), 85-95; orange square (hazard), 95-105; and red octagon (danger), higher than 105. (Noise is regulated at 85 dBA in Washington state, but even 80 dBA can harm hearing.)

Each label will be available in three sizes, ranging from hardhat decal size to poster size. For more information, call 360-596-9200 or **builditsmart@qwest.net**.

New CPWR Hazard Alerts, Reports

Two new hazard alert pocket cards are available for workers, along with a chart book and other CPWR reports. The alerts cover air-purifying respirators and the metal beryllium, which can cause serious lung and other ailments. Cards in English and Spanish are available on 24 topics, listed at **www.cpwr.com**.

The chart book focuses on traumatic injuries. Scientists at the George Washington University hospital, in Washington, D.C., spent seven years documenting 2,916 emergency room visits by construction workers. The volume, *Occupational Injuries among Construction Workers Treated at the George Washington University Emergency Department, 1990-97*, by Katherine Hunting, Judith Anderson Murawski, and Laura S. Welch, presents data by demographics (age, race, ethnic group), occupation, cause of injury, diagnosis, and injured body part. The goal is to point up trends and show ways to reduce injuries in each trade.

Other new CPWR publications summarize a survey of Spanish-speaking construction workers who received safety training in Spanish from CPWR, analyze some deaths in industrial plants, and update an earlier study of deaths and injuries involving elevators and escalators.

Spanish-Speaking Construction Workers Discuss Their Safety Needs and Experiences, by Ruth Ruttenberg and Maria Lazo, reports on interviews with 47 workers, covering the effects of language barriers, construction experience outside the United States, union and non-union work experiences, outcomes of training, and ways to improve training.

The two other reports are by Michael McCann, CPWR safety director. The first, *Explosion and Asphyxiation Deaths among Contract Employees in Industrial Plants*, found that 91 contract employees on construction projects at industrial plants in 1992-2001 were killed by explosions or asphyxiation. Recommended changes would include training and procedures, particularly for welding.

Deaths and Injuries involving Elevators or Escalators found an estimated 30 deaths per year in the United States among people working on or near elevators or escalators and passengers (at work or not at work). Recommendations include improved training, adequate inspection and maintenance programs, and the use only of qualified workers for repair and maintenance.

To see the reports (or a summary of the chart book), go to **www.cpwr.com**. The hazard alerts can be downloaded from **www.cpwr.com** and **www.elcosh.org**. Or to order any of these, contact Publications at 301-578-8500.

Study Finds ROPSs & Seatbelts Save Lives

Rollover protective structures combined with seatbelt use can save lives of operators of compactors (steamrollers), an analysis for CPWR has found. The study, *Compactor Overturns and Rollover Protective Structures*, by Melvin L. Myers looked at 58 OSHA reports of overturn-related deaths of operators of compactors in 1986-2002 to learn whether a lack of rollover protective structures (ROPSs)–and failure to use seatbelts–contributed to the deaths.

A compactor with a 4-post ROPS with a canopy.

ROPSs (frames or other structures,) are designed to prevent crushing injuries to operators of heavy equipment. Although ROPSs are required for some equipment, OSHA does not require them for construction.

The report's recommendations include producing an OSHA standard for compactors requiring the use of ROPSs (and seatbelts) in construction, procedural changes in compactor use, operator-training requirements, design changes, and further safety research.

The report is posted at **www.cpwr.com** and **www.elcosh.org** or may be ordered from CPWR.

Book on Scaffolds

A new book focuses on fall protection and the safety requirements of OSHA's subparts L and X. Michael McCann, CPWR safety director, is one of three editors and has written chapters on aerial work platforms, stairways, and ladders. To learn more or order the 543-page book, *Elevated Work Platforms and Scaffolding: Job Site Safety Manual*, go to **www.books.mcgraw-hill.com**.

Study Recommends Ways to End Boom-Power Line Contacts

Changes in construction management could prevent as many as 150 deaths and serious injuries each year caused by contacts with power lines, according to a new report funded by the Center to Protect Workers' Rights. The report, by David V. MacCollum, a safety engineer who has written extensively about crane safety, notes,

> Time and evolving work practices have done nothing to reduce this hazard, and the problem of powerline contact today remains the same as it did when cranes were widely introduced in the 1950's.

A crane burns after contacting an overhead power line.

COURTESY KTVX NEWS4UTAH

Among the recommendations are the use of proximity warning devices and expansion of the standard 10-foot safety zone around power lines. The report covers cranes and other boomed equipment, including dump trucks.

An OSHA rulemaking committee has been proposing changes in OSHA's construction standard for crane and derricks and is expected to complete its one-year term in July.

The report examines government and other investigations of crane-related electrocutions since 1968. The recommendations include:

- Requiring training on this issue, to include utilities executives, architects, and others
- Requiring written safety plans by a project's architect, primary contractor, or construction manager
- Establishing a danger zone of at least 15 feet on each side of any power line pole, instead of 10 feet
- Requiring crane manufacturers and rental firms to provide range-limiting devices, proximity alarms, and insulating links
- Ensuring that aerial lifts are well-insulated against electrical conduction
- Designing boomed equipment so that controls are not operable from the ground.

The report, *Safety Interventions to Control Hazards Related to Power Line Contacts by Mobile Cranes and Other Boomed Equipment*, is available in print or on CD-ROM from the Hazard Information Foundation, Sierra Vista, Arizona, at 520-458-6700 or **besafe@hazardinfo.com**.

Web Site: www.cpwr.com

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