

JSHQ

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Assistant Secretary's Message



I am very gratified to be part of OSHA. There is no greater honor, no greater responsibility, and no greater opportunity than to head the Occupational Safety and Health Administration. I welcome the challenge and I want to have a positive impact on the safety and health of American workers.

For the past 26 years, I have sought to make a difference in the workplace by protecting the safety and health of workers. Like many other safety and health professionals, I have dedicated my life to furthering the value of safety and health and injury and illness prevention.

During my tenure as Assistant Secretary, my principal goal will be to promote the value of safety and health and the value of OSHA and its mission. Protecting workers adds value to any organization, and we want all our stakeholders to understand that.

The agency can achieve its goal of injury and illness prevention by

taking a broader view of our options for success. The reality is that we will not be able to develop timely standards for all hazards, and we will not be able to inspect every facility. We must continue to use other ways to accomplish our goals.

Clearly, we must continue with a strong, effective, and fair enforcement process. This has to be the very foundation from which we work. We will be looking at how we define this in the months to come to assure we have a strong, effective, and fair enforcement practice.

We can realize significant gains in other program areas to help achieve our goals. The agency has developed and used some very successful techniques already helping workplaces assure compliance and injury and illness reductions. We must continue to sell others on the value of safety and health and the value of voluntary and partnership programs. If we can get companies to realize there is value in safety and health, value in our standards, and value in our guidance, then they will drive their own continuous improvement. Dollar for dollar, I believe we can achieve greater gains using these techniques than in any other tools we have at our disposal.

To do this, we must be more customer focused and communicate in terms that resonate with our audience. We need to listen to our customers and assess their needs. What are their goals? What expectations do they have of us? How can we fulfill these expectations and help them realize the value of safety and health?

Effective safety and health protection will vary from one site to another. But, the overall goal is to work together to establish safe

and healthful workplaces for all our nation's workers.

OSHA also needs to draw on the expertise, resources, and dedication of safety and health professionals who share our commitment to protecting workers. They are our natural allies, and we need to join forces with them to accomplish our mutual goals.

My promise is to provide leadership as OSHA steps forward to join its partners in guiding the national dialogue on occupational safety and health. We want to be known for our passion for safety and health, fairness in our enforcement, expertise and creativity in injury and illness prevention, and willingness to share our resources with others.

I look forward to working with all of you in serving American employers and employees. Together, we can make a positive difference in the safety and health of our nation's workforce. [JSHQ](#)

A handwritten signature in black ink, appearing to read 'JLHenshaw'.

John L. Henshaw
Assistant Secretary of Labor
for Occupational Safety and Health

Q I'm a supervisor at a construction site and my crews work on supported scaffolds. Does OSHA require regular testing for scaffold planks?

A No. The construction scaffold standards, found at *Title 29 Code of Federal Regulations* 1926.450 through .454, do not have mandatory testing requirements for scaffold planking. With few exceptions, however, each scaffold component, including planking, must meet the requisite load-carrying requirements and be able to support, without failure, its own weight plus at least four times the maximum intended load applied or transmitted to it. Additionally, each scaffold must be designed by a qualified person, and all scaffolds and scaffold components must be inspected for visible defects by a competent person before each work shift, and after any occurrence that could affect their structural integrity.

Q I own a chain of dry cleaning shops. What protections from hazardous chemicals do I need to provide for my workers?

A Most dry cleaning shops use a variety of hazardous chemicals to remove garment stains. Workers may be exposed to these chemicals through skin absorption, eye contact, or inhalation of vapors. To help protect your workers, isolate the area for stain spotting and ensure that it is vented adequately with a local exhaust ventilation system. General ventilation includes both supply and exhaust air. When supply air is introduced, it should enter the opposite side of the exhaust to

prevent short circuiting. Ventilation systems in dry cleaning shops should provide at least 30 cubic feet per minute (cfm) of outside air per person.

Train your spotters to use stain removal chemicals only when necessary and in a safe manner to reduce their personal exposure. In addition, require spotters to use personal protective equipment such as chemical-resistant gloves and chemical splash goggles to reduce skin absorption and eye contact. Use gloves made of solvent-resistant materials such as fluoroelastomer, polyvinyl alcohol, or unsupported nitrile. If the solvent permeates the glove, the glove can actually increase the worker's chemical exposure by trapping the chemical close to the skin. Finally, set up an easily accessible eyewash station near the spotting area.

Perchloroethylene or PERC, the most commonly used dry cleaning solvent, is a potential human carcinogen. Symptoms associated with exposure include depression of the central nervous system, liver and kidney damage, impaired memory, confusion, dizziness, drowsiness, and eye, nose, and throat irritation. Repeated skin exposure may cause dermatitis. In your dry cleaning operation, isolate the machine area in which PERC is used. Locate local exhaust ventilation in areas where solvent vapors could be released, such as above transfer operations, lint traps, or clean-out ports and where workers hang garments immediately after removing them from the dryer. Train your workers to use effective work practices to minimize the release of vapors from the machines. Monitor the air to assure that no employees are exposed to PERC vapors above OSHA's permissible exposure limit.

OSHA does not have a specific compliance standard for dry cleaning, but several other standards apply to the industry. For more information, visit the agency website at www.osha.gov and click on "D," then "Dry cleaning." **JSHQ**

Correction

An eagle-eyed reader caught an error in the Q&A section of the magazine's Spring issue. Alstom Power Air Preheater, formally Combustion Engineering, was the first participant in the Voluntary Protection Program (VPP) Star Program, but it was not the first VPP site. That honor goes to four worksites, all part of the Johnson & Johnson Company. These sites were approved for the Praise Program, which was phased out in 1985, shortly after the announcement of the VPP in July 1982. We regret the error, and appreciate the correction.

What's Happening?



OSHA is working to reduce occupational exposure to lead, particularly in industries such as construction that put many workers at increased risk.

OSHA News

OSHA Kicks Off Lead Program

OSHA recently announced a national emphasis program aimed at reducing occupational exposure to lead, one of the leading causes of workplace illnesses. The program will apply to all workplaces under OSHA's jurisdiction, including general industry, construction, and the maritime industry.

The program covers complaints and referrals and will set targeted inspections in industries or worksites where there is a potential for lead exposure. OSHA area offices throughout the country will develop a list of establishments under their jurisdiction that are likely to be involved in lead-related activities. Inspections will include establishments with fewer than 10 employees. OSHA hopes to reduce occupational lead exposures by 15 percent by the end of the Fiscal Year 2002, a goal established in the agency's strategic plan.

"Occupational exposure to lead is still one of the most prevalent

overexposures found throughout industry," says R. Davis Layne, Deputy OSHA Administrator. "It's imperative that we do all we can to reduce that exposure to workers. This national emphasis program will help us focus inspection efforts on worksites involved in lead-related activities."

The OSHA directive on the program is available on the agency website at www.osha.gov.

OSHA Starts Methylene Chloride Program

OSHA's Kansas City, MO, area office recently initiated a local emphasis program to evaluate compliance with OSHA's standard for employee exposure to methylene chloride. Office director Manuel Olmedo says the program will target as many as 600 workplaces in Western Missouri that use the chemical for a wide range of industrial processes.

Methylene chloride exposure can cause irritation to eyes, skin, and respiratory tracts; mental confusion; lightheadedness; nausea; vomiting; and headaches.

Continued exposure may cause staggering, unconsciousness, and death. Studies in laboratory animals indicate that long-term exposure may cause cancer.

More information on methylene chloride, as well as the OSHA standard for employee exposure, is online at www.osha.gov. For more details about the methylene chloride local emphasis program, contact OSHA's Kansas City Area Office at (800) 892-2674.

Recordkeeping Rules Start January 1

Beginning January 1, 2002, employers will have simpler, easier-to-follow requirements to keep track of on-the-job injuries and illnesses. OSHA has prepared an extensive outreach campaign to assist them in making the transition to the new system.

The new forms, brochures, fact sheets, and interactive software are available on OSHA's website at www.osha.gov on the recordkeeping page. In addition, OSHA will hold satellite training on November 29.

OSHA staff also will conduct information sessions and training for local groups throughout the fall and winter. Contact the closest OSHA office for further information. The OSHA website lists all area and regional offices.

OSHA Identifies High-Injury Sites

OSHA recently sent letters to 14,000 sites notifying them that their injury and illness rates exceed those of most workplaces. The letters encourage employers to take steps to reduce hazards and protect their workers. Meanwhile, the agency is continuing its inspections of about 1,000 sites that experienced especially high injury and illness rates in 1999.

OSHA identified these sites based on data reported by 80,000 employers during last year's agency survey. Sites in the inspection pool had eight or more injuries and illnesses resulting in lost workdays for every 100 full-time workers. Nationwide, the average U.S. workplace had three instances for every 100 workers.

"The sites we are identifying are on notice that they need to improve," says Secretary of Labor Elaine L. Chao. "High injury and illness rates have a significant personal cost to employees and a financial cost to employers."

OSHA encourages these employers to consider hiring an outside safety and health consultant, talk with their insurance carriers, or contact their state's workers' compensation agency for advice. OSHA also provided contact information for the free safety and health consultation service funded by the agency in each state for small employers.

Chao Promotes Compliance Assistance to ABA

Secretary of Labor Elaine L. Chao recently told the Labor and Employment Law Section of the American Bar Association that compliance assistance will be her primary tool in protecting workers' safety on the job and administering and enforcing U.S. labor and employment laws. Chao stressed the importance of informing, educating, and encouraging employers to comply with federal labor laws.



Labor Secretary Elaine L. Chao calls compliance assistance her primary tool in protecting workers' safety on the job. Photo by Kenny Bordelon

"If we don't work with employers to help them achieve compliance on the front end, it's the workers who will pay the price," she said. "That's why I'm directing my senior staff to develop a more effective compliance strategy for our department, agency by agency."

Chao was quick to emphasize that she has no plans to ease enforcement in favor of compliance assistance. "Instead, we recognize a critical fact of the 21st-century economy: that compliance assistance is a tool in the toolbox of enforcement strategy," she said. "In other words, compliance assistance isn't an alternative to enforcement; it is a means toward more effective enforcement."

OSHA is involved in a variety of compliance assistance efforts through its onsite consultation service, partnerships, Voluntary Protection Programs, and training and education. In addition, the agency is assigning compliance assistance specialists to each federal area office to help promote safer, more healthful workplaces.

OSHA Launches Shipbreaking Program

OSHA recently launched a national emphasis program to increase federal inspections of shipbreaking operations to reduce or eliminate workplace hazards in the industry. Shipbreaking, also known as ship scrapping or disposal, involves the breaking down of a vessel's structure, including the removal of all gear and equipment.

The national emphasis program calls for OSHA area offices to conduct targeted comprehensive inspections of known shipbreaking operations. Additionally, OSHA's regional administrators will ensure that OSHA conducts annual programmed comprehensive inspections for every U.S. Navy and Maritime Administration vessel undergoing shipbreaking operations.

The OSHA inspections will focus on common hazards or workplace activities likely to cause injury or illness among workers. These include asbestos, PCB (polychlorinated biphenyls) and lead exposure, hazard communication,



OSHA is working to reduce injuries at ship disposal and scrapping operations.

Photo courtesy of Ship Dismantlement and Recycling Joint Venture

confined spaces, hearing conservation, fire prevention, personal protective equipment, emergency response and first aid, cutting and welding, paint removal, powered industrial truck operations, oil and fuel removal, tank cleaning, cranes, scaffolding, and fall protection.

“Shipbreaking is one of the most dangerous segments of the maritime industry,” says R. Davis Layne, Deputy OSHA Administrator. “The scrapping of obsolete vessels presents numerous challenges, and employers must take extra care to safeguard their workers. By focusing inspection efforts on these operations, we believe injuries can be reduced.”

Along with supporting the inter-agency agreement, OSHA’s national emphasis program develops a scheduling system for inspections of Navy and Maritime Administration shipbreaking operations and establishes coordination among federal agencies involved in the operations. These include the U.S. Navy, Defense Logistics Agency, Defense Reutilization and Marketing Service, Maritime Administration, and EPA. The program also develops a national reporting system for all OSHA shipbreaking inspections.

OSHA to Increase Hispanic Outreach

Concerned about increased fatalities among Hispanic workers in 2000 (See related story on page 30.), Secretary of Labor Elaine L. Chao recently asked OSHA to form an executive task force to examine and expand the agency’s outreach activities. She says the task force will “reach out and educate Hispanic workers and their families about health and safety.”

The Bureau of Labor Statistics’ recently released *Census of Fatal Occupational Injuries* reports that

fatalities among Hispanic workers were up sharply, with 815 deaths in 2000 compared to 730 the previous year. The report notes a 24-percent increase in construction fatalities involving Hispanic workers in 2000 compared to 1999. Nationally, Hispanic employment was up 6 percent in 2000.

OSHA Posters Available at No Cost

Advertisements suggesting that employers must purchase OSHA workplace posters from private companies to avoid fines may be misleading employers. OSHA reminds employers that its official posters are available free for the asking.

The OSHA poster was redesigned last year to make it easier to read and understand. The new poster, called “It’s the Law!” is available in English and Spanish. Employers are not required to replace older posters with the new ones but must display one of the two posters in a prominent location.

The poster informs workers of their right to a safe and healthful

workplace and how to file a complaint, report an emergency, and seek OSHA advice. It also advises them of their right to confidentiality. The poster also lists OSHA’s toll-free number, (800) 321-OSHA, as well as phone numbers for regional OSHA offices around the country.

For a copy of the poster, visit the agency website at www.osha.gov, fax your request to (202) 693-2498, or call (202) 698-1888.

Initiatives and Outreach

DOL Begins Hotline

The Department of Labor recently launched a toll-free hotline for nuclear energy workers seeking information on the Energy Employees Occupational Illness Compensation Program. The new program provides benefits for workers who became ill after exposure to beryllium, radiation, or other hazards unique to the nuclear energy industry. The department began processing compensation and medical benefit claims on July 31.

Affected workers can call (866) 888-3322 for information or to request application forms. Information also is posted on the Department of Labor website at www.dol.gov, and the Labor and Energy Departments have joined forces to run at least nine resource centers near DOE facilities throughout the country.

NFPA Reports on Firefighter Risks

Heart attacks were the leading cause of on-duty fatalities among firefighters in 2000, the National Fire Protection Association reported recently at its annual convention. Of the 102 on-duty firefighter deaths last year, 40 were



due to heart attacks, continuing a 25-year trend. The association reported that on-duty heart attacks usually are attributed to overexertion or stress.

Motor vehicle crashes were the second major cause of on-duty firefighter deaths. According to the association, 21 firefighters died in motor vehicle crashes in 2000, more than half of them while responding to emergency calls.

The National Institute for Occupational Safety and Health (NIOSH) recently reported that firefighters face a serious risk of being struck and killed by traffic when offering emergency assistance along busy highways. From 1995 to 1999, 17 firefighters died from being struck by motor vehicles while working along highways at crash scenes. This represents an 89-percent increase over the number killed in the previous 5 years.

NIOSH is studying firefighter fatalities to help identify causes and reduce risk factors.

ARTBA and NSC Promote Work Zone Safety

The American Road and Transportation Builders Association and

the National Safety Council recently teamed up to develop and distribute a training program on the day-to-day hazards faced by roadway construction workers. The program, *OSHA 10-Hour Training Exclusively for the Roadway Construction Industry*, meets requirements for OSHA 10-hour accreditation while addressing both traffic and worker safety.

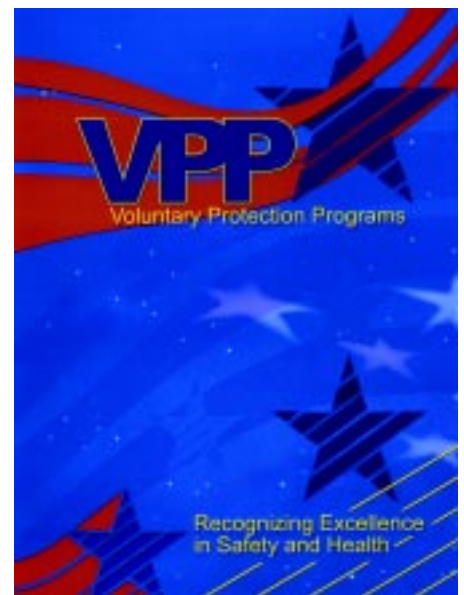
The program can be taught in 1-1/2 days or broken down by modules for shorter training sessions. It includes a detailed facilitator manual, participant guide, PowerPoint slides, and suggested activities for each module.

For more information or to order the program, call (800) 621-7619.

Publications and Products

OSHA Releases VPP Kit

OSHA recently released a new kit to educate employers about the Voluntary Protection Programs and encourage them to apply for acceptance. The kit, *Voluntary Protection Programs: Recognizing Excellence in Safety and Health*, includes an



OSHA's new VPP kit

overview of the program and the benefits of participation. It also includes a self-assessment checklist for employers to gauge their eligibility for VPP, application instructions, and a description of what happens when OSHA conducts a VPP inspection.

The new kit was introduced at the recent Voluntary Protection Programs Participants Association meeting in New Orleans, LA. For more information, go to "Outreach" on the agency website at www.osha.gov.

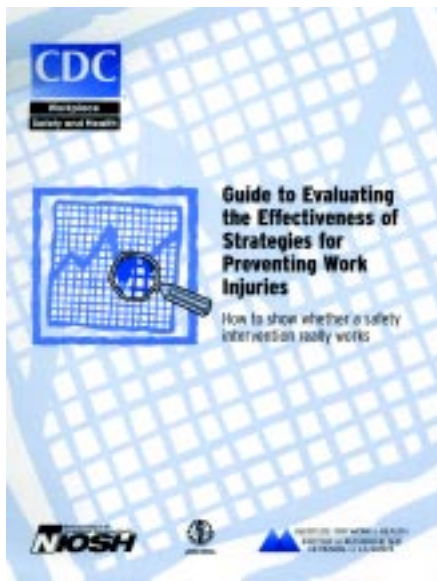
NIOSH Releases Work Safety Guide

The National Institute for Occupational Safety and Health recently released its new *Guide for Evaluating the Effectiveness of Strategies for Preventing Work Injuries* (NIOSH Publication 2001-19). The guide is designed to help safety and health professionals and others determine the effectiveness of injury prevention initiatives and safety programs.

The publication begins with a discussion of safety interventions and gives users the tools needed to



A new training program addresses work zone hazards.



A NIOSH guide offers tools to evaluate workplace safety programs.

evaluate them scientifically before applying them in the workplace. The guide is available online at the NIOSH website at www.cdc.gov/niosh.

NIOSH Releases Safety Videos

NIOSH recently released two new safety training videos for mine health and safety trainers. The *Hazards in Motion* video addresses the dangers of working around mobile equipment in an underground mine. *Hidden Scars*, the first in NIOSH's new "Expert Miner" series, captures the story of a fatal rock burst in which the narrator was seriously injured and his partner was killed. Both videos were shot completely in operating underground hard-rock mines and used expert miners to tell the story.

For more information about the videos, contact Elaine Cullen by phone at (509) 354-8057 or by email at ecullen@cdc.gov.

NIOSH Issues Tower Alert

A new NIOSH alert offers guidelines to help prevent falls by telecommunications tower workers. The alert, *Preventing Injuries and Deaths from Falls during Construction and Maintenance of Telecommunication Towers*, describes seven fatalities resulting from falls from communication towers and findings of the NIOSH Fatality Assessment and Control Evaluation Program.

The alert outlines factors that contributed to falls from communication towers: inadequate fall protection; inadequate worker training; failure of a hoist or truck-crane; use of a hoist not rated to lift workers; and terminal devices on the lanyard not compatible with tower components.

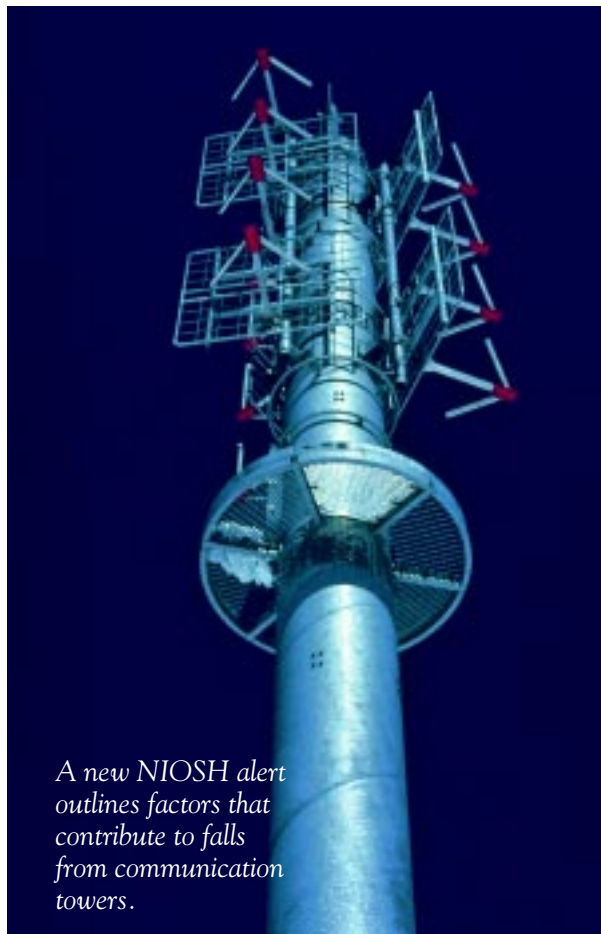
The alert offers precautions for workers and employers, including

a recommendation that all workers receive training and use full fall protection at heights above 25 feet. For a copy of the alert, visit the NIOSH website at www.cdc.gov/niosh.

NSC Introduces Training System

The National Safety Council recently introduced *SafetyWorks*, a packaged training system to help companies develop, implement, and evaluate comprehensive safety or ergonomics programs. The step-by-step system for safety and compliance covers 25 topics ranging from accident investigation and back injury prevention to safety program management and workers' compensation management.

The system's "how-to" section provides consistent, user-friendly instructions for meeting OSHA standards or steps for establishing best safety practices for non-compliance topics. A written program, an important part of OSHA compliance requirements, comes complete with a set of recordkeeping forms. In addition, it provides training tips, a glossary of terms, an instructor guide, learning exercises, videos, and employee handouts. For more information, call (800) 621-7619 or visit www.nsc.org.



A new NIOSH alert outlines factors that contribute to falls from communication towers.

NIOSH Issues Forklift Alert

A new NIOSH alert warns that forklift operators are more likely to be killed if they attempt to jump clear of a tipping forklift than if they stay with the vehicle. The alert, *Preventing Injuries and Deaths of Workers Who Operate or Work Near Forklifts*, evaluates seven



A new NIOSH alert offers forklift safety tips.

fatalities involving forklifts. In several of the incidents, workers who attempted to jump clear of an overturning forklift were crushed by the vehicle or its overhead guard.

The alert recommends that workers inside a sit-down style forklift that begins to overturn stay inside and shift their weight in the opposite direction of the overturn. It advises workers in stand-up forklifts with a rear-entry access to step backward in the event of a lateral tip.

For more information, read the full alert on the NIOSH website at www.cdc.gov/niosh.

Partnership News

OSHA and Tyson Foods Form Partnership

OSHA and Tyson Foods, Inc., recently joined together in a partnership to improve safety and health at two of the poultry processor's facilities. The 5-year agreement initially covers two

Tyson facilities: Clarkesville Processing in Clarkesville, AR, and Monett Processing in Monett, MO.

A joint OSHA/Tyson partnership steering committee is establishing milestones in reducing employee injuries and illnesses at Tyson Foods. OSHA will work with senior staff, site management, and employees to identify actions that will strengthen Tyson's safety and health program. In addition, OSHA will conduct an initial baseline evaluation of each participating site's program and report on compliance issues in need of correction and recommend areas for improvement. Tyson committed to strengthen its safety and health programs and to abate any OSHA violations that may be identified through the partnership.

"We believe this effort will offer new ways and opportunities for us to work together and focus cooperatively on the thing that's most important to all of the partners: the health and safety of our team members," says Greg Lee, Tyson Foods chief operating officer.

Coffin Butte Partnership Announced

OSHA and the Northern Improvement Company of Bismark, ND, recently entered into a partnership to address hazards associated with the Coffin Butte Project. The project involves the installation of a water pipeline extending 137 miles throughout 700 square miles of rural southwestern North Dakota to supply water to farmers and ranchers. More than 50 workers are involved in the construction project, which involves some 590 separate excavations.

The OSHA partnership focuses on hazards associated with trenching and excavating during the project, and is expected to continue through this fall.

"This partnership is a proactive effort to prevent serious injuries or fatalities from occurring at this site and will benefit all stakeholders involved in this project," says Bruce Beelman, OSHA area director in Bismarck. More than 100 U.S. workers die each year in trenching and excavation in accidents.

Jack Kolberg, Vice President and Safety Director for the Northern Improvement Company, says the company is "very excited about the opportunity to work in partnership and to combine efforts with OSHA to provide the safest and healthiest work environment for all our employees."

Logging Partnership Saves Lives

Louisiana reported one logging fatality between May 17, 2000 and May 17, 2001, the first year of a new partnership between OSHA, the Louisiana Department of Labor OSHA Consultation Division, and 200 logging contractors. This represents an 87.5-percent reduction over the previous year's fatality rate. Since 1975, the Louisiana logging industry experienced an average of 2.24 fatalities per year. During the 16 months before the formal signing of the logging partnership agreement, however, eight fatalities occurred.

Since the partnership's 1-year anniversary, one additional fatality occurred. Although the fatality is technically classified as a logging accident because the worker was engaged in logging activities, he did not work for a logging company.

Members of the logging partnership target training and other preventive activities designed to reduce logging injuries and fatalities. Participants say the partnership has increased awareness about



Logging fatalities in Louisiana dropped significantly during the first year of a new OSHA partnership.

VPP Update



Sauer-Danfoss Joins VPP Stars

Sauer-Danfoss Inc., an Illinois company that designs, manufactures, and sells hydraulic systems and components used in mobile equipment, is one of the newest stars in the Voluntary Protection Programs.

The facility recently became the first Sauer-Danfoss site to earn VPP Star status. The plant's 128 employees, assigned to 6 teams, worked for 18 months to meet the stringent health and safety requirements for Star recognition.

Dave McCumber, corporate safety and environmental manager, says the corporation expects its other nine sites nationwide to follow the Freeport facility's example. "They have set the standard for the entire corporation," he said. "Now the challenge is out there for the rest of the facilities."

VPP Pays Off for Mundy Companies

Participation in the VPP is paying off in lower worker injury rates for the Mundy Companies, an industrial plant maintenance, capital project, turnaround and services contractor with 5,000 employees in 7 states.

The company has five VPP Star sites, four in the federal program and one in the North Carolina

state program. The first Mundy site achieved approval in 1996, and the North Carolina site was the first resident contractor in the United States to receive VPP Star designation.

In 1995, the five Mundy sites now in VPP had a combined recordable injury rate of 1.79 per 100 full-time employees. By 2000, that rate had dropped to 0.57, 34-percent lower than the company average of 0.87. In addition, Mundy's five Star sites reported 906,000 manhours worked with no recordable injuries and illnesses during the first 6 months of 2001.

ExxonMobil Celebrates 17 Years in VPP

The ExxonMobil Chemical Company's Beaumont Olefins Aromatics Plant in Beaumont, TX, recently celebrated its fifth OSHA recertification during 17 years as a VPP Star site. At a ceremony in Beaumont, Raymond Skinner, director of OSHA's Houston Area Office, acknowledged that despite the potentially dangerous nature of its work, the company's accident and illness rates remain considerably lower than the industry average.

"Their accomplishments are outstanding," Skinner said. "The reason they're doing so great is because they've got a great program and it's employee-driven."

logging safety among logging contractors as well as their employees.

"This partnership is a win-win proposition for the loggers, OSHA, the Louisiana Forestry Association, and the Louisiana Department of Labor OSHA Consultation," says Greg Honaker, a compliance assistance specialist in OSHA's Baton Rouge Area Office. "The loggers I have spoken with claim that their employees have a heightened awareness of good safety practices. We want to continue with partnership and seek ways to improve it."

Correction

JSHQ's Summer issue incorrectly reported that Secretary of Labor Elaine L. Chao appointed Salvatore Bonfiglio to serve on the National Advisory Committee on Occupational Safety and Health. In fact, then-Secretary of Labor Alexis M. Herman appointed Bonfiglio to the committee in December 2000.

New and Recently Reapproved VPP Members

Federal Program

New Star Sites

- Black & Veatch, Florida Power & Light, Sanford Repowering Project, DeBary, FL
- Cargill N.A. Sweeteners, Blair, NE
- DeGussa Huls, Waterford, NY
- DynMcDermott Petroleum's Bryan Mound SPR, Freeport, TX
- GE Engine Services, Inc., Miami, FL
- GE Industrial Systems, Jonesboro, AR
- GE Lamp, Mattoon, IL
- GE Reuter-Stokes, Twinsburg, OH
- PP&L Interstate Energy Company, Pottstown, PA
- Sauer-Danfoss Inc., Freeport, IL
- U.S. Postal Service Pittsburgh Air Mail Center, Coraopolis, PA

17-Year Star Site

- ExxonMobil Chemical Company, Beaumont Olefins Aromatics Plant, Beaumont, TX

10-Year Star Site

- OXYVinyls PVC Resins, Pasadena, TX

9-Year Star Site

- Weyerhaeuser, Valliant, OK

6-Year Star Sites

- Milliken Unity Plant, LaGrange, GA
- Pharmacia, Augusta, GA

3-Year Star Sites

- Ethyl Petroleum Additives, Inc., Sauget, IL
- Frito-Lay, Beloit, WI
- IP Masonite, Lisbon Falls, ME

- L'Oreal USA, Piscataway, NJ
- Merisant, Manteno, IL
- Milliken Kingsley Plant, Thomson, GA
- OxyVinyls Deer Park VCM, Deer Park, TX
- Rhom & Haas, Morton Coating, Reading, PA
- Westinghouse Specialty Chemicals, Blairsville, PA

New Star Conditional Site

- GE Corporate R&D, Niskayuna, NY

Merit Sites Moving to Star Status

- Mead Stevenson Mill, Stevenson, AL
- National Enzyme Company, Forsyth, MO

New Merit Sites

- Arizona Chemical, Pensacola, FL
- Frito-Lay Perry Plant, Kathleen, GA
- Georgia Pacific, Waxahachie, TX
- Rockwell Automation Control Systems, Dublin Operations, Dublin, GA

State-Plan State Programs

New Star Sites

- BEERS, Davidson & Jones Group, Raleigh, NC
- Caribe GE Distribution Components, Arecibo, PR
- CIBA Albemarle Site, Albemarle, NC
- CP Kelco, San Diego, CA
- Georgia Pacific, Madera, CA
- Kentucky Derby Hosiery, Lynne Plant #6, Mount Airy, NC
- Kentucky Derby Hosiery Plant #14, Mount Airy, NC

- LG&E Altavista Power Station, Altavista, VA
- SIGNODE, Western Operation, Pittsburg, CA

New Merit Site

- Frito-Lay, Beaverton, OR [JSHQ](#)

As of August 1, 566 sites were participating in the federal VPP: 506 in Star, 57 in Merit, and 3 in Demonstration. In addition, 189 sites were participating in state-plan VPPs: 180 in Star and 9 in Merit.



John L. Henshaw joins OSHA with more than a quarter-century of experience in workplace safety and health.

Photo by Michael Carpenter



John L. Henshaw:

A New Direction, A New Vision

OSHA's new Administrator has set a course to make the agency the recognized champion of workplace safety and health.

by Susan Fleming

“My ultimate vision is for OSHA to be viewed as a leader in workplace injury and illness prevention and a champion for employers and employees to take ownership of safety and health in their workplaces,” says new Assistant Secretary of Labor for Occupational Safety and Health John L. Henshaw. “I want the agency to maintain a strong and fair enforcement presence while at the same time selling the value of safety and health, partnerships, and voluntary compliance programs.”

At 52, Henshaw joins the agency with more than a quarter-century of experience in workplace safety and health. In the early 1970s, after considering a career in marine science, trying landscape architecture for a year and working for the Delaware state health department inspecting restaurants, septic systems, and other health-related sites, he headed for the University of Michigan to earn a master's degree in environmental

health administration. While there, he took a few electives in industrial hygiene with Professor Larry Hecker and changed direction for the last time, choosing to add industrial health to his graduate degree in environmental health.

Once Henshaw's course was set, he pursued it vigorously. After graduation in December 1974, he joined Monsanto's Department of Medicine and Environmental

Health in St. Louis. He later worked for a Monsanto spin-off, Solutia. When President Bush tapped him to head OSHA on June 13, 2001, Henshaw was serving as director of environment, safety and health for Astaris, a joint venture between Solutia and the FMC Corporation.

Helping foster a strong safety and health culture within all three chemical companies is what Henshaw sees as his greatest achievement during his 26 years in the private sector. “Creating a safety and health culture involves constantly selling the value of injury and illness prevention. It means stressing that protecting worker safety and health is a basic foundation of a successful and sustaining business,” he says.

Henshaw says he accepted the OSHA job because “it's a great opportunity to make a big difference in people's lives. I know there are pitfalls, but this position also offers the possibility to make the greatest positive impact on workers' safety and health.”

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quality, and morale.” He points out that “When employers care about their employees and encourage them to participate in protecting their safety and health, then workers value themselves more, contribute more to the enterprise, and ultimately add value to the company.”

Partnership Possibilities

Henshaw acknowledges that some companies may not realize the value of safety and health right away. One of the best ways to get them started, he believes, is through the synergy of partnerships. “We need to leverage our opportunities and encourage others to work with us,” he says.

The new Assistant Secretary plans to explore many new opportunities for partnership. “I’d like to see OSHA work with graduate education programs at business schools to articulate the value of the American worker and how

Assistant Secretary John L. Henshaw discusses the value of cooperative programs at the Voluntary Protection Program Participants’ Association conference in New Orleans, LA. Photo by Kenny Bordelon

A Marketing Approach to Safety and Health

The best way to affect workers, Henshaw is convinced, is for OSHA to step forward as a leader in selling the value of injury and illness prevention to businesses and workers. “OSHA needs to get out and articulate the value of preventing injuries and illnesses in all venues,” Henshaw says. “Then, we can talk about compliance with OSHA standards.”

Henshaw says “We must sell the value of safety and health and of OSHA standards—how they add value to businesses as well as reduce costs. Many employers and employees do not always see the value of OSHA and OSHA standards. We need to sell them on these values and market the value of OSHA, our standards, and the service we provide to the workplaces in this country.”

Henshaw says trust is an important factor. “People must believe in us and trust us if we are to sell the value of safety and health and OSHA standards,” he says.

The result of this approach, Henshaw notes, will be better understanding of OSHA, fewer injuries and illnesses, and a realization among businesses of “the added value of safety and health, which includes increased productivity,



Secretary of Labor Elaine L. Chao, left, swears in John L. Henshaw, second from right, as the new OSHA Administrator. With them is Henshaw’s wife, Jane, second from left, and daughter, Shannon, right. Photo by Jennifer Jacobson

protecting workers through strong workplace safety and health efforts adds value to companies,” he says.

Henshaw also sees every union and trade association as an opportunity for partnership. “OSHA should be working with all of these groups,” he emphasizes. “They provide a service to their members, to help them grow and prosper. We must do our part on the regulatory front. But envision what might result if these groups spent more time helping businesses improve safety and health rather than fighting regulations.” He says organized labor could be effective in selling workplace safety and health—and the value this brings to a workforce and an enterprise. Unions, too, have a stake in getting the word out on safety and health to their members, he says. “We want to work with them to make a positive difference in their workplaces.”

OSHA's Toolbag

The enforcement threat or “hammer” is one of OSHA’s tools—but not the only tool—to achieve compliance. Henshaw says “the threat of a hammer motivates some people, but it’s not the best tool to motivate most people. The hammer also requires good standards and other enforcement tools to be effective,” he adds. “The enforcement hammer does not stimulate innovation or voluntary programs that may go beyond compliance and could be more effective in reducing injuries and illnesses. To be an effective agency, we need to think beyond enforcing standards.”

Henshaw wants the agency to use other tools that drive performance. He believes that for every dollar OSHA spends in enforcement, it gets a certain amount of compliance, which may or may not be sustainable since not all

John L. Henshaw

Assistant Secretary of Labor for Occupational Safety and Health

Age: 52

Experience: 26 years directing industrial health programs in the chemical industry

Education: M.P.H.1974, University of Michigan, environmental and industrial health

Professional: Past president, American Industrial Hygiene Association (1990-1991), member American Society of Safety Engineers

Dates: Named to current position by President Bush June 13, 2001; confirmed by the Senate August 3, 2001

Accomplishment: Creating strong safety and health cultures at Monsanto, Solutia, and Astaris

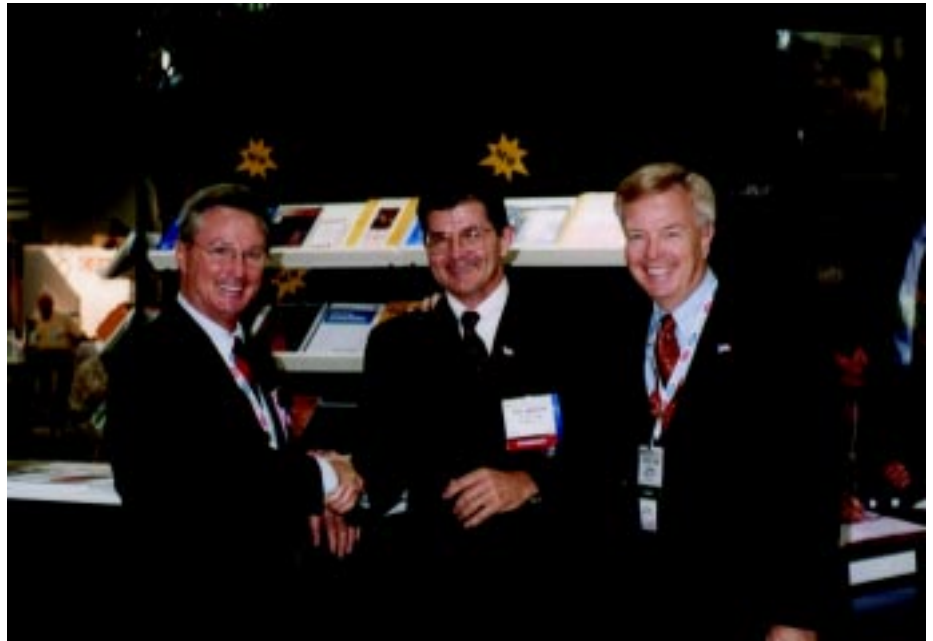
Goal: To make OSHA the champion of workplace safety and health

Quote: “I’d rather OSHA be viewed as adding value to American business instead of just enforcing regulations.”

employers buy in or own the outcome. “But with other tools such as selling value, compliance assistance, voluntary programs, and partnerships, we may get a double or triple return on our investment. And most importantly, we will get better ownership, which assures

greater sustainability in performance.”

When it comes to standard setting, Henshaw says his top priority will be determined by where the biggest risks and hazards are and where standards can do the most good in reducing injuries and

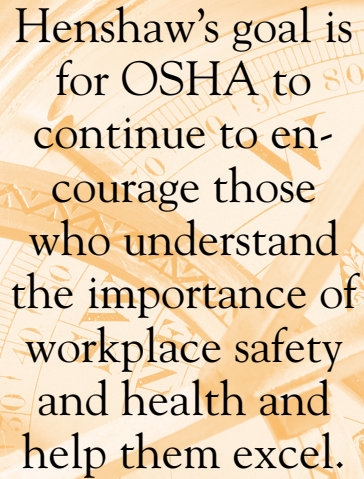


OSHA Assistant Secretary John L. Henshaw, center, meets with Alan McMillan, left, National Safety Council President and former OSHA Assistant Secretary; and Patrick Tyson, right, former Acting OSHA Assistant Secretary, at the recent National Safety Council’s Congress and Expo in Atlanta. Photo by Earl Hicks

illnesses. But, he's clear that training, outreach, education, and partnerships may be more effective than standards in achieving early reductions in occupational injuries and illnesses.

When OSHA does set standards and conduct inspections, Henshaw wants the agency's inspectors to have the authority and credibility they need to convince employers to take the necessary action to protect workers. He will encourage OSHA compliance officers to seek professional credentials such as, but not limited to, the certified industrial hygienist, certified safety professional, and certified engineer designations that attest to their knowledge. "These are the measures the private sector uses to gauge professionalism, so it will help our inspectors' credibility to have them," he says. "We need to be recognized by private-sector systems as the professionals we are. This will continue to improve our image and enforcement strength."

When OSHA speaks to employers, it needs to use their language, Henshaw is convinced. That may mean better training for our safety and health officers and continuing



Henshaw's goal is for OSHA to continue to encourage those who understand the importance of workplace safety and health and help them excel.

to pull them from the private sector, says Henshaw. "In addition, we may want to set up more internships with the private sector and give our folks a better appreciation of what goes on in the private sector before they are asked to perform inspections."

He says, "These options could help our safety and health officers appreciate what businesses need and help them understand the language that businesses use so we can sell our points more effectively. We need to move from 'because OSHA says so or because that's what the standard requires' to a value-added approach. I believe we can achieve longer-lasting results if we say you ought to do it this way because this approach adds value."

OSHA also needs to speak in a language understood by workers, Henshaw points out. "We know that there are 10 million Americans and many more immigrants in this country who speak little or no English," he says. "Many of these are people in our workforce." Henshaw says OSHA must continue to focus on reaching Hispanic

workers, since fatalities among them, particularly in construction work, have risen significantly. "We need to effectively reach this population, and I'm hoping we can find stakeholders to partner with us to reach these workers." In addition, he says, "We need to make sure we reach the employers to assure they properly protect immigrant workers."

Pointing Toward the Road Ahead

Henshaw's goal is for OSHA to continue to encourage those who understand the importance of workplace safety and health and help them excel. In addition, he believes, the agency "must reach those who are not yet there." He says "OSHA must become more outwardly focused, more engaged with its customers, and more focused on meeting their needs in the pursuit of improving job safety and health and adding value to their businesses."

It is a goal, he says, that "cannot be limited to setting standards or conducting inspections. The goal must be to ensure the protection of American workers."

"To accomplish that goal," Henshaw says, "we can, and we must, use all our tools and enlist the help, support, and involvement of others. We must marshal the resources of the many dedicated people out there who are not part of the agency, but who are trying to do the same thing—reduce workplace injuries and illnesses. OSHA can be a leader in injury and illness prevention." **JSHQ**

Fleming is a public affairs specialist in OSHA's Office of Public Affairs, Washington, DC.



The new Assistant Secretary wants OSHA to use *all* the tools in its toolbag to promote workplace safety and health.

Responding to Disaster

OSHA was on the scene immediately following the September 11 attacks to protect emergency workers.

by Bill Wright



*Search and rescue workers braved many hazards during the search for survivors.
Federal Emergency Management Agency photo by Michael Rieger*

OSHA responded immediately to the September 11 terrorist attacks at the World Trade Center in New York City and the Pentagon outside Washington, DC. While thousands of America's citizens—firefighters, law enforcement officers, health care workers,

tradesmen, and volunteers—joined hands to rescue and recover victims, OSHA went to work to protect their health and safety.

Approximately 160 OSHA employees from throughout the agency's New York Region II offices and a three-person team in Virginia went to work immediately to help

ensure the safety and health of rescue workers in Manhattan and at the Pentagon. As the cleanup continued in New York City, staff from other regions joined Region II OSHA personnel to handle the round-the-clock operation, swelling the ranks to nearly 400, including some from states with their own safety and health plans, and consultation programs.

"I'm proud that OSHA professionals have dedicated themselves to the goal of helping protect these American heroes," says OSHA Administrator John L. Henshaw. "Our sole purpose in the monumental efforts ongoing in New York and Washington is to make sure that no worker suffers another needless tragedy. We're not operating in an enforcement role—but, we do want to make sure that in their zeal to recover victims, they don't become victims themselves."

OSHA coordinated with federal, state, and local agencies to meet that goal. One of the first priorities was to conduct personal air monitoring in lower Manhattan to determine worker exposure levels to asbestos.

"The collapse of both World Trade Center towers and other buildings, in addition to the tremendous amount of collateral damage throughout the surrounding area of lower Manhattan, created an incredible amount of airborne debris," says Patricia Clark, OSHA's Regional Administrator in New York. "OSHA's priority was to ensure the air was safe for those involved in the rescue effort."

The agency made initial contact with the Federal Emergency Management Agency, the Environmental Protection Agency (EPA), and various New York City agencies, including the New York State Department of Labor's Public Employee Safety and Health plan.



Heavy equipment moves tons of debris from the site. FEMA photo by Michael Rieger



Workers at the World Trade Center site.

Then, OSHA deployed industrial hygienists and safety officers to take air samples throughout New York's Financial District and in specific locations where workers were involved in the rescue.

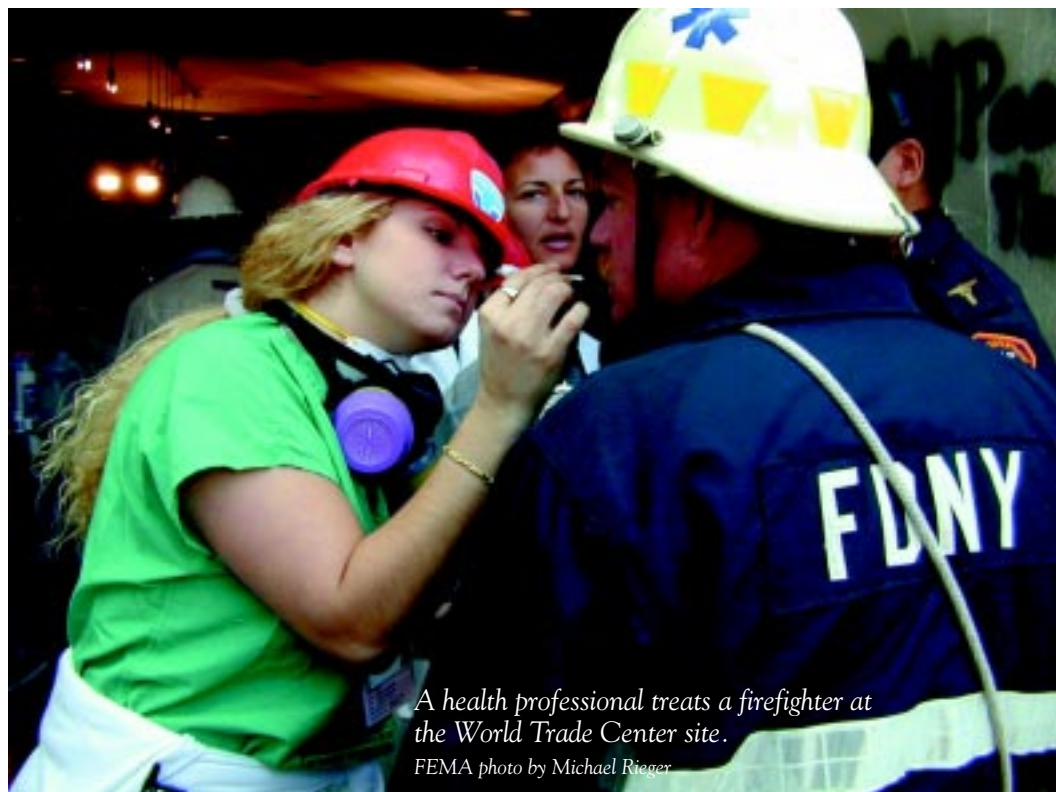
OSHA coordinated with EPA to make sure it was safe for workers to return to the Financial District in lower Manhattan the week after the disaster. "We set up two grids; Bob Garvey, Richard Mendelson, Maureen Moynihan-Fradkin, Babu Thomas, and I walked throughout the Financial District wearing sampling pumps," says Region II's Gil Gillen. "We initially wanted to determine if office workers would be safe walking to work and that the air was safe in their offices. We then moved into the rubble pile area to characterize exposures to the emergency responders and identify where it would be safe for them to remove their respirators."

"In the 31 days ending October 13, we took more than 1,000 air

and bulk samples, and we expect to continue at a rigorous pace," Clark says. "Though the levels have been consistently safe, we can't assume they'll remain that way in and around the rubble pile as the debris is removed. It's imperative that our sampling continue."

As the effort extended into its second and third weeks, OSHA provided consultation and assistance as agency employees continued sampling for asbestos, silica, lead and other heavy metals, carbon monoxide, and volatile organic compounds. OSHA shared its sampling data with all federal, state, and local agencies involved in the effort to ensure that all workers were protected.

Garvey, a 12-year OSHA employee, says past experience responding to incidents such as chemical releases and fires gave him valuable tools he applied at the New York site. Nothing, however, prepared him for the magnitude of



A health professional treats a firefighter at the World Trade Center site.

FEMA photo by Michael Rieger

the disaster. “The biggest challenge here is that there are so many hazards, everywhere you look,” he said. “The sheer scope of this is beyond anything you could imagine, let alone prepare for. But everyone is working together, pushing full steam ahead.”

OSHA ensured that all workers had access to safety and personal protective equipment, particularly respirators. “While our sampling shows the air to be well within acceptable standards in the areas surrounding what has been called ‘ground zero,’ we still think it’s prudent that rescue workers have and use respiratory protection,” says Clark. “It is particularly important in the immediate area of the collapse.” OSHA continued to

fit check and distribute about 2,000 respirators daily, down from about 4,000 daily during the first two weeks of the rescue effort.

“It’s not always simple to get to those workers, who oftentimes see their own well-being as a secondary priority, to use personal protective equipment for their own safety,” says Henshaw. “We understand their motivation and commitment and we applaud it. But, we also know that we’re in a good position to persuade, educate, and train them that they need the protection we can provide.”

Physical safety of those involved in the rescue operation also was of major concern to OSHA. As greater quantities of heavy equipment arrived at the site and

greater numbers of construction workers joined in the rescue effort, OSHA deployed safety monitoring teams in concert with the New York City Department of Design and Construction. These teams addressed hazards created by heavy equipment such as cranes, excavators, and dump trucks, as well as cutting and burning operations. The teams operate on a 24-hour basis in and around the debris pile.

Mendelson, Manhattan Area Office Director and an emergency medical technician, has been a central figure in OSHA’s response. Although his office was destroyed in the attack, his staff has been back to work at the site to protect other workers.



An OSHA team responded to the Pentagon disaster to ensure the safety and health of rescue workers. Department of Defense photo by R.D. Ward

“We’re facing hazards never seen before, and we have no textbook on how to handle these hazards,” says Mendelson. He cited the use of cranes lifting steel beams of unknown weight, slings breaking under unexpectedly heavy loads, removal of debris while underground fires continue to burn, and the instability of nearby buildings as just some of the safety problems at the site.

Another 35 staffers from OSHA’s other three East Coast regions arrived to augment the enormous undertaking. Each week, a new group of OSHA staff from all over the country is arriving in New York for a 5-day stint to help out.

At the Pentagon, a three-person Federal OSHA team served in a largely advisory role, overseeing emergency response and helping identify appropriate respiratory protection for emergency workers. Tom Pope, director of the Norfolk Area Office, says the team worked side-by-side with the military, the EPA, and the FBI to ensure worker safety and health during rescue and recovery operations.

“The site was very different from the one in New York in that it involved a much more controlled area with one employer, the U.S. government, one building, and much less damage,” Pope says. “Everyone worked together in a positive way and as a result, there were minimal injuries and no serious injuries among the response workers in the whole process.”

OSHA’s non-stop work has been an integral part of the rescue and recovery operations. When workers on the pile cheer at the site of people wearing green jackets with OSHA across the back, the agency knows it is making a difference. [JSHQ](#)

Wright is a public affairs specialist in OSHA’s Office of Public Affairs, Washington, DC.

An OSHA Office Evacuates

by Donna Miles

It was a perfect New York City morning, and Mike Mabee was just starting his day as a whistleblower investigator at OSHA’s Manhattan Area Office. The office was on the top floor of the World Trade Center’s Building 6, an 8-story building in a complex dominated by two 110-story skyscrapers.

Sipping coffee and sorting through his case files, Mabee heard what sounded like a sonic boom. His office lights flickered, then he heard someone in the distance yelling that something had hit Tower 1, one of the skyscrapers. Glass, paper, metal, and other debris was falling from the sky past his windows, and Mabee heard the pounding of more debris hitting his building’s roof.

The staff hurried toward the stairwell, just as they had trained to do during past fire drills. The office’s emergency action plan called for the staff to go down the steps to the ground floor and to rally on the east side of the building.

Mabee, Victor Couverter, a safety and health clerk, and Lou Willard, a retired OSHA employee who was visiting the office, went into immediate action and evacuated a fellow employee who had just returned to work following a stroke. Frank Ufert, a compliance assistance specialist, was temporarily wheelchair-bound. As larger and larger pieces of debris pounded on their building roof, Mabee, Couverter, Willard, and Ufert followed the previously planned and rehearsed part of the emergency action plan specifically related to evacuating someone in a wheelchair and rode the freight elevator to the building’s basement. “The plan had already been made to use the elevator, if possible, to evacuate our wheelchair-bound colleague,” said Mabee. “It’s



Hundreds of rescue workers and firefighters sift through rubble near the building that once housed OSHA’s Manhattan Area Office. FEMA photo by Michael Rieger

conceivable that had we taken the extra time to walk down eight floors, we may not have made it down in time. Sticking to the plan and using the elevator is probably what saved us.”

In the basement, the three ran through the parking garage, pushing Ufert and his wheelchair toward the exit. New York Port Authority officers inside the garage, however, stopped them from leaving the building for fear they would be hit by falling debris. “I don’t know how long we waited in the garage before they let us leave,” said Mabee, “but it felt like a long time.”

Finally, the four were permitted to leave, and they hurried toward the north, away from the complex. “At that point, I didn’t know what had happened,” said Mabee. “I thought it was just an accident, maybe a fire or a gas explosion.” Yet, as he looked up at the burning building with a gaping hole near the top floors, Mabee watched a commercial airliner bank sharply and head straight into the second tower. “As soon as I saw the second plane, I understood what had happened,” Mabee said. “It was obvious that the plane had deliberately steered into the tower.”

At that point, Mabee said the street turned into “complete pandemonium” as “everyone started fleeing.” Fire, police, and emergency medical personnel started arriving at the scene. Looking up, Mabee saw at least 20 people jump to their deaths. “It got to the point where you just couldn’t watch it anymore,” he said.

Mabee and his colleagues continued rushing north, away from the scene, when Tower 2 crashed to the ground, sending what he called “a huge wash of debris” over the site and burying many of the newly arrived police and fire vehicles. “I could see that a whole mass of the first responders had

OSHA’s Manhattan Area Office was based in the top floor of the World Trade Center’s Building 6, pictured, before the attack. OSHA photo by Kevin Brennan



been killed,” Mabee said. As he and his colleagues proceeded away from the scene, they watched Tower 1, the building that had been hit by the first hijacker, pancake down to the ground. What he didn’t realize at the time was that Tower 1’s collapse had completely destroyed the OSHA Area Office in Building 6.

Mabee and his three co-workers finally arrived at the OSHA Region II Office in the Federal

Building about a mile and a half north of the World Trade Center complex, only to find that the staff had evacuated. Fortunately, they found a staff member from the office who pointed them toward the office’s rally point about 2 blocks away, at James Walker Park. There, Mabee, Couvertier, Willard, and Ufert found their colleagues from the area office, including Area Office Director Richard Mendelson, who had been out of the office giving a presentation in Queens when the incident occurred. All 23 members of the Manhattan Area Office had escaped the disaster unharmed. “That was the first time that we all realized that everyone else was okay,” said Mabee.

Standing at the park, looking toward the dust clouds to the south and listening to the news on a radio, Mabee heard a call go out for volunteers with medical training. A trained paramedic, he rushed back to the World Trade Center complex—now referred to by the media as “ground zero”—and helped set up a makeshift hospital in the gym of Manhattan Community College. Doctors, nurses, and medical students started arriving at



Mike Mabee and his coworkers in OSHA’s Manhattan Area Office escaped without injury.

OSHA photo by Susan Fleming



Wreckage litters streets surrounding the site. FEMA photo by Michael Rieger

Planning for Emergencies

by Donna Miles

Without warning, an explosion at a Lower Michigan mill that produces particle board blew out sections of the building walls and sent plumes of fire skyward. Forty-five employees, nine of them injured in the blast, had to evacuate the burning structure. The plant manager described the incident as his “worst nightmare.”

Nobody expects an emergency or disaster, especially one that affects them, their employees, and their business directly. Yet workplace emergencies—explosions, fires, floods, tornadoes, chemical spills, toxic gas releases, or even terrorist attacks like the recent ones on the World Trade Center and Pentagon—and can strike anyone, anytime, and anywhere. Businesses too often find themselves forced to evacuate when they least expect it.

The recent terrorist attacks on the World Trade Center and the Pentagon have brought the possibility of such events to the forefront of everyone’s mind. OSHA’s emergency action plan

No company expects a workplace emergency, but if one occurs, advanced planning can reduce uncertainty and save lives.

the site, and Mabee was put in charge of supplies that poured in from area hospitals. By nightfall, when the building lights wouldn’t go on, Mabee helped pack up the operation and move it two blocks away to Stuyvesant High School to continue offering aid, mostly to rescue workers.

“The rescuers were so focused on their work that they didn’t want to leave the scene for treatment,” Mabee said. “The dust was so thick that they needed to flush their eyes so they could see, but we couldn’t get them to come in to have it done.” In response, Mabee and teams of medics started carrying intravenous solution bags filled with saline solution out to the street to flush the eyes of more than 100 rescue workers. They worked until 6 o’clock the next morning before more volunteers relieved them.

Now, Mabee is back on the job, working out of OSHA’s Region II Office. Getting back to his investigations, he admits, is difficult. His building is destroyed, along with all his files. His email is down. He doesn’t even have a permanent desk from which to work. “I’m trying to reconstruct where everything was before September 11,” he said.

What did the disaster teach him about emergency evacuations? “One of the lessons I learned is that just getting out of the building is

not enough. You have to get away from the building,” he said. “By the same token, you need two rally points: a regular one and a secondary one. If everyone from our office had remained at the regular rally point, they would have been killed by all the falling debris.”

Mendelson agreed that having a preplanned rally point was a big factor in his office’s ability to account for its people as quickly as possible. He remembered all too well an incident several years ago in Manhattan in which three firefighters and rescue workers received severe burns searching a ConEdison building for workers who had already evacuated. “By having a good plan in which people know what to do and where to go in an emergency,” he says, “people can respond more quickly, potentially saving their own lives as well as those first responders who might risk theirs trying to save them.”

Mabee says the disaster will forever change his attitude toward emergency evacuation drills. “I always used to think they were a pain. You’d be sitting there in the middle of a project or typing up something and have to stop and leave the building. It always felt like a major inconvenience,” he said. “But now I know differently. Now I know that it can help save your life.” JSHQ

requirements focus specifically on “reasonably foreseeable emergencies” that might or might not include terrorist attacks. Given the far-reaching effects of such attacks, however, an employer may want to consider surrounding business operations such as nuclear power plants, military installations, public utilities, and the like.

According to MaryAnn Garrahan, team leader for OSHA’s Health Compliance Development Division, the best way for employers to protect themselves, their workers, and their businesses is to expect the unexpected and plan for it. “Brainstorm the worst-case scenarios,” Garrahan says. “Ask yourself what you would do if the worst happened.” How, for example, would you and your employees react if a fire broke out in your boiler room, a hurricane hit your plant head-on, or a train carrying hazardous waste derailed while passing your loading dock?

OSHA requires some companies, particularly many that work with or store hazardous materials, to assess these “what ifs?” and create an emergency action plan. This plan documents what to do in the event of an emergency. Garrahan says every company, however, can benefit from a well-thought-out emergency action plan.

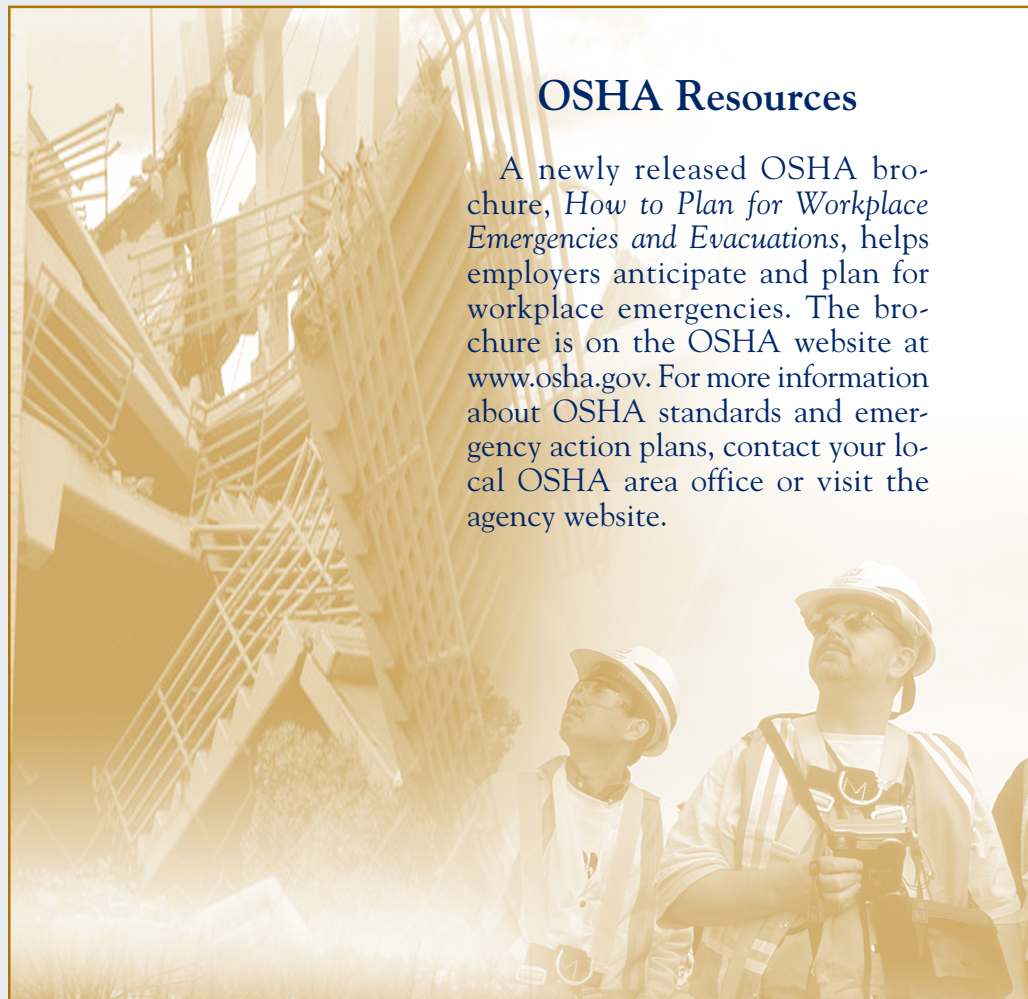
An effective plan includes details such as the following:

- Determining how to alert employees to an emergency,
- Identifying who is in charge during an emergency,
- Specifying evacuation policy and procedures,
- Establishing evacuation routes and exits, and
- Having a designated assembly area and procedures to account for all employees following an evacuation.

Establishing an emergency action plan is just the first step in preparing for a workplace emergency. Garrahan says the best-laid emergency action plans will be ineffective during an emergency if employees are not aware of them and do not have a clear understanding of evacuation procedures and what their roles are. She recommends reviewing the plan with employees and posting it in a convenient location where employees can access it or giving employees



A good emergency action plan reduces uncertainty during fires and other workplace emergencies.



OSHA Resources

A newly released OSHA brochure, *How to Plan for Workplace Emergencies and Evacuations*, helps employers anticipate and plan for workplace emergencies. The brochure is on the OSHA website at www.osha.gov. For more information about OSHA standards and emergency action plans, contact your local OSHA area office or visit the agency website.

individual copies. In addition, many companies schedule periodic evacuation drills to ensure that employees know what to do and where to go during an emergency.

“The more you practice, the more it becomes second nature,” says Carol Schwartzkopf, Safety Coordinator for the National Enzyme Company in Forsyth, MO. “That will help eliminate chaos and confusion during a real emergency, and could ultimately save lives.”

Using Local Resources

Whether fighting a fire, cleaning up a toxic spill, or dealing with a medical problem, the employer also needs to consider what local resources are available and may be necessary to deal with an emergency. Does the local fire department know about your chemical processes? Are the emergency medical service personnel aware that your operations use organophosphate chemicals and that they may need to stock extra atropine? If an employer intends to rely on emergency response assets from the surrounding area, then these responders need to understand the employer’s operations fully.

An employer also may wish to include local responders in any drills or “mock disaster” scenarios. Many response agencies try to plan drills or mock disasters as training for their personnel and would welcome the opportunity to coordinate with employers to give such training “real world” applicability.

Emergency Action Plans: Three Companies' Approaches

These participants in OSHA’s Voluntary Protection Programs take protecting their workers’ safety and health very seriously and demonstrate it through their outstanding emergency action plans.

Identifying Hazards

When the Cargill North American Sweeteners in Blair, NE, was preparing its emergency action plan 4 years ago, the company considered hazards within its facilities—including ethynol, iso-hexane, sulfur dioxide, and dust. Safety and Security Team Leader Todd Friis says the “what-ifs” extended beyond the company’s property line, however, to include a nuclear power plant a mile to the south and a nearby wastewater treatment plant. “We knew that these facilities posed potential hazards, too, and tried to account for those

hazards in our plan,” Friis says. As a result, the three facilities established a direct telephone line to use to notify each other in the event of an emergency.

At the International Paper Company’s Quinnesec Mill on the Upper Peninsula of Michigan, the emergency action plan addresses three major hazards associated with the production of consumer pulp and finished printing grade paper. Loss Prevention Supervisor Rocky Schuster says these hazards are hydrogen sulfide gas, chlorine dioxide, and potential explosions in the chemical recovery boiler. In addition, each department within the company’s 10 buildings developed its own emergency action plan based on the hazards present, the physical arrangement of each building, and types of alarm systems used.



Dennis Johnson, right a supervisor at the National Enzyme Company, points out evacuation maps to new employee Maxine Crawford. Photo by Danny McKelvey



The International Paper Company's Quinnesec Mill posts highly visible signs to ensure workers know what to do in an emergency.

Alerting Employees

Some employees at the National Enzyme Company in Forsyth, MO, wear positive-airflow helmets that make it difficult for them to hear audible emergency alarms. For this reason, Schwartzkopf says the company recently installed new strobe lights that provide a visual alarm when the audible alarm sounds.

The International Paper Company's Quinnesec Mill also has an extensive alarm system in

its buildings to alert employees to an emergency. Schuster says the system includes a flashing, rotating beacon, lighted directional signs that direct employees to the appropriate evacuation route, and audible alarms that emit three different sounds. One tone notifies workers of a potential explosion in the boiler area, and the other two tones identify potential hydrogen sulfide gas or chlorine dioxide hazards.

Training Employees

At the National Enzyme Company, employees participate in monthly safety meetings and an annual review of the emergency action plan. In addition, managers take all new employees on a facility "walkthrough" to show them the evacuation route, exits, and the location of the fire extinguishers and tornado shelters. Schwartzkopf says new employees must sign a statement verifying that they have seen where the Material Safety Data Sheets are kept and understand that they have access to them. They also must verify that they know where the fire extinguishers are and how to use them.

Schwartzkopf says management stresses, however, that employees should use the fire extinguishers only if necessary to exit the building, not to fight the fire. In addition, employees whose jobs take them between different buildings during the workday receive a safety orientation for each building in which they work. "This ensures that everyone understands what to do during an emergency," says Schwartzkopf. "And at the same time, it demonstrates to employees that we are a safe work environment and put a high premium on their safety."

Similarly, the Cargill North American Sweeteners' plan requires supervisors to review the plan annually with employees, who must participate in at least one evacuation drill each year. When preparing its plan, the company also prepared a condensed version of the full plan, known as the "red book." Copies of the book, which provides a quick reference in the event of an emergency, are placed throughout the facility, and each shift leader has a personal copy. "The bottom line is to protect our workers, our assets, and our resources," Friis says, "while keeping the community informed in the event of an emergency so others are not harmed."

Similarly, the International Paper Company's Quinnesec Mill conducts regular evacuation drills to ensure that employees know what to do and where to go in an emergency. After each drill, employees and management alike discuss how the evacuation went. "We're always looking for areas where we need to improve," says Schuster. *JSHQ*

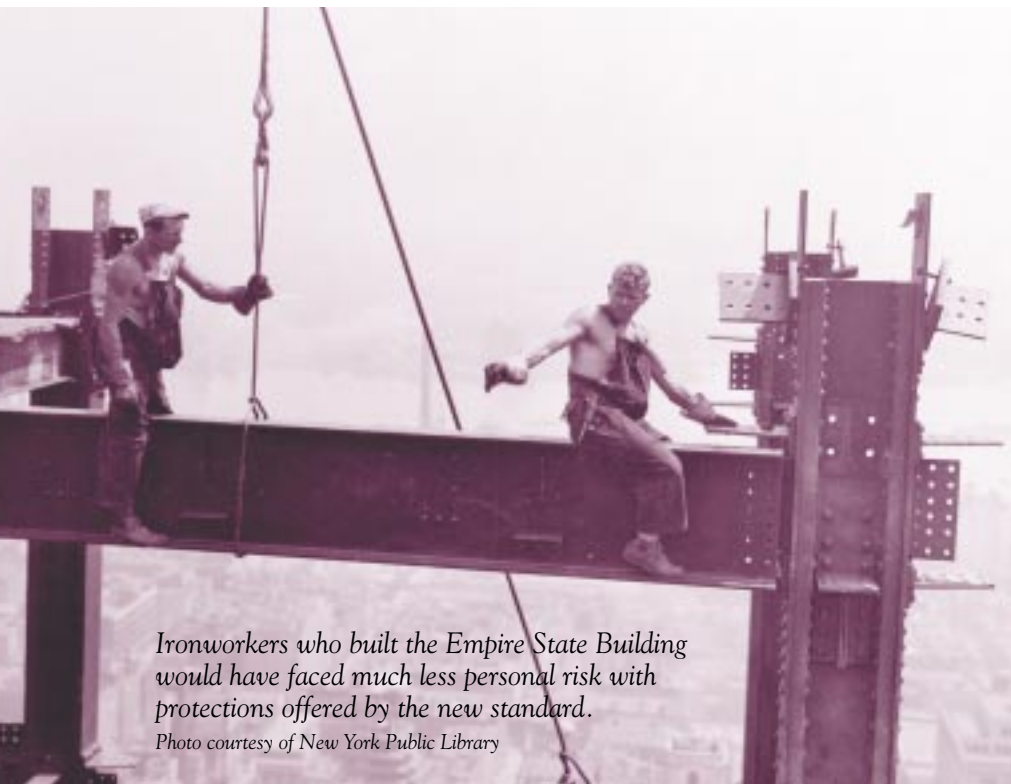


The International Paper Company's Quinnesec Mill has its own emergency response teams onsite.

Protecting Ironworkers

OSHA's new steel erection standard is expected to go a long way toward saving lives and preventing injuries.

by Frank Meilinger



Ironworkers who built the Empire State Building would have faced much less personal risk with protections offered by the new standard.

Photo courtesy of New York Public Library

Remember those startling pictures of workers casually walking along beams or unguardedly connecting giant steel girders hundreds of feet above the ground as they erected the world-famous Empire State Building? What many of us do not know is that five men perished during construction of the 102-story landmark.

Although we certainly have come a long way in worker safety since this architectural and engineering treasure was completed 70 years ago, the nation's 57,000 ironworkers continue to face risks of serious injury or death. Every year an average of 35 ironworkers die during steel erection activities and 2,300 more suffer lost-work-day injuries.

OSHA's new steel erection standard, which becomes effective January 18, 2002, will help make America's ironworkers safer than ever. The new standard is expected to prevent 30 fatalities and 1,142 injuries annually and, as a result, save employers nearly \$40 million a year.

The rule is one of the first OSHA standards developed under the *Negotiated Rulemaking Act of 1990* and the Department of Labor's negotiated rulemaking policy. With negotiated rulemaking, a committee composed of representatives from interested parties potentially affected by the rule develops a proposed standard. OSHA then publishes the proposal, holds public hearings, and receives written information from the public. After reviewing all available evidence, OSHA issues a final standard.

Members of the Steel Erection Negotiated Rulemaking Advisory Committee (SENAC) developed the steel erection rule. The committee, established in May 1994, included representatives from organized labor, industry, public interests, and government. The parties worked out contrasting positions and sought common ground through face-to-face discussions. By airing disputed issues early in the rulemaking process, the committee helped to develop a better rule that employers are more likely to comply with—reducing the need for enforcement and litigation activities.

The new standard protects all workers engaged in steel erection activities. It does not, however, cover workers on electric transmission towers, communications towers, broadcast towers, water towers, or tanks.

The revised standard is part of OSHA's ongoing commitment to keep workplace regulations current



OSHA's new steel erection standard will help protect 57,000 U.S. ironworkers, preventing some 30 fatalities and 1,142 injuries a year.

Photo by Michael Carpenter

with evolving work practices and ensure that all workers are protected from the hazards posed by newer working conditions and technologies. OSHA's new requirements close gaps in current coverage, strengthen many existing specifications, and promote compliance by clarifying and consolidating current requirements.

The steel erection standard places special emphasis on the most serious hazards workers encounter during the steel erection process. These include hazards associated with working under loads; hoisting, landing, and placing decking; column stability; double connections; landing and placing steel joints; and falls to lower levels.

The standard's focus on these significant hazards will prevent

many of the unnecessary injuries and fatalities that occur in the industry each year. For instance, a worker died in 1999 when he stepped into a 3-foot-square skylight hole and fell to the ground below. OSHA's new requirements for covering roof and floor openings might have prevented this accident. Covers for roof and floor openings must meet the following requirements:

- be capable of supporting twice the weight of the employees, equipment, and material;
- be secured when installed to prevent accidental displacement; and
- be painted with high-visibility paint or marked with the word "HOLE" or "COVER."

In another fatal incident, a worker fell more than 23 feet while walking on a steel rafter. He had finished bolting-up a steel purlin to the rafter and was walking back to get another purlin when he fell. Compliance with the new fall protection requirements could have prevented this accident. The final rule requires that, with some exceptions, employers provide fall protection equipment to workers engaged in steel erection on surfaces more than 15 feet above a lower level. This includes workers engaged in bolt-up activities.

According to Noah Connell, director of OSHA's Office of Construction Standards and Compliance Assistance, special provisions in the new standard concentrate on ensuring structural integrity.

"These buildings are strong once they're completed but are very precarious while they are being erected," explains Connell. "A number of these provisions are specifically designed to improve the structural stability during the construction process to prevent the buildings from collapsing or falling."

New structural stability provisions include requirements for installing four instead of two anchor bolts to prevent "hinging down;" mandatory testing of concrete for curing before steel columns can go up; installing "seats" or other devices for double connections; and informing ironworkers of modifications and repairs to anchor bolts.

In July, OSHA announced that the final steel erection standard will go into effect January 18, 2002, exactly 6 months later than the original effective date. The delay is designed to give the industry additional time to become familiar with the new requirements and provide training to employees in the construction industry. OSHA also is preparing material to assist the industry in the training process.

The 6-month delay also allows employers time to make the necessary changes to avoid costly refabrication of already-made components and avoid long delays to projects that would affect all trades involved in the construction process. Components are typically fabricated 2 or 3 months before erection.

OSHA will not apply the component requirements of the new standard to the following two situations:

- components used in steel erection projects where the building permit was obtained before January 18, 2001, when the *Federal Register* published the final rule; and
- components used in steel erection projects in which the steel

erection work began before September 16, 2001.

OSHA estimates that the final rule will save employers in the steel erection industry nearly \$40 million a year in costs associated with lost-workday injuries, such as lost

productivity, medical expenses, and insurance costs. Additional cost savings associated with avoided third-party liability claims and other legal remedies that offer relief from economic and personal loss are expected to be substantial.

To learn more about the steel erection standard, visit OSHA's website at www.osha.gov. [JSHQ](#)

Meilinger is a public affairs specialist in OSHA's Office of Public Affairs, Washington, DC.

Key Provisions of the Standard

Site Layout and Construction Sequence

- Requires certification of proper curing of concrete in footings, piers, and walls or the mortar in masonry piers and walls for steel columns.
- Requires the controlling contractor to provide the erector with a safe site layout, including preplanned routes for hoisting loads.

Site-Specific Erection Plan

- Requires preplanning of key erection elements, including, in certain circumstances, coordination with the controlling contractor before erection begins.

Hoisting and Rigging

- Provides additional crane safety for steel erection.
- Minimizes employee exposure to overhead loads through preplanning and work practice requirements.
- Prescribes proper procedure for multiple lifts, often referred to as "christmas-treeing."

Structural Steel Assembly

- Provides safer walking/working surfaces by eliminating tripping hazards and minimizes slips through new slip-resistance requirements.
- Provides specific work practices regarding safely landing deck bundles and promoting the prompt protection from fall hazards in interior openings.

Column Anchorage

- Requires four anchor bolts per column along with other column stability requirements.
- Requires procedures to ensure the adequacy of anchor bolts that have been modified in the field.

Beams and Columns

- Eliminates collapse hazards associated with making double connections at columns.

Open-Web Steel Joists

- Minimizes the likelihood of lightweight steel joists collapsing by addressing need for erection bridging and method of attachment.
- Requires bridging terminus anchors with illustrations and drawings in a non-mandatory appendix.
- Establishes new requirements to minimize collapse in placing loads on steel joists.

Systems-Engineered Metal Buildings

- Establishes requirements to minimize collapse in the erection of these specialized structures that account for a major portion of steel erection in this country.

Falling Object Protection

- Institutes performance provisions that address hazards of falling objects in steel erection.

Fall Protection

- Establishes controlled decking zone (CDZ) provisions to prevent decking fatalities.
- Protects deckers and connectors at heights greater than two stories or 30 feet. Connectors between 15 and 30 feet must wear fall arrest or restraint equipment and be able to be tied off or provided another means of fall protection. Deckers between 15 and 30 feet must be protected by fall protection equipment or work in a CDZ.
- Requires fall protection for all others engaged in steel erection at heights greater than 15 feet.

Training

- Requires a qualified person to train exposed workers in fall protection.
- Requires a qualified person to train exposed workers engaged in special, high-risk activities.

Work-Related Deaths Decrease

A new Bureau of Labor Statistics report reveals a continuing downward trend in workplace fatalities.

The Bureau of Labor Statistics recently announced that 139 fewer workers died on the job in 2000 than in 1999, continuing the downward trend in work

related deaths. The BLS's *Census of Fatal Occupational Injuries* reported 5,915 fatal work injuries in 2000, a decline of about 2 percent from the previous year.

“Even one workplace fatality is too many,” says U.S. Secretary of Labor Elaine L. Chao. “We’ve made a lot of progress, but this report points to where we need to do

More truck drivers died on the job in 2000 than did workers in any other occupation.



better. We want to promote compliance assistance and training to keep reducing workplace tragedies.”

Types of Incidents

Although highway crashes decreased by 9 percent in 2000 compared to 1999 numbers, they continued to be the leading cause of on-the-job fatalities, accounting for nearly one-quarter of workplace deaths. In other transportation incidents, fewer workers died in 2000 from being struck by vehicles or mobile equipment or in water vehicle accidents. More workers died in non-highway accidents involving tractors overturning, falling from and being struck by mobile equipment, or in aircraft and railway accidents.

Deaths from on-the-job falls increased slightly to 734 in 2000—the largest annual total recorded since BLS conducted the first fatality census in 1992. Falls to a lower level increased in 2000 and accounted for 659 of the fatal falls. Fatalities from falls from ladders and from nonmoving vehicles were both higher in 2000, although fatal falls from scaffolds, building girders, and roofs were down. Deaths from falls on the same level declined from 70 in 1999 to 56 last year.

Job-related homicides increased for the first time in 6 years, from 651 in 1999 to 677 in 2000. The total number of workplace homicides in 2000, however, was 37 percent lower than the high of 1,080 in 1994.

Fewer workers died by electrocution than in any year since the BLS conducted the first fatality census. Fatal injuries resulting from fires or explosions fell significantly in 2000 compared to 1999 numbers, to the lowest level since 1992. The number of workers



One of every three workers killed on the job during 2000 worked as operators, fabricators, or laborers.

killed through contact with objects or equipment also was down in 2000 from the previous year, but still accounted for nearly one of every six workplace fatalities.

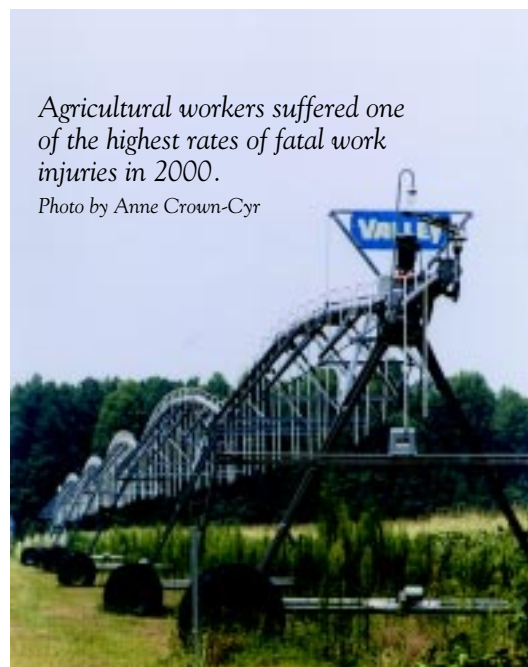
Profile by Industry

Rates of fatal work injuries in 2000 were highest in the mining, agriculture, construction, and

transportation industries. The mining industry recorded a rate of 30 fatalities per 100,000 workers in 2000, the highest of any industry and about 7 times the rate for all workers. The agricultural industry recorded the second-highest rate in 2000, 20.9 fatalities per 100,000 workers. Despite an increase in incidents in the services industry and retail trade, the rates for both these industries remained relatively low—2 and 2.7 per 100,000 workers, respectively.

Profile by Occupation

Operators, fabricators, and laborers recorded the most fatal work injuries of any occupational group in 2000, accounting for more than one of every three workers killed. Fatalities for this group, however, were down 4 percent from 1999, and fatal work injuries involving transportation and material-moving occupations were down 4 percent. Deaths within the service



Agricultural workers suffered one of the highest rates of fatal work injuries in 2000.

Photo by Anne Crown-Cyr

occupations were lower in 2000, despite an increase in fatalities among police and detectives. Fatal work injuries involving farming, forestry, and fishing occupations decreased 11 percent. Two other occupational groups—managerial and professional specialty occupations and technical, sales, and administrative support occupations—recorded increases in workplace fatalities in 2000.

More truck drivers died on the job than did workers in any other individual occupation, although the rate was down 5 percent in 2000 from the previous year. Fatalities among airplane pilots and navigators rose from 94 in 1999 to 130 in 2000—or 100.8 for every 100,000 workers. Timber cutters exceeded this rate, at 122.1 per 100,000 workers; and fishers, at 108.3 per 100,000 workers.

Profile by Demographics

On average, about 16 workers died on the job each day during

2000. Two-hundred-fourteen incidents resulted in two or more worker deaths, down from the previous year. Collectively, these incidents resulted in 531 job-related deaths.

Fatal work injuries among white and black non-Hispanic workers dropped in 2000, but fatalities among Hispanic or Latino workers were up sharply, from 730 in 1999 to 815 in 2000. A 24-percent increase in construction fatalities involving Hispanic workers accounted for these incidents. Labor Department officials are reaching out to these workers through targeted partnership

programs in Florida and Texas and through training programs developed by grantees. “Our Department needs to do a better job of reaching out more to Hispanic workers and employers,” says Chao.

Fatalities among male workers were down nearly 3 percent, although fatalities to women increased slightly in 2000. Fatal occupational injuries to self-employed workers increased by 3 percent in 2000.

For more information or to read the full copy of the *Census of Fatal Occupational Injuries*, visit the BLS website at www.bls.gov. [JSHQ](#)

Fatalities among Hispanic workers were up sharply in 2000, particularly among construction workers.

**Football is a game...
Your life is not.
Buckle up.**

— Jerome Bettis



Safety on the Farm

The harvest season is one of the busiest and most dangerous for agricultural workers.

by Dr. John Shutske

Heavy equipment contributes to the dangers of agricultural work.

Photo by Don Breneman

For many farmers, September, October, and November are among the busiest months of the year. Unfortunately, they are also among the most dangerous.

Despite progress in lowering agricultural fatality and injury rates, farming remains one of the United States' most deadly occupations. Bureau of Labor Statistics reports for 1999 show that in that year alone, 557 agricultural workers died and 72,800 others experienced injuries. The true numbers are even higher, because the BLS statistics do not include workers killed or injured on small family farms, or children killed or injured while working or playing on farm worksites.

Widespread use of powerful, fast, and unforgiving equipment such as combines, tractors, augers, and

trucks, coupled with long workdays and the rush to get crops out of the field, contributes to the risk. In addition, workers hired specifically for the harvest often lack the training, experience, and conditioning necessary to do the job safely.

During 15 years as an agricultural safety and health specialist working with farmers and rural communities, I have investigated far too many deaths and serious injuries. Most could have been prevented with precautions including these examples.

- **Provide warning of agricultural equipment on highways.** Make sure all machinery and trucks operated on the highway are lit and marked properly. Equip combines, tractors, and other implements with a slow-moving vehicle, or SMV, emblem. Use

flashing amber lights, reflectors, taillights, and headlights as required by local or state laws. A clean, unfaded SMV emblem in combination with flashing amber lights gives vehicles approaching from behind extra warning of a slow-moving vehicle ahead and as much as a football field in length of extra stopping distance.

- **Maintain and inspect equipment regularly.** Never operate equipment that is not in safe working condition. Inspect safety shields and replace or repair missing or broken guards. Inspect hydraulic and fuel lines for leaks or bad connections. Ensure that tension belts and chain drives are adjusted properly. Before the busy season begins, review the safety and

maintenance sections of the operator's manuals for all machines carefully. These manuals contain critical operational information that will help the equipment perform to its fullest potential while helping to ensure safety.

- **Operate equipment safely.** Avoid jewelry or loose-fitting clothing as well as unsecured long hair that can get entangled in machines with revolving parts. Adjust the seat so you can easily reach all controls and see all gauges and indicator lights. Use seat belts on vehicles that have them. Be sure everyone is at a safe distance before starting the equipment. If the machine jams or plugs, turn off all rotating mechanisms and engine power before making any adjustments. Remove the key or find other ways to lock out power before climbing into a potentially dangerous area. Never leave a machine running unattended. Steer clear of unshielded moving parts such as snapping or



Training workers in the hazards associated with farm work can help reduce injuries.

husking rolls, straw spreaders and choppers, cutterbars, discs, and field rolls. Never permit riders on moving equipment such as tractors and forklifts.

- **Make sure all farm workers are trained to perform their jobs safely and effectively.** Every machine operator should be familiar with the operator's manuals, machine controls, maintenance practices, warning labels, and emergency procedures. Tragic

injuries often happen shortly after a critical machine breakdown or malfunction.

- **Train workers in chemical hazard communication.** Make sure all workers receive instruction on the chemical hazards they are exposed to and understand the information. Also ensure that workers know how to protect themselves, including what type of personal protective equipment or respiratory protection they might need. Distribute or post material safety data sheets for all employees to read and label all chemical containers appropriately.
- **Beware of grain "drowning."** Flowing grain behaves much like quicksand. It can pull you in and suffocate you within seconds. Shut off all unloading equipment, automatic unloading circuits, and other devices before entering a grain bin. Work in pairs. Follow other procedures for safe entry into confined spaces.
- **Protect yourself from back injuries.** Many common farm tasks involve a lot of heavy lifting, which, if performed incorrectly, puts unnecessary strain on your back and surrounding muscles. If possible, adjust your work



Despite its peaceful appearance, farming is one of the country's most deadly occupations. Photo by Anne Crown-Cyr

Other Agricultural Hazards

Agricultural workers confront a wide range of hazards throughout the year. Among them are chemical pesticides and fertilizers used in the fields and toxic gases that build up in poultry and swine barns, manure pits, and silos. Slips, trips, and falls also are common hazards in these areas. Many agricultural workers are injured or killed by overturned vehicles or from being run over by or thrown from equipment. Livestock handling poses additional risks, and

some workers receive injuries from being kicked or trampled. Agricultural operations also expose workers to ergonomic problems resulting from non-adjustable machinery seats or strenuous working postures and permanent hearing loss from working around excessive noise without hearing protection.

For more detailed information about safety and health issues in agricultural operations, visit the OSHA website at www.osha.gov.

practices to minimize the need to lift heavy objects. For example, automate heavy lifting tasks such as filling fertilizer boxes so you do not need to perform them manually. When you need to lift, position yourself correctly in front of the load and use both hands to draw the load toward your body. Lift with your

legs, not your back. In addition, be sure the seat on any equipment you use is adjusted properly.

- **Think about your body's needs.** Your body is not much different than the equipment you depend on. When you put your body under the strain of long days and hard work, it needs good fuel to

perform at peak efficiency. Make sure to get enough fruits, vegetables, whole grains, and lowfat meat and dairy products to provide you with some needed nutritional balance. Drink plenty of water to avoid dehydration and reduce the risk of heat stress.

- **Watch out for kids at all times.** As you move agricultural equipment around in the yard, shed, or from field to field, beware of children who may be playing in the area. Discuss the dangers of farm equipment with them, and put work areas off limits to them. In addition, ensure that any young people who operate hazardous machinery are properly trained and supervised. Teenagers and young adults experience more workplace injuries in agricultural injuries than do their adult coworkers. [JSHQ](#)

Shutske is a safety and health specialist for the University of Minnesota Farm Safety and Health Program.



Inspecting farm equipment before use and training workers to operate it safely can help save lives. Photo by Don Breneman

Farm Safety: OSHA's Role

by Helen Rogers

OSHA has only a few standards that apply specifically to employers engaged in agricultural operations that involve the growing and harvesting of crops, plants, vines, livestock, and livestock products. These standards require the following:

- Field sanitation services including toilets and hand-washing facilities and potable drinking water for employees;
- Rollover protection structures, or ROPS, on tractors; and
- Guarding for moving machinery parts on farm field equipment, farmstead equipment, and cotton gins.

Other standards that apply to agricultural operations cover anhydrous ammonia storage and handling, logging operations, signs for slow-moving vehicles, cadmium, conditions at temporary labor camps, and retention of Department of Transportation marking, placards, and labels for hazardous materials received by the employer. In addition, the hazard communication standard requires employers to inform workers about all chemical hazards on the job. OSHA standards do not cover pesticides applied in the field, which are covered by the Environmental Protection Agency.

OSHA may, in certain situations, issue citations and propose penalties under the General Duty Clause of the *Occupational Safety and Health Act*. In these cases, OSHA must show that an employee is exposed to a serious hazard, one likely to cause death or serious bodily harm. The agency also must show that the employer

or industry recognizes the existence of the hazard and that there is a feasible means of correcting it.

Since 1997, enforcement for the two most frequently used standards in the agricultural sector—those covering field sanitation and temporary labor camps—has been the responsibility of the Employment Standards Administration's Wage and Hour Division. The Secretary of Labor transferred enforcement authority to benefit farm workers, because the Wage and Hour Division has a larger enforcement presence in agriculture because of its activities under other labor laws, including the *Migrant and Seasonal Agricultural Worker Protection Act*. OSHA, however, retained enforcement authority of the temporary labor camp standard in egg, poultry, and red meat production establishments, as well as for all post-harvesting processes. Activities that take place after harvesting, including poultry and red meat slaughterhouses, processing, packaging, and warehousing, are considered general industry operations. OSHA's general industry standards cover these activities.

For more than 24 years, OSHA has been directed by Congress in its annual appropriations bill to limit activities on small farms. For this reason, OSHA does not engage in any activity on farms with 10 or fewer employees if the farms had no temporary labor camp within the past 12 months. **JSHQ**

Rogers is a safety specialist in OSHA's Directorate of Compliance Programs.

Agricultural Safety in OSHA State Plans

by Carol Sanford

Agricultural safety and health programs in the 26 states and territories with OSHA-approved safety and health plans must be at least as effective as the federal program, but they are not necessarily identical to it. Ten states have agricultural standards that differ from or go beyond federal OSHA's standards. For example, seven states have a different field sanitation standard, four states have an independent standard banning the use of short-handled hoes, and three states have a different temporary labor camps standard.

California, Oregon, and Washington have the most extensive agricultural standards. In addition, these states apply general industry standards to agriculture.

Thirteen states and Puerto Rico retain enforcement authority for field sanitation and temporary labor camps. These states are Arizona, California, Hawaii, Maryland, Michigan, Nevada, New Mexico, North Carolina, Oregon, Tennessee, Vermont, Virginia, and Washington.

Unlike Federal OSHA, some states with OSHA-approved state plans enforce standards on farms with 10 or fewer employees. These states use only state funds to support their enforcement efforts and focus on farms with the highest injury and illness rates. In addition, a few states, including Oregon, Washington, and North Carolina, exercise authority over farm worker exposure to pesticides, together with other state agencies.

Here are examples of agricultural safety and health initiatives



The North Carolina Department of Labor's Agricultural Safety and Health Initiative uses billboards to promote safety and rural roadways.

Photo by Vanya C. Jones



The Oregon legislature allocated \$1 million to improve agricultural worker housing in the state.

Photo by Trudi A. Tyler



Washington has increased enforcement activity and strengthened temporary labor camp standards.

Photo courtesy of Washington Department of Labor & Industries

designed to protect workers in three states with OSHA-approved plans:

- Oregon provides tax breaks to growers and community groups that construct, rehabilitate, or

install temporary labor camps for farm workers. Growers providing housing also may qualify for tax exemptions from the state. Oregon also administers a

state-funded inspection exemption program for agricultural employers with 10 or fewer permanent, year-round employees who participate in consultation and training activities.

- Washington has improved housing for cherry harvest workers by renting large military-style tents to growers and by setting up mobile community-based camps. The state also provides loans to growers to improve labor camp conditions, including wells; has strengthened its temporary labor camp standards; and increased enforcement in orchards.
- California's Agricultural Safety and Health Inspection Project, established in 1999, is designed to reduce fatalities and serious injuries by 15 percent by 2003. As a 5-month pilot project in 1999, inspections doubled to 505, while violations cited and penalties imposed tripled—and injuries and illnesses in agriculture declined by 27 percent from 1998. The state increased agricultural inspections to 1,128 in Fiscal Year 2000, up 9 percent from 1999.
- North Carolina's Gold Star Growers Program recognizes growers with registered migrant camps in 100-percent compliance with state OSHA standards for 2 years. A Gold Star Flag Program provides a flag and special recognition to growers in 100-percent compliance with all safety and health standards pertaining to agriculture, and with no injuries or accidents for 2 years. All Gold Star Growers receive a certificate and may conduct their own pre-occupancy inspection for 1 year. **JSHQ**

Stanford is a program analyst in OSHA's Office of State Programs.

Showcasing OSHA's Best and Brightest

The Glen Williamson Forum memorializes an OSHA leader while inspiring other industrial hygienists to follow in his footsteps.

by Donna Miles



OSHA participants in the forum were: back row, from left: Richard Fairfax, David Banas, Daniel Corcoran, Jim Critopoulos, Kevin Kolesa, Carolyn Wilson-Smith, and Keith Motley; front row, from left: Cindy Coe; Leigh Jackson, George Yoksas, Michael Wacker, Janet Barker, and Michael O'Sullivan.

Nearly 500 attendees recently packed into an auditorium at the American Industrial Hygiene Conference and Exposition in New Orleans to hear about "OSHA's Most Interesting Health Cases for 1998 through 2000."

The third annual Glen Williamson Forum featured what coordinator Cindy Coe, OSHA's Regional Administrator in Atlanta, calls "OSHA's best and brightest" sharing details about their most unusual or significant cases. "Our goal today is to give you some insight into how we operate in the field," Coe told the gathering of industrial hygienists, many unfamiliar with OSHA's operations. "We want you to understand what brings us into a workplace and what OSHA industrial hygienists do to assess workplace hazards.

"But most importantly, we are going to show you the solutions that employers implemented as a result of our intervention to control the hazards," Coe said. "It has made these workplaces much safer and more healthful than when we first found them."

The 10 presenters from OSHA offices throughout the country did not approach the podium unprepared. Each worked closely with one of three OSHA mentors: Coe; Rich Fairfax, head of the Directorate of Compliance Programs; and Keith Motley, Deputy Director of the Salt Lake Technical Center, to polish their presentations. "This is great professional development for the presenters," says Fairfax. "It gives them an opportunity to speak before a group to discuss a problem they found: what happened, what they cited, and how it was abated."

Another benefit of the annual forum, Fairfax says, is that it helps dispel misconceptions about OSHA's industrial hygienists. "It shows that we're not a bunch of

stormtroopers,” he says. “We’re out there making a real difference in workers’ lives.”

“A lot of employers and employees benefit from OSHA,” agrees Motley. “This forum gives us a chance to share some of our most interesting and valuable success stories.”

Coe says the forum demonstrates the “solid industrial hygiene work” OSHA’s industrial hygienists perform every day in a wide range of situations. Dean Wingo, Director of the Fort Worth Area Office, who counted Williamson as both a mentor and close friend, says the material presented at the forum would have made Williamson proud. “He would be bursting his buttons over the good work we’re doing,” Wingo says.

This Year’s Presentations

David Banas
Assistant Area Director
Calumet City Area Office, IL

Two painting subcontractor employees became exposed to high-level radiofrequency radiation (RF) while painting and weatherproofing two towers on top of the Sears Tower in Chicago. A broadcasting station had continued to broadcast from an antenna on one of the towers rather than switching to an alternate antenna, and the employees, working at approximately 1,600 feet above grade level, momentarily became part of the actual antenna circuit. One employee wearing steel-toed shoes received severe leg burns.

During his presentation, Banas discussed the OSHA assessment, which included an evaluation of personal protective equipment, exposure monitoring, and work practice measures, as well as the hazards associated with



David Banas’ work centered around high-level radiofrequency radiation.

radiofrequency radiation and effective protection.

Banas says the incident helped promote awareness about the dangers of radiofrequency radiation. The owner of the company that regulates employee exposure to RF on the Sears Tower wrote an article about the incident for a national broadcast magazine. This drew national attention to the importance of recognizing RF safety hazards, using proper personal protective equipment, and contacting and working with the local OSHA office.

Dimitrios “Jim” Critopoulos
Safety Engineer
Mobile Area Office, AL

Due to an unexpected power loss at a chemical manufacturing facility, sodium hydrosulfite inside a dryer decomposed, creating high levels of sulfur dioxide. The toxic gas leaked into a nearby control room through a hole in the duct work for the positive-pressure air-conditioning system. Not realizing that the gas had contaminated the control room, two employees entered it and removed their self-contained breathing apparatus. One employee died instantly and another suffered permanent brain damage.

During his presentation, Critopoulos reviewed his evaluation of the situation and steps the

employer took to prevent any recurrence. This included installing a backup power system on the dryers and a new deluge system on the dryers to flood the area in the event of decomposition, stopping the process. The employer also offered employees training in accordance with OSHA’s Hazardous Waste Operations and Emergency Response standard. Critopoulos called the opportunity to participate in the forum “an honor” and said he found gratification in sharing information about protections from decomposition hazards that could save other workers’ lives.

Michael O’Sullivan
Industrial Hygienist
Albany Area Office, NY

An employee at a coatings manufacturing company was manually dumping 50-pound bags of ball clay into a mixer to create coatings that contained 30 percent crystalline silica. While inspecting the company as part of OSHA’s national emphasis program for silica, O’Sullivan took samples and found that the employee had a silica exposure at levels twice the permissible exposure limit, or PEL. No engineering controls were in place, and the worker’s respiratory protection was ineffective. In response to OSHA’s findings, the employer devised an employee-assisted automated mixing process that reduced employee exposures to less than half the PEL.

During his presentation, O’Sullivan discussed control measures that can be effective in reducing exposures to silica in manufacturing operations.



Kevin Kolesa detected worker overexposures to methylene chloride.

George Yoksas
Area Director
Milwaukee Area Office, WI

OSHA received a referral from the Wisconsin State Health Department reporting high concentrations of mercury in employees at a mercury reclamation and recycling facility. Employees at the facility process fluorescent lamps, lab packs, medical waste, soil, and other materials. The employer's medical surveillance testing indicated that several employees had highly elevated urine mercury levels. Kenneth Lee, an industrial hygienist in the Milwaukee Area Office, took samples and found exposures above the PEL and employees working without the benefit of engineering or administrative controls. As a result of OSHA's intervention, the employer established new protocols, including improved medical surveillance. Lee's follow-up inspection indicated airborne mercury levels below the PEL and steadily reduced employee urine mercury levels.

During Yoksas' presentation, he discussed Lee's case, including operations that can produce high airborne mercury levels and medical surveillance that can detect and monitor exposures. He also discussed engineering, administrative, and work practice controls.

Kevin Kolesa
Industrial Hygienist
St. Louis Area Office, MO

Kolesa evaluated employee exposures in a family-owned business that manufactures tear gas and pepper spray mace. During the production process, employees dissolved the tear gas powder in process vessels by manually adding methylene chloride. After mixing, they add red pepper, pump the material into open canisters, cap the lids, and pressurize the containers with nitrogen. Because the area was not adequately ventilated, the employees used full-face respirators with dust cartridges. Kolesa's samples, however, indicated that their exposure to methylene chloride was above the PEL. In response, the employer immediately put employees in self-contained breathing apparatuses, and subsequently installed a local exhaust ventilation system. The employer also isolated the part of the process involving canister filling, reducing exposures below the PEL.

During his presentation, Kolesa discussed OSHA's methylene chloride standard as well as process controls to eliminate this and other serious hazards. He says he was gratified to play a role in protecting two employees from a hazardous situation, and felt that presenting his case in front of a large group of his peers at the Glen Williamson Forum built up his professional confidence.

Michael Wacker
Industrial Hygienist
Madison Area Office, WI

A small pharmaceutical establishment compounded hormone replacement therapy prescriptions from several steroid hormones: estradiol 17 beta, estone, estriol, progesterone, and testosterone.

Despite the lack of established PELs and minimal available information on safe work practices, Wacker took samples to evaluate exposure levels to the hormones. He made recommendations to the employer about engineering controls, personal protective equipment, training, and biological monitoring to protect employees.

During his presentation, Wacker discussed hazards involved in this fast-emerging industry and suggested steps that need to be taken to further develop sampling protocols and establish occupational exposure limits.

Janet Barker
Industrial Hygienist
Oklahoma City Area Office, OK

While sandblasting the interior of a water tower, employees had exposures to silica and lead. Barker also identified the problems with respiratory protection, hazard communication, hearing conservation, and scaffolding. As a result, the employer introduced appropriate personal protective equipment



Janet Barker identified a wide range of hazards associated with sandblasting a water tower.

and implemented work practice controls to reduce exposure levels and abate the other hazards.

During her presentation, Barker discussed hazards associated with the construction industry and appropriate controls. She says being selected to participate in the forum was a great honor, and she enjoyed being able to share her case, along with other OSHA industrial hygienists from OSHA. Barker says she was amazed at the variety of the cases presented, and enjoyed hearing about and learning from the other compliance officers' work.

Leigh Jackson
Industrial Hygienist
Mobile Area Office, AL

An environmental remediation company was removing residual grain and feed additives from silos in a former feed manufacturing mill. The site had been vacant for several years and the additives were in various stages of decay. The material inside the silos was not free-flowing as anticipated, so the employer broke it loose by introducing high-pressure water from the top and bottom of the silos. As the cleaning progressed, water and sludge accumulated in the building's basement. The addition of water and air to the bacteria in the decaying material accelerated the biological decomposition process, generating toxic gases. Two employees who entered the area died from exposure. OSHA sampling revealed the presence of methane- and hydrogen sulfide-producing bacteria in the water and sludge.

During her presentation, Jackson discussed provisions of OSHA's confined space entry standard and biological hazards that workers may encounter in environmental remediation and cleaning operations involving

organic matter. "This case was significant because it involved the creation of a permit-required confined space with a hazardous atmosphere and biological hazards," she says.

Carolyn Wilson Smith
Compliance Safety
and Health Officer
Jackson Area Office, MS

An employee at a synthetic rubber and adhesive manufacturing facility died from exposure to hydrogen sulfide while adding sodium hydrosulfide to magnesium chloride measuring tanks. Smith's evaluation revealed that the employee's respiratory protection and other personal protective equipment was deficient and that the employer had failed to address the hazards of non-routine tasks. In response, the employer modified the process to fully enclose the operation, preventing employee exposure.

During her presentation, Smith discussed hazards associated with mixing incompatible chemicals. She says participating in the forum "gave me an opportunity to share my work and experience with other health-related professionals."



Daniel Corcoran found employee overexposures to lead and cadmium.

Daniel Corcoran
Industrial Hygienist
Omaha Area Office, NE

Employees at a metals reclaiming facility extracted metals from zinc oxide dust contaminated with other metals. They dumped super-sacks of the dust into a hopper that had inadequate ventilation. Other sources of exposure included dust stirred up from unloading box cars with a skid steer, poorly covered dust conveyors, and both



The forum attracted a large crowd interested in hearing about OSHA's cases.

mechanical and manual dry-sweeping. Corcoran collected samples and found that employees had overexposures to both lead and cadmium. In response, the employer implemented a wet slurry system for conveying the zinc oxide dust and began purchasing as much of the raw material as possible in slurry form. In addition, the

employer installed a contained, automated dumping station, repaired the conveyor system, and retrofitted the sweeping machine to eliminate dry sweeping. Sample results following these actions indicated that exposures to lead and cadmium had fallen below the PEL.

During his presentation, Corcoran discussed how alternative

control procedures effectively eliminated a metal dust exposure hazard without the need for an elaborate ventilation system. He said he enjoyed the opportunity to present a success story to his professional peers and to meet, work with, and learn from his coworkers. *JSHQ*

Who Was Glen Williamson?

By all accounts, Dr. Glen R. Williamson was a legend within the occupational safety and health community. The 22-year OSHA veteran, who died suddenly at age 49 in 1997, had worked his way up through the ranks. He started his career as an industrial hygiene trainee in the Little Rock, AR, Area Office, served as Assistant Regional Administrator for Federal-State Operations in Dallas and as Area Director for the Little Rock Area Office, then returned to Dallas as Deputy Regional Administrator of the Regional Office. A certified industrial hygienist who earned his doctorate in industrial hygiene from the University of Oklahoma, he was called on to serve as Acting Director of Safety Standards and on a wide range of task forces for OSHA's national office, including OSHA's special outreach effort on bloodborne pathogens.

"He was the ultimate industrial hygienist," says Dean Wingo, Director of the Fort Worth Area Office. "He was very committed to occupational health and took great pride in what OSHA was



Dr. Glen R. Williamson was a highly respected OSHA leader.

doing to improve workplace safety."

John Miles, OSHA's Regional Administrator in Dallas, says Williamson brought enthusiasm, innovation, and leadership to his fellow industrial hygienists. "He was a go-getter with great new ideas and the energy to follow through with them," he says.

Gil Saulter, who retired in 1995 as OSHA's Regional Administrator in Dallas, says Williamson demanded excellence of himself and inspired it in others. "He was always raring to go," says Saulter. He added with a chuckle, "The only thing I had to do was put on the brakes every once in awhile and remind him that everybody

is not as driven as he was."

"Glen was the consummate professional," agrees Cindy Coe, OSHA's Regional Administrator in Atlanta and coordinator of the Glen Williamson Forum. "He was a great ally for workers everywhere. He was a wonderful mentor. And, he was a dear friend that I miss still.

"This forum represents everything that Glen stood for. He would be very proud." *JSHQ*



Tackling the E-World with E-Tools

OSHA offers employers expert safety and health assistance through a variety of e-Tools.

For employers faced with challenging workplace safety and health issues, help is just a click away. OSHA’s “e-Tools” are free and available confidentially, 24-7.

E-tools are software programs and compliance assistance tools that “walk” employers through challenging safety and health issues

and common problems to find the best solutions for their workplace. They can tap into the expertise of OSHA experts—epidemiologists, risk assessors, attorneys, and other safety and health professionals—to reduce workplace injuries and illnesses, save money, and understand complex OSHA standards. In some

cases, e-Tools can tailor responses to fit employers’ individual workplace needs.

OSHA created e-Tools with the help of trade associations, labor unions, local governments, and the public. Employers can use them online or download them to get the information they need.

E-Tools come in two user-friendly forms: Expert Advisors and Electronic Compliance Assistance Tools, known as e-CATs. In addition, a totally new generation of e-Tools coming soon will combine both decision tree logic software and graphics, giving users enhanced capabilities and the best of both worlds.

The Expert Advisors are interactive software programs that ask employers basic questions about their worksites and print out a detailed report based on their responses. These e-Tools can guide employers through complicated OSHA standards or help them identify potential hazards at their workplaces, based on their industry classification. Expert Advisors even can help employers calculate how much worker injuries and illnesses cost them each year. Expert Advisors cover a wide range of topics, including the following:

- Asbestos,
- Cadmium,
- Confined spaces,
- Fire safety,
- Hazard awareness,
- Lead,
- Lockout/tagout,
- Respiratory protection, and
- Workers' rights.

E-CATs take a different approach by providing detailed, illustrated information about common problems and practical solutions. Drawings, photos, text descriptions, and checklists help clarify complex issues and identify appropriate strategies to reduce hazards. Many e-CATs describe specific technologies used in different industries, and others cover more general issues. Employers and employees alike find e-CATs helpful in identifying workable solutions to their workplace problems.

Among topics e-CATs covers are the following:

- Baggage handling,
- Beverage delivery,
- Computer workstations,
- Construction,
- Grocery,
- Lockout/tagout,
- Logging,
- Nursing homes,
- Respiratory protection,
- Safety and health management,
- Scaffolding,
- Sewing,
- Silica, and
- Warehousing.

E-Tool users, particularly those with limited experience in safety and health issues or who do not have an industrial hygienist or safety professional on staff, praise the tools for providing reliable answers to their questions. Some say e-Tools alerted them to hazards they did not even know about—giving them an opportunity to fix them before a worker got hurt.

“I found [the OSHA Hazard Awareness Advisor] to be a high-quality, interactive, highly educational tool for self-guided hazard assessment,” reports Mark Montgomery, founder and CEO of Global Web Interactive Network LLC. “What an idea!” says Sue Koopman, health and safety trainer at Lawrence Livermore National Laboratory. “We are always looking for tools to help us be in compliance, and this tool would make consistent information available.” Steve Noble, manager for Photo Marketing Association International’s Environmental Activities, agrees. “This is exactly what I have been looking for to assist our members,” he says.

To access the e-Tools, visit the OSHA website at www.osha.gov. Click on the “e-Tools” box. **JSHQ**

OSHA's Outreach

OSHA recently launched a campaign to help get the word out to employers about e-Tools and promote their use in their workplaces. The campaign emphasizes the benefits of e-Tools: that they are free, completely confidential, and accessible 24 hours a day, 7 days a week.

A new brochure, *OSHA e-Tools Safety and Health Solutions*, describes expert advisors and e-CATs and explains how employers can use them to learn about and reduce workplace injuries and illnesses among their workers. OSHA has distributed the new brochure and a complimentary CD to various small business organizations.

“Our goal is to reach out to employers to make sure they know about e-Tools and put them to use in their workplaces,” says John L. Henshaw, Assistant Secretary for Occupational Safety and Health. “We want them to recognize the benefits e-Tools can provide in terms of fewer injuries and illnesses, cost savings, and increased productivity.” Visit OSHA’s website for more information on e-Tools.



OSHA distributed a sample e-Tools CD to various small business organizations.

\$10.6 Million for Training

OSHA awards the Susan Harwood Training Grants.

OSHA recently awarded \$10.6 million in Susan Harwood Training Grants to 61 nonprofit organizations for safety and health training programs. Grant monies were awarded for workers employed in high-risk activities or hazards and those affected by new or revised OSHA standards.

“These grants are a key part of OSHA’s safety and health partnership and compliance assistance programs with workers and employers that contribute to our overall safety and health mission,” says Secretary of Labor Elaine L. Chao.

The grants target safety and health training programs in construction; bloodborne pathogens; ergonomics; electrical power generation, transmission and distribution; and hard-to-reach workers. The five training topics are based on injuries and illnesses in selected industries identified in the OSHA Strategic Plan.

“Training supported by these grants takes a proactive approach in America’s workplaces, focusing on workers who are most at risk,” says OSHA Administrator John L. Henshaw.

OSHA selected 28 new grantees, including 15 that provide outreach to Hispanic workers, through

a national competition open to all nonprofit organizations. Recipients include five universities or colleges, four labor-management councils, five unions, four employer associations, and 10 other nonprofit organizations.

OSHA awarded the grants for 12 months. The average federal award is \$150,000. If first-year performance is satisfactory and funds are available, grants may be renewed for an additional year.

In addition, OSHA awarded \$4.7 million to renew 33 existing grants for another year. This includes \$3.3 million for 17 Institutional Competency Building Grants, which are intended to develop ongoing safety and health training and service programs that will continue after the grant period ends. Also included is \$1.4 million for 16 Strategic Planning Grants that assist nonprofit organizations in targeting specific hazards in construction, food processing, and nursing homes.

The training grants are named in honor of the late Susan Harwood, a former director of the Office of Risk Assessment in OSHA’s Health Standards Directorate. She helped develop standards to protect workers from a wide range of hazards. [JSHQ](#)

New Harwood Grantees

New recipients of the Harwood grants are the following: AFSCME Training and Education Institute; American Nurses Foundation; Joint Commission Resources, Inc.; Memorial Hermann Healthcare System; Rutgers, The State University of New Jersey; Associated Builders & Contractors, Inc., Central Texas Chapter; Building Trades Labor-Management Organization of Washington State; Construction Education Foundation; Labor-Management Construction Safety Alliance; Laborers’ Health & Safety Fund of North America; National Roofing Contractors Association; Roofers & Waterproofers Research & Education Joint Trust Fund; Safety & Health for Industrial Education & Labor Development; Western Iowa Tech Community College; Construction Safety Council; Northwest Public Power Association; Utility Workers Union of America, AFL-CIO; Arnot Ogden Medical Center; Communication Workers of America; International Brotherhood of Teamsters; Pennsylvania Foundry Association; St. Louis University; Forest Industry Safety and Health Training Alliance Inc.; Kirkwood Community College; National Safety Council; Retail, Wholesale & Department Store Union; Southeast Michigan Coalition on Occupational Safety & Health; and Texas Engineering Extension Service.

For a list of current grantees that received a 1-year extension, see the OSHA website at www.osha.gov.

201A Hazardous Materials

Shortened version of course #201 introduces OSHA general industry standards as well as other consensus and proprietary standards related to hazardous materials.

Tuition: \$728

Dates: February 11-15

202 Advanced Accident Investigation

Provides advanced information on accident investigation techniques and methods with emphasis on various cause analysis techniques.

Tuition: \$560

Dates: January 8-11

207 Fire Protection and Life Safety

Addresses potential fire hazards, emergency operations, and applicable safety code references.

Tuition: \$1,064

Dates: January 10-18

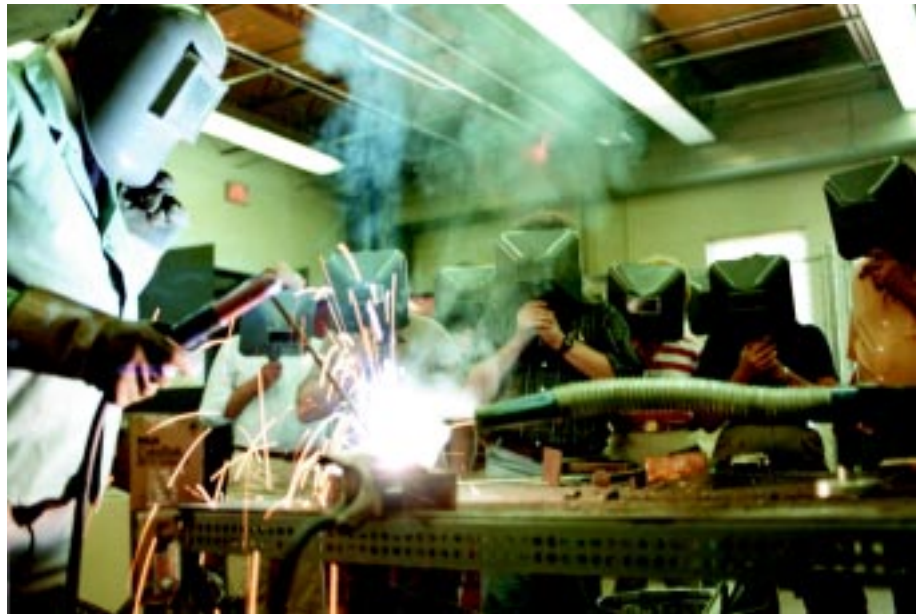
221 Principles of Industrial Ventilation

Covers use of industrial ventilation to control hazardous air contaminants and OSHA policy and standards.

Tuition: \$1,064

Dates: January 31-February 8

Course dates are subject to change. For more complete course descriptions or to register for courses or request a training catalog, call (847) 297-4913; visit www.osha.gov and click on Outreach; or write: OSHA Training Institute, 1555 Times Drive, Des Plaines, IL 60018.



Students in the OSHA Training Institute's Applied Welding Principles class learn safe work practices. Photo by Steve Zanos

245 Evaluation of Safety and Health Programs

Focuses on assessing safety and healthy programs, with emphasis on techniques to evaluate their thoroughness and effectiveness.

Tuition: \$560

Dates: February 12-15

301 Excavation, Trenching, and Soil Mechanics

Focuses on OSHA safety standards and the safety aspects of excavation and trenching.

Tuition: \$560

Dates: January 8-11

302 Tunneling and Underground Operations

Covers the safety and health aspects of underground operations and the related OSHA standards.

Tuition: \$504

Dates: January 29-February 1

309 Electrical Standards

Provides an indepth study of OSHA's electrical standards and the hazards associated with electrical installations and equipment.

Tuition: \$1,400

Dates: January 29-February 8

310 Applied Spray Finishing and Coating Principles

Identifies the hazards associated with spray finishing and coating operations with a review of industrial processes and applicable requirements and standards.

Tuition: \$560

Dates: February 26-March 1

322 Applied Welding Principles

Focuses on the processes and hazards associated with welding operations and OSHA requirements for general industry and construction.

Tuition: \$560

Dates: December 11-14

330A Safety and Health in the Chemical Processing Industries

Shortened version of course #330 provides an overview of hazard recognition and control techniques within chemical processing industries.

Tuition: \$728

Dates: December 3-7

500 Trainer Course in Occupational Safety and Health Standards for the Construction Industry

Provides guidelines for private-sector personnel to teach the 10- and 30-hour construction safety and health course to their employees and interested groups. Graduates receive cards verifying their authorization to teach the construction course.

Tuition: \$728

Dates: February 4-8

502 Update for Construction Industry Outreach Trainers

Updates graduates of course #500 who are active trainers in the outreach program on OSHA construction standards, policies, and regulations.

Tuition: \$504

Dates: December 4-6

503 Update for General Industry Outreach Trainers

Updates graduates of course #501 who are active trainers in the outreach program in OSHA general industry standards and policies.

Tuition: \$504

Dates: December 18-20

OSHA Training Institute Education Centers

The OSHA Training Institute has a program for other institutions to conduct OSHA courses for the private sector and federal agencies. These include Eastern Michigan University/United Auto Workers, Ypsilanti, MI, (800) 932-8689; Georgia Technological Research Institute, Atlanta, GA, (800) 653-3629; Great Lakes OSHA Training Consortium, Minneapolis, MN, (800) 493-2060; Keene State College, Manchester, NH, (800) 449-6742; Metropolitan Community Colleges–Business and Technology Center, Kansas City, MO, (800) 841-7158; National Resource Center for OSHA Training, Washington, DC, (800) 367-6724; National Safety Education Center, DeKalb, IL, (800) 656-5317; Niagara County Community College, Lockport, NY, (800) 280-6742; Red Rocks Community College and Trinidad State Junior College, Lakewood, CO, (800) 933-8394; Texas Engineering Extension Service, Mesquite, TX, (800) 723-3811; University of California,

San Diego, (800) 358-9206; and University of Washington, Seattle, (800) 326-7568.

For course lists and dates, tuition rates, and registration information, contact the individual institution or visit OSHA's website at www.osha.gov.



Niagara County Community College offers a wide range of OSHA courses in Lockport, NY. Photo by Janet Schultz



The National Safety Education Center offers OSHA training at Northern Illinois University's conference center in Rockford, IL. Photo by Joe Whinnery

Accident Report No. 39

Accident Summary

Accident Type	Asphyxiation
Weather	Warm
Type of Operation	Boring, Jacking
Crew Size	Six
Collective Bargaining	No
Competent Safety Monitor on Site?	No
Worksite Inspected Regularly?	No
Training and Education Provided?	No
Employee Job Title	Laborer
Age/Sex	23/Male
Experience at This Type of Work	1 Day
Time on Project	1 Hour



- Use suspended scaffolds that have the proper rated capacity and anchorage points. When using single-point suspended scaffolds, have the rigging designed by a qualified person and the chair seat reeved through four corners or reinforced by cleats. Train each employee in the proper use of scaffolds. [29 CFR 1926.451 (a) and (d), 1926.452(o), and 1926.454.

Sources of Help

- 29 CFR 1926 and 1910 cover various aspects of construction.
- OSHA-funded free onsite consultation services are available to help the small business employers identify and correct workplace hazards, and develop or improve an effective safety and health management system, or both. Contact the OSHA regional office in your area for additional information.
- For more information on this and other safety and health topics as well as OSHA standards and technical assistance, visit OSHA's website at www.osha.gov. [JSHQ](#)

Description of Accident

An employee sitting in a looped chain was lowered approximately 17 feet into a 21-foot-deep manhole. Twenty seconds later, he started gasping for air and fell from the chain seat face down into the accumulated water at the bottom of the manhole. An autopsy determined that oxygen deficiency was the cause of death.

Accident Prevention Recommendations

- Instruct employees to recognize and avoid unsafe conditions associated with their work environment [Title 29 Code of Federal Regulations (CFR) Part 1926.21 (b)(2)].
- Instruct employees on hazards involved in entering confined or enclosed spaces. Test the atmosphere for adequate oxygen and other toxic vapors and mists before entering and while working in the spaces. Monitor operations and be prepared for potential emergencies that require rescue operations. [29 CFR 1926.21 (b)(6)(i) and (b) (6)(ii)].
- Provide and require employees to use appropriate respiratory protection in dangerous or contaminated or potentially dangerous or contaminated atmospheres if engineering controls are not feasible. [29 CFR 1926.103 and 1910.134].

Detach Here

NOTE: The case described here is representative of fatalities caused by improper work practices. No special emphasis or priority is implied, nor is the case necessarily recent. The legal aspects of the incident have been resolved, and the case is now closed.

Noise Exposure: An Employer Turns to OSHA for Help

Office and Store Fixture Manufacturer

Concerned about high noise levels, an employer of 22 requested an OSHA onsite consultation to assess noise exposures for the 6 workers involved in spraying sinks with a protective coating.

Deficiencies Found

The consultant learned that after employees coat the products, they expose them to a vibration process to dissipate air bubbles in the coating. The vibrations created sound pressure levels of 96 to 101 decibels [dB(A)], as measured on the A scale of a standard sound level meter at a slow response.

Personal noise dosimeter readings at three workstations showed all three employees being exposed significantly above OSHA's permissible exposure limit of 90 dB(A) averaged over an 8-hour workday. No engineering controls were in place to reduce the noise exposure. Further, although some employees were wearing hearing protection devices, the company had not implemented an effective hearing conservation program.

Consultant's Analysis

The employer used a metal conveyor system throughout the facility to move parts from one area to another. The consultant determined that metal-to-metal contact between the office fixtures and metal conveyor rollers substantially boosted noise levels during the vibration process.

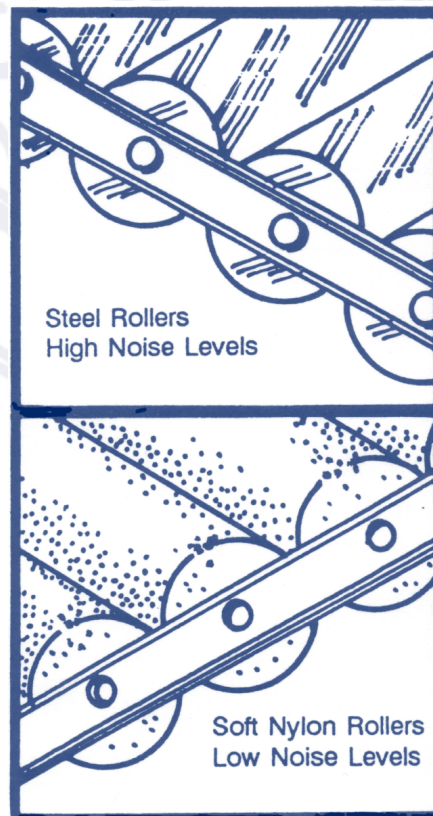
Consultant's Recommendations

The consultant recommended that the manufacturer take these steps to reduce noise levels in the facility:

- Replace metal rollers on the vibration conveyor with non-metallic rollers.
- Require hearing protection for employees exposed to noise levels at 90 dB(A) or more averaged over an 8-hour day.
- Establish and maintain an effective hearing conservation program for all employees exposed to noise at levels of 85 dB(A) or more averaged over an 8-hour day.

Results and Benefits

The company replaced all metal rollers on its conveyors with nylon rollers and substituted plastic parts for most other metal conveyor parts. As a result, the highest employee exposure the consultant measured during a followup visit was 82 dB(A) averaged over an 8-hour day, well below the OSHA limit. In addition, the employer implemented a continuing hearing conservation program as recommended. **JSHQ**



Detach Here

SafeWorks briefly summarizes the results of an employer's request for workplace safety and health assistance. Such assistance can help the employer identify and correct workplace hazards, develop or improve an effective safety and health management system, or both. Small business employers can receive this assistance, without cost, under a consultation program funded largely by OSHA and administered by state agencies and universities. Contact the OSHA regional office in your area for additional information on the consultation program, or visit the agency's website at www.osha.gov.