

JSHQ

JOB SAFETY & HEALTH QUARTERLY

Volume 10 Number 3
Spring 1999



**Working with
Scaffolds—Using
Them Properly to
Prevent Hazards**

U.S. Department of Labor
Alexis M. Herman, Secretary



Occupational Safety and Health Administration
Charles N. Jeffress, Assistant Secretary

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From the Editor...

“Blossom by blossom the spring begins” (A.C. Swinburne). Finally, it’s spring in Washington, DC, and the city is in full bloom.

Our cover story for this issue focuses on scaffolding in the construction industry—hazards and prevention. Falls from scaffolds are one of the top hazards in this industry. Our cover shows the Nation’s Washington Monument dressed up with scaffolding for its ongoing cleanup and repair.

We also take a look at the new proposed whistleblower legislation and on OSHA’s regional pilot in this area as well as OSHA’s outreach efforts for small businesses. Our story on health care details a special partnership to improve worker and patient safety and health in health care facilities.

Our regular *What’s Happening?* and *Mark Your Calendar* columns contain information on various activities, including publications, new VPP sites, and training and education. Our *Semiannual Agenda* updates the agency’s rulemaking schedule, and the *Toolbox* and *FatalFacts* identify specific scaffolding hazards and fatalities.

Enjoy the issue, and please take time to send us your ideas by completing our reader response card.

A handwritten signature in cursive script that reads 'Anne Crown-Cyr'.

Anne Crown-Cyr
Editor

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ASSISTANT SECRETARY



How do we achieve our goal of sending every worker home whole and healthy every day? One way is to increase our emphasis on helping small businesses. About 90 percent of U.S. businesses have fewer than 20 employees. Yet these employers face the same safety and health problems as large employers, and their workers suffer the same injuries and illnesses.

Small businesses are the backbone of American enterprise. They offer opportunity. They create jobs. They further the prosperity of our nation. And it is our job to help them protect their work force. We want to continue to reach out to small employers and offer our assistance.

Recently, we held OSHA's first small business forum to do just that. The forum gave small businesses and their representatives an opportunity to learn about OSHA training and education, consultation services, Voluntary Protection Programs (VPP), publications, and online products.

In May, during Small Business Week, we will reach out to smaller employers nationwide through a regional and local campaign to

inform small businesses about OSHA assistance. OSHA regional and area offices will hold seminars and conferences, where staff will be available to answer questions and explain agency programs. We'll also have a new small business web page on our website (www.osha.gov) for employers who have such access. This will link to information useful to small businesses seeking help protecting their employees.

We are continuing to develop traditional products and published materials for small businesses, including the popular *OSHA Handbook for Small Businesses*, the small business flyer, and new publications on personal protective equipment and woodworking. Our tried and true *Compliance Advisors* cover fire safety, asbestos, lead, hazard communication, and other topics. These electronic advisors help users understand how best to meet the requirements of a particular OSHA standard.

We also offer the personal touch. OSHA's small business liaison, Art DeCoursey, works with small businesses on a regular basis to address their specific concerns and issues about safety and health. And OSHA funds a staff of safety and health consultants in every state who provide free onsite assistance for small employers. Consultants will help find and fix potential hazards at the worksite, improve safety and health management systems, and perhaps help the business qualify for a 1-year exemption from a routine OSHA inspection.

One of our goals is to convince every business that establishing a safety and health program is in its best interest—both for employees and the bottom line. An effective safety and health program protects employees and can save from \$4

to \$6 for every dollar invested. Why? Because injuries and illnesses decline, workers' compensation costs go down, and medical costs decrease. There are other, less quantifiable benefits as well—reduced absenteeism, lower turnover, higher productivity, and improved employee morale.

We'd like to encourage more small businesses to join OSHA's Voluntary Protection Programs. VPP recognizes and promotes companies with exemplary safety and health programs. Several VPP participants have offered to mentor smaller businesses that want to achieve excellence in protecting their employees. OSHA's 500 VPP participants have injury rates nearly 60 percent below the averages for their industries, saving almost \$135 million annually.

In line with the Small Business Regulatory Enforcement Fairness Act (SBREFA), OSHA also is involving small business in the development of proposed rules that might have a significant impact on them. We have been working very hard to include small business participation in rulemaking efforts such as methylene chloride, ergonomics, and safety and health programs.

We are making progress in helping small businesses address workplace hazards. We invite you to discover this side of OSHA and to spread the word that help is available to all who ask.

A handwritten signature in black ink that reads "Charles Jeffress". The signature is fluid and cursive.

Charles Jeffress
Assistant Secretary
of Labor for Occupational
Safety and Health

Q & A

Q What are the details of OSHA's proposal specifying that employers pay for most personal protective equipment used by workers?

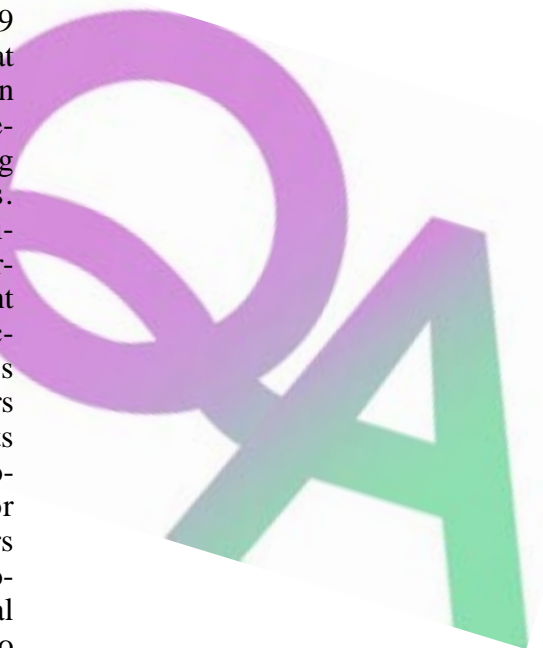
A The agency's proposal would codify existing OSHA interpretations that, with few exceptions, employers must pay for personal protective equipment when complying with OSHA standards covering workers in general industry, construction, marine terminals, shipyards, and longshoring. Under the plan, employers would have to pay for most personal protective equipment except safety-toe shoes, prescription safety eyewear, or boots required under OSHA's logging standard. Many OSHA standards require employers to provide employees with personal protective equipment. Some of the provisions, however, do not specify that the employer has to pay for the equipment.

OSHA's policy is that personal protective equipment is as much a hazard control measure as are engineering controls and administrative controls. Employers pay for engineering and administrative controls; therefore, employers must provide and pay for personal protective equipment, the agency believes. Also, employers are in the best position to know the types of protective equipment required and to maintain it. Workers may not always have the expertise to select the correct type of personal protective equipment, especially in situations where the use of personal protective equipment is complex such as in determining fall protection equipment and proper respiratory protection.



Q What steps has OSHA taken in certifying crane operators and why?

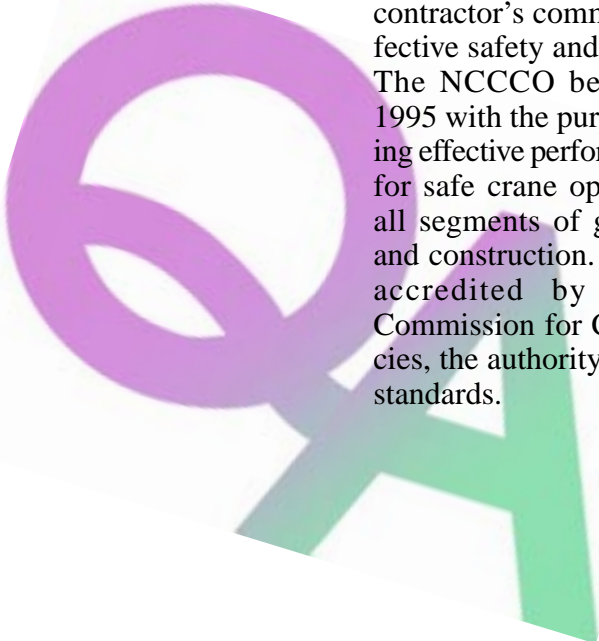
A The agency has an agreement with the National Commission for the Certification of Crane Operators (NCCCO) that workers trained under the NCCCO meet OSHA standards for operator proficiency. The March 1999 agreement marks the first time that OSHA has recognized certification by a private sector labor-management organization as meeting agency training requirements. It means that when OSHA compliance safety and health officers perform inspections or make accident investigations, the agency will recognize NCCCO certification as verification that the crane operators have met the training requirements in OSHA standards. It thus provides significant incentives for employers to have their operators qualified through the NCCCO program. There is currently no federal requirement for crane operators to be certified. The presence of NCCCO certified crane operators





QHow is OSHA faring in developing “plain language” standards?

AAll federal regulatory agencies are reviewing their regulations to determine if they are inconsistent, duplicative, outdated, or in need of being rewritten in plain language. OSHA is conducting line-by-line reviews of its standards and is noting those eligible for rewriting in plain language. Its first—the standard for dipping and coating operations—is now available. The rewritten dipping and coating operations standard—published in the *Federal Register* on March 23—is in a question-and-answer format designed to make it more understandable. The reworded standard does not impose any additional requirements on the employer, nor does it reduce the safety and health protection afforded to employees. Several other OSHA standards have been singled out for possible clear language revision, such as the workplace emergency route standard, the flammable/combustible liquids standard, and the spray booths standard. All future OSHA rules are to be written in plain language using straightforward and easy-to-understand terms. **JSHQ**



on a project will indicate the contractor’s commitment to an effective safety and health program. The NCCCO began in January 1995 with the purpose of developing effective performance standards for safe crane operation to assist all segments of general industry and construction. The program is accredited by the National Commission for Certifying Agencies, the authority for certification standards.

WHAT'S HAPPENING?

Publications

NIOSH

The National Institute for Occupational Safety and Health (NIOSH) publication on *The Effects of Workplace Hazards on Female Reproductive Health* (No. 99-104) addresses reproductive hazards for women in the workplace.

Hazard Control (HC 28) focuses on controlling chemical hazards during the application of artificial fingernails.

Hazard Control (HC 29) discusses control of nitrous oxide during cryosurgery.

To order a copy of these publications, contact NIOSH, Centers for Disease Control and Prevention, 200 Independence Avenue, S.W., Room 715H, Washington, DC 20201. To receive other information about occupational safety and health problems, call (800) 35-NIOSH, or visit the NIOSH Home Page at www.cdc.gov/niosh.

Conference

Montreal will be hosting the fourth International Conference on Occupational Health for Health Care Workers from September 28 to October 1, 1999, at the Bonaventure Hilton Hotel. Subjects will include infectious diseases, ergonomics, radiation and chemical exposures, latex allergies, reproductive hazards, psychosocial issues, violence in health care settings, home care, problems in developing countries, and monitoring occupational diseases and injuries. For more information, or to receive the preliminary conference program, please contact: 1999 Conference Secretariat, 5100 Sherbrooke Street East, Suite 950, Montreal (Québec) Canada H3V 3R9, Phone: (514) 253-6871; Fax: (514) 253-1443. See also website at www.asstsas.qc.ca/icoh1999/.

VPP Update

Star Program

New

- American REF-FUEL, Preston, CT
- Columbia Foods-Kraft, Columbia, MO
- Cyprus Miami's Copper Smelter, Refinery, and Rod Plant, Claypool, AR
- Exxon Chemical Co., Baton Rouge Plastics Plant, Baton Rouge, LA
- General Electric's Crescentville Road Site, Aviation Component Service Center, Cincinnati, OH
- General Electric's Edison Drive Facility, Aviation Component Service Center, Cincinnati, OH
- General Electric Medical Systems, Waukesha 300, Waukesha, WI
- General Electric's Symmes Road Facility, Aviation Component Service Center, Cincinnati, OH
- General Electric's Tennessee Avenue Facility, Aviation Component Service Center, Cincinnati, OH
- Georgia Pacific Corporation, Phillips, WI
- Halliburton Energy Services, Ft. Worth Manufacturing Center, Ft. Worth, TX
- International Paper's Arizona Chemical Plant, Springhill, LA
- Monsanto Company's G.D. Searle, Skokie, IL
- Platte River By-Products, Grand Island, NE
- Potlatch Corporation's Southern Division Ozan Unit, Prescott, AR
- Union Camp Corporation, Container Division, San Antonio, TX
- Union Camp Corporation, St. Louis, MO
- Union Camp, Opelika, AL

Continuing

- E.I. DuPont de Nemours & Company Incorporated
Circleville, OH
- General Electric Aircraft Engines Division
Peebles, OH
- Occidental Chemical Corporation's Convent Facility
Convent, LA
- Occidental Chemical Corporation's Ingleside Plant
Ingleside, TX
- Midas International, Huth Manufacturing
Hartford, WI
- Motorola, Land Mobile Products Sector ILOZ
Shaumburg, IL

Merit Program

New

- Moore Graphics Service, Albany, NY
- SGI Integrated Graphic Systems, Houston, TX
- Simplex Technologies, Inc., Portsmouth, NH
- Vickers, Incorporated, Searcy, AR

Years

15
3
7
7
3
3

Demonstration Program

New

- Black & Veatch Construction, Berkshire Power Project, Agawam, MA
- Black & Veatch Pritchard at Marathon-Ashland Petroleum LLC, Garyville, LA
- Harmony Construction Corporation at Occidental Chemical's Taft, Louisiana Plant, Baton Rouge, LA

Advancement Sites

- International Paper's Texas SuperTree Nursery, Bullard, TX, from *Merit* to *Star*

This brings the total participants to 415 sites in the Federal VPP; 342 in *Star*, 54 in *Merit*, and 19 in *Demonstration*.

For more information on OSHA's VPP, write the OSHA Directorate of Federal-State Operations, 200 Constitution Avenue, N.W., Room N-3700, Washington, DC 20210; or call (202) 693-2213. See also **Outreach** on OSHA's website at www.osha.gov. **JSHQ**

Opening Doors to Ability

The American challenge for the 21st century is to become a nation in which all citizens have the opportunity for full employment. The ability of a diverse work force provides the framework to meet this challenge. Persons with disabilities want to be a vital component of the diverse work force.

We must not overlook the abilities of the 54 million Americans with disabilities. By "opening doors to ability," employers gain the skills and talents of persons with disabilities.

For more information, contact the President's Committee on Employment of People with Disabilities, 1331 F Street, N.W., Washington, DC 20004-1107, or visit their website at www.pcepd.gov.



OSHA Training Institute Schedule

121 Introduction to Industrial Hygiene for Safety Personnel _____

Focuses on the general concepts of industrial hygiene, including the recognition of common health hazards such as air contaminants and noise, hazard evaluation through screening and sampling, and control methods for health hazards including ventilation and personal protective equipment.

Tuition: \$1,300

Dates: 08/10/99 - 08/20/99

201 Hazardous Materials _____

Covers OSHA general industry standards and consensus and proprietary standards relating to hazardous materials such as flammable and combustible liquids, compressed gases, LP-gases, and cryogenic liquids.

Tuition: \$1,300

Dates: 06/22/99 - 07/02/99

202 Advanced Accident Investigation _____

Provides advanced information on accident investigation techniques and methods. Includes a review of sources of evidence and developing facts, findings, and conclusions.

Tuition: \$520

Dates: 08/17/99 - 08/20/99

204 Machinery and Machine Guarding Standards _____

Focuses on the various types of common machinery and the related safety standards. Also includes hands-on-training in the laboratories.

Tuition: \$988

Dates: 07/29/99 - 08/06/99

205 Cranes and Rigging Safety for Construction _____

Describes various types of mobile and tower cranes used in construction operations and provides information on crane operations, inspection, and maintenance.

Tuition: \$520

Dates: 08/24/99 - 08/27/99

208 Cranes and Materials Handling for General Industry _____

Discusses overhead cranes, hoists, and powered industrial trucks used in general industry as well as overhead and crane inspection and maintenance procedures.

Tuition: \$520

Dates: 08/17/99 - 08/20/99

220 Industrial Noise _____

Deals with problems of occupational noise such as nature, hazards, evaluation, and control. Includes physics of sound, effects of noise, occupational noise standards, noise instrumentation and measurement, frequency analysis, and noise control techniques.

Tuition: \$988

Dates: 07/15/99 - 07/23/99

221 Principles of Industrial Ventilation _____

Describes the principles of industrial ventilation as a means of controlling hazardous air contaminants. Includes the classification of ventilation systems, fundamentals of airflow, makeup air, fans, air cleaners, ventilation system surveys, and OSHA policies and standards.

Tuition: \$988

Dates: 06/22/99 - 06/30/99

224 Laboratory Safety and Health

Focuses on hazards associated with laboratories and the control of these hazards. Includes laboratory safety code and standards, radiation hazards, biohazards, flammable and electrical hazards, incompatible chemicals, and health effects of chemicals.

Tuition: \$520

Dates: 06/22/99 - 06/25/99

225 Principles of Ergonomics Applied to Work-Related Musculoskeletal and Nerve Disorders

Provides an overview of ergonomic principles for the reduction of stresses and strains on the employee's body. Includes work physiology, vibration, anthropometry, cumulative trauma disorders, video display terminals, manual lifting, and temperature stress.

Tuition: \$520

Dates: 08/31/99 - 09/03/99

226 Permit-Required Confined Space Entry

Helps the student recognize, evaluate, prevent, and abate safety and health hazards associated with confined space entry. Focuses on specific requirements of Title 29 *Code of Federal Regulations*, Part 1910.146 (a) through (k).

Tuition: \$520

Dates: 08/03/99 - 08/06/99

234 Biohazards

Teaches safety professionals to evaluate biological hazards during occupational exposure. Focuses on work practices, personal protective equipment, control techniques, recognized pathogens, and current applicable OSHA standards.

Tuition: \$520

Dates: 07/27/99 - 07/30/99

245 Evaluation of Safety and Health Programs

Assesses safety and health programs, emphasizing techniques to evaluate the thoroughness of the programs and effectiveness of their implementation. The application of the OSHA safety and health program guidelines is supplemented by OSHA policy, related directives, and the current field manual.

Tuition: \$520

Dates: 06/08/99 - 06/11/99

301 Excavation, Trenching, and Soil Mechanics

Presents detailed information on OSHA standards and on the safety aspects of excavation and trenching. Introduces concepts such as practical soil mechanics and its relationship to the stability of shored and unshored slopes and walls of excavations.

Tuition: \$520

Dates: 08/17/99 - 08/20/99

305 OSHA Technical Update—Safety

Provides experienced safety and health compliance officers with current technical information on significant topics in the safety field as well as recent developments in physical, electrical, and fire explosion hazard identification and abatement methods.

Tuition: \$520

Dates: 08/03/99 - 08/06/99



309 Electrical Standards —

Provides an in-depth study of OSHA's electrical standards and hazards associated with electrical installations and equipment. Includes single- and three-phase systems, cord- and plug-connected and fixed equipment, grounding, ground-fault circuit interrupters, hazardous locations, and safety-related work practices.

Tuition: \$1,300

Dates: 06/08/99 - 06/18/99
08/24/99 - 09/03/99

311 Fall Arrest Systems —

Provides an overview of state-of-the-art technology for fall protection. Includes the principles of fall protection, the components of fall arrest systems, the limitations of fall arrest equipment, and OSHA policies regarding fall protection.

Tuition: \$520

Dates: 06/22/99 - 06/25/99

313 Safety and Health in the Chemical Processing Industries for Construction—

Focuses on the recognition, evaluation, and control of safety and health hazards in the chemical industry for construction related operations. Includes hazards of confined space, crane safety, scaffolding, electrical safety and classified locations, fall protection and use of suspended personnel platforms, and excavation and trenching.

Tuition: \$520

Dates: 07/20/99 - 07/22/99

328 Industrial Hygiene Chemistry —

Focuses on laboratory analysis of workplace contaminants. Discusses techniques, methods, and procedures used for analyzing industrial hygiene samples.

Tuition: \$520

Dates: 06/15/99 - 06/18/99



503 Update for General Industry Outreach Trainers —

Provides an update on OSHA general industry standards and OSHA policies.

Tuition: \$468

Dates: 08/09/99 - 08/11/99

510 Occupational Safety and Health Standards for the Construction Industry —

Covers OSHA policies, procedures, standards, and construction safety and health principles as well as the scope and application of the OSHA construction standards.

Tuition: \$676

Dates: 08/09/99 - 08/13/99

601 Occupational Safety and Health Course for Other Federal Agencies

Explains responsibilities for full-time federal agency safety and health officers or supervisors under Executive Order 12196 and 29 *CFR* 1960.

Tuition: \$1,378

Dates: 08/23/99 - 09/03/99

To register for courses or to obtain a training catalog, write the OSHA Training Institute, 1555 Times Drive, Des Plaines, IL 60018; or call (847) 297-4913. See also **Outreach, Training**, on OSHA's website at www.osha.gov.

335 Emergency Response to Hazardous Substance Releases

Increases knowledge of emergency response procedures for facilities that must meet the requirements of either 29 *CFR* 1910.120(q) or 29 *CFR* 1926(q). Includes elements of an emergency response plan, training requirements, the incident command system, medical surveillance, and post-emergency response.

Tuition: \$936

Dates: 07/27/99 - 07/30/99

502 Update for Construction and Industry Outreach Trainers

For personnel in the private sector who have completed course 500 and who are active trainers in the outreach program. Provides an update on such topics as OSHA construction standards, policies, and regulations.

Tuition: \$468

Dates: 06/15/99 - 06/17/99

08/31/99 - 09/02/99

OSHA Training Institute Education Centers

The OSHA Training Institute also has a program for other institutions to conduct OSHA courses for the private sector and other 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, St. Paul, MN, (800) 493-2060; Keene

State College, Manchester, NH, (800) 449-6742; Maple Woods OSHA Training Center, Kansas City, MO, (800) 841-7158; National Resource Center for OSHA Training, Washington, DC, (800) 367-6724; Niagara County Community College, Lockport, NY, (800) 280-6742; Red Rocks Community College and Trinidad State Junior College, Lakewood, CO, (800) 933-8394; The National

Safety Education Center, DeKalb, IL, (800) 656-5317; Texas Engineering Extension Service, Mesquite, TX, (800) 723-3811; University of California, San Diego, CA, (800) 358-9206; and University of Washington, Seattle, WA, (800) 326-7568.

For tuition rates and registration information, contact the institution offering the courses and see also OSHA's website.

201a Hazardous Materials

Location: Georgia Technological Research Institute	Dates: 08/23/99 - 08/27/99
Location: Keene State College	Dates: 08/30/99 - 09/03/99
Location: Maple Woods OSHA Training Center	Dates: 06/14/99 - 06/17/99
Location: Niagara County Community College	Dates: 06/28/99 - 07/01/99

204a Machinery and Machine Guarding Standards

Location: Eastern Michigan University-United Auto Workers	Dates: 08/02/99 - 08/06/99
Location: Keene State College	Dates: 07/19/99 - 07/23/99
Location: Maple Woods OSHA Training Center	Dates: 07/12/99 - 07/15/99
Location: Niagara County Community College	Dates: 07/19/99 - 07/22/99
Location: Red Rocks Community College-Trinidad State Junior College	Dates: 08/23/99 - 08/26/99
Location: University of Washington	Dates: 08/16/99 - 08/19/99

225 Principles of Ergonomics

Location: Great Lakes OSHA Training Consortium	Dates: 07/21/99 - 07/23/99
Location: Maple Woods OSHA Training Center	Dates: 07/19/99 - 07/22/99
Location: Niagara County Community College	Dates: 08/30/99 - 09/02/99
Location: Texas Engineering Extension Service	Dates: 08/09/99 - 08/12/99
Location: University of California San Diego	Dates: 06/14/99 - 06/17/99 08/16/99 - 08/19/99
Location: University of Washington	Dates: 06/02/99 - 06/04/99



226 Permit-Required Confined Space Entry

Location: Georgia Technological Research Institute	Dates: 06/14/99 - 06/17/99
Location: Keene State College	Dates: 06/21/99 - 06/25/99
Location: Maple Woods OSHA Training Center	Dates: 07/19/99 - 07/21/99
Location: National Resource Center for OSHA Training	Dates: 06/21/99 - 06/24/99 08/09/99 - 08/12/99
Location: Niagara County Community College	Dates: 07/26/99 - 07/29/99
Location: Red Rocks Community College-Trinidad State Junior College	Dates: 08/11/99 - 08/13/99
Location: The National Safety Education Center	Dates: 08/17/99 - 08/19/99 08/24/99 - 08/26/99
Location: Texas Engineering Extension Service	Dates: 06/01/99 - 06/03/99 07/19/99 - 07/21/99
Location: University of California San Diego	Dates: 06/14/99 - 06/16/99 08/09/99 - 08/11/99

309a Electrical Standards

Location: Maple Woods OSHA Training Center	Dates: 08/16/99 - 08/19/99
Location: Niagara County Community College	Dates: 08/02/99 - 08/05/99
Location: Red Rocks Community College-Trinidad State Junior College	Dates: 06/22/99 - 06/25/99
Location: University of California San Diego	Dates: 08/23/99 - 08/26/99

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

Location: Georgia Technological Research Institute	Dates: 07/19/99 - 07/23/99 08/16/99 - 08/20/99
Location: Keene State College	Dates: 06/07/99 - 06/11/99 08/09/99 - 08/13/99
Location: Maple Woods OSHA Training Center	Dates: 06/21/99 - 06/24/99 08/16/99 - 08/19/99
Location: National Resource Center for OSHA Training	Dates: 06/14/99 - 06/17/99 07/26/99 - 07/29/99 08/23/99 - 08/26/99
Location: Niagara County Community College	Dates: 07/12/99 - 07/15/99
Location: Red Rocks Community College	Dates: 07/12/99 - 07/15/99 08/02/99 - 08/05/99
Location: Texas Engineering Extension Service	Dates: 06/21/99 - 06/25/99 07/12/99 - 07/16/99 07/26/99 - 07/30/99 08/02/99 - 08/06/99



Location: Red Rocks Community College	Dates: 08/16/99 - 08/18/99
Location: Texas Engineering Extension Service	Dates: 07/12/99 - 07/14/99
Location: The National Safety Education Center	Dates: 08/24/99 - 08/27/99
Location: University of California San Diego	Dates: 07/19/99 - 07/21/99

503 Update for General Industry Outreach Trainers

Location: Eastern Michigan University-United Auto Workers	Dates: 06/22/99 - 06/24/99
Location: Georgia Technological Research Institute	Dates: 07/27/99 - 07/29/99
Location: Keene State College	Dates: 08/02/99 - 08/04/99
Location: Maple Woods OSHA Training Center	Dates: 06/28/99 - 07/01/99 08/23/99 - 08/25/99
Location: National Resource Center for OSHA Training	Dates: 08/02/99 - 08/04/99
Location: Niagara County Community College	Dates: 06/22/99 - 06/24/99 08/24/99 - 08/26/99
Location: Red Rocks Community College	Dates: 08/18/99 - 08/20/99
Location: Texas Engineering Extension Service	Dates: 06/21/99 - 06/23/99
Location: The National Safety Education Center	Dates: 07/19/99 - 07/21/99
Location: University of California San Diego	Dates: 07/14/99 - 07/16/99

510 Occupational Safety and Health Standards for the Construction Industry

Location: Keene State College	Dates: 08/23/99 - 08/27/99
Location: Maple Woods OSHA Training Center	Dates: 06/14/99 - 06/17/99
Location: Niagara County Community College	Dates: 06/14/99 - 06/17/99 08/16/99 - 08/19/99
Location: Red Rocks Community College	Dates: 06/28/99 - 07/01/99
Location: Texas Engineering Extension Service	Dates: 06/14/99 - 06/17/99

521 OSHA Guide to Industrial Hygiene

Location: Eastern Michigan University-United Auto Workers	Dates: 07/12/99 - 07/16/99
Location: Keene State College	Dates: 06/21/99 - 06/25/99
Location: National Resource Center for OSHA Training	Dates: 06/14/99 - 06/17/99 07/12/99 - 07/15/99
Location: Red Rocks Community College-Trinidad State Junior College	Dates: 07/26/99 - 07/29/99
Location: Texas Engineering Extension Service	Dates: 06/14/99 - 06/17/99 08/02/99 - 08/05/99
Location: University of Washington	Dates: 06/14/99 - 06/17/99

600 Collateral Duty Course for Other Federal Agencies

Location: Niagara County Community College	Dates: 06/28/99 - 07/01/99
Location: Red Rocks Community College-Trinidad State Junior College	Dates: 07/26/99 - 07/29/99
Location: University of California San Diego	Dates: 08/23/99 - 08/26/99
Location: University of Washington JSHQ	Dates: 07/12/99 - 07/15/99



The National Highway Traffic Safety Administration (NHTSA) warns that kids don't belong in the cargo areas of pickup trucks. A number of states already have laws or restrictions on carrying passengers in the cargo area of a pickup truck.

Trucks are becoming a popular form of transportation for family travel. Unfortunately, occupant protection inside the cab is limited by space, number of seat belts, and the fact that pickup trucks are not required to meet all passenger car safety standards. Space limitations often lead parents to allow children to ride in the cargo area.

Each year more than 200 people die as a result of riding in the cargo area of pickup trucks. More than half of these deaths are children and teenagers.

The Facts

- The cargo area of a pickup truck, with or without a canopy, has proven to be a source of injuries and death to children and adults. In addition to the possibility of being ejected, passengers riding in covered cargo beds are exposed to carbon monoxide from exhaust fumes.
- Ejection from the cargo area during a collision was the major cause of injury and death for pickup truck passengers.
- Most noncollision deaths were caused by falls due to swerving, braking, or rough roads. In one third of these cases, the victim was standing up, sitting on the tailgate, or "horsing around."

These safety tips from NHTSA are aimed at making your next ride in a pickup safer:

- Child safety seats must not be used on side-facing jump seats.

- Child safety seats must have at least 80 percent of the safety seat base on the bench seat. Installing a tether strap to the vehicle frame may prevent the safety seat from moving too far forward and the child from hitting his or her head on the front seat in a crash.
- A rear-facing child seat must never be secured in either the center or right front seat, if a pickup is equipped with a passenger air bag and does not have an air bag on-off switch.
- If there is no other seating available, children over one year of age must be properly secured in a forward-facing child restraint or vehicle lap and shoulder belt positioned as far back from the dashboard as possible.
- All children should ride in properly installed child safety seats or lap and shoulder belts appropriate for their size.

The National Highway Traffic Safety Administration (NHTSA) warns that kids don't belong in the cargo areas of pickup trucks. A number of states already have laws or restrictions on carrying passengers in the cargo area of a pickup truck.

Agenda

*Developed biannually, the agenda includes all regulations expected to be under development or review by the agency during that period. The following list is from the agenda as published in the **Federal Register**, April 1999.*

Prerules

Title and Regulation Identifier Number (RIN)*

Standards Advisory Committee on Metalworking Fluids

1218-AB58

Control of Hazardous Energy Sources (Lockout/Tagout)(Section 610 Review)

1218-AB59

Occupational Exposure to Ethylene Oxide (Section 610 Review)

1218-AB60

Fall Protection in the Construction Industry

1218-AB62

Process Safety Management of Highly Hazardous Chemicals

1218-AB63

Safety Standards for Scaffolds Used in the Construction Industry—Part II

1218-AB68

Grain Handling Facilities (Section 610 Review)

1218-AB73

Cotton Dust (Section 610 Review)

1218-AB74

Proposed Rules

Steel Erection (Part 1926) (Safety Protection for Ironworkers)

1218-AA65

Access and Egress in Shipyards (Part 1915, Subpart E) (Phase I)(Shipyards: Emergency Exits and Aisles)

1218-AA70

Prevention of Work-Related Musculoskeletal Disorders

1218-AB36

Safety and Health Programs (for General Industry and the Maritime Industry)

1218-AB41

Occupational Exposure to Hexavalent Chromium (Preventing Occupational Illness: Chromium)

1218-AB45

Confined Spaces in Construction (Part 1926): Preventing Suffocation/Explosions in Confined Spaces

1218-AB47

General Working Conditions for Shipyard Employment

1218-AB50

Fire Protection in Shipyard Employment (Part 1915, Subpart P)(Phase II) (Shipyards: Fire Safety)

1218-AB51

Permissible Exposure Limits (PELS) for Air Contaminants

1218-AB54

Nationally Recognized Testing Laboratories Programs: Fees

1218-AB57

Flammable and Combustible Liquids

1218-AB61

Revocation of Certification Records for Tests, Inspections, and Training

1218-AB65

Plain Language Revision of the Mechanical Power-Transmission Apparatus Standard

1218-AB66

Electric Power Transmission and Distribution; Electrical Protective Equipment in the Construction Industry

1218-AB67

Safety and Health Program for Construction

1218-AB69

register

Requirement to Pay for Personal Protective Equipment
1218-AB77

Consolidation of Records Maintenance Requirements in OSHA Standards
1218-AB78

Consultation Agreements
1218-AB79

Final Rules

Respiratory Protection (Proper Use of Modern Respirators)
1218-AA05

Scaffolds in Shipyards (Part 1915—Subpart N) (Phase I)
1218-AA68

Recording and Reporting Occupational Injuries and Illnesses (Simplified Injury/Illness) Record-keeping Requirements)
1218-AB24

Plain Language Revision of Existing Standards (Phase I)
1218-AB55

Long-Term Actions

Longshoring and Marine Terminals (Parts 1917 and 1918)—Reopening of the Record (Vertical Tandem Lifts (VTLs))
1218-AA56

Glycol Ethers: 2-Methoxyethanol, 2-Ethoxyethanol, and Their Acetates: Protecting Reproductive Health
1218-AA84

Accreditation of Training Programs for Hazardous Waste Operations (Part 1910)
1218-AB27

Indoor Air Quality in the Workplace
1218-AB37

Occupational Exposure to Tuberculosis
1218-AB46

Fire Brigades
1218-AB64

Occupational Exposure to Crystalline Silica
1218-AB70

Control of Hazardous Energy (Lockout) in Construction (Part 1926)(Preventing Construction Injuries/Fatalities; Lockout)
1218-AB71

Occupational Exposure to Beryllium
1218-AB76

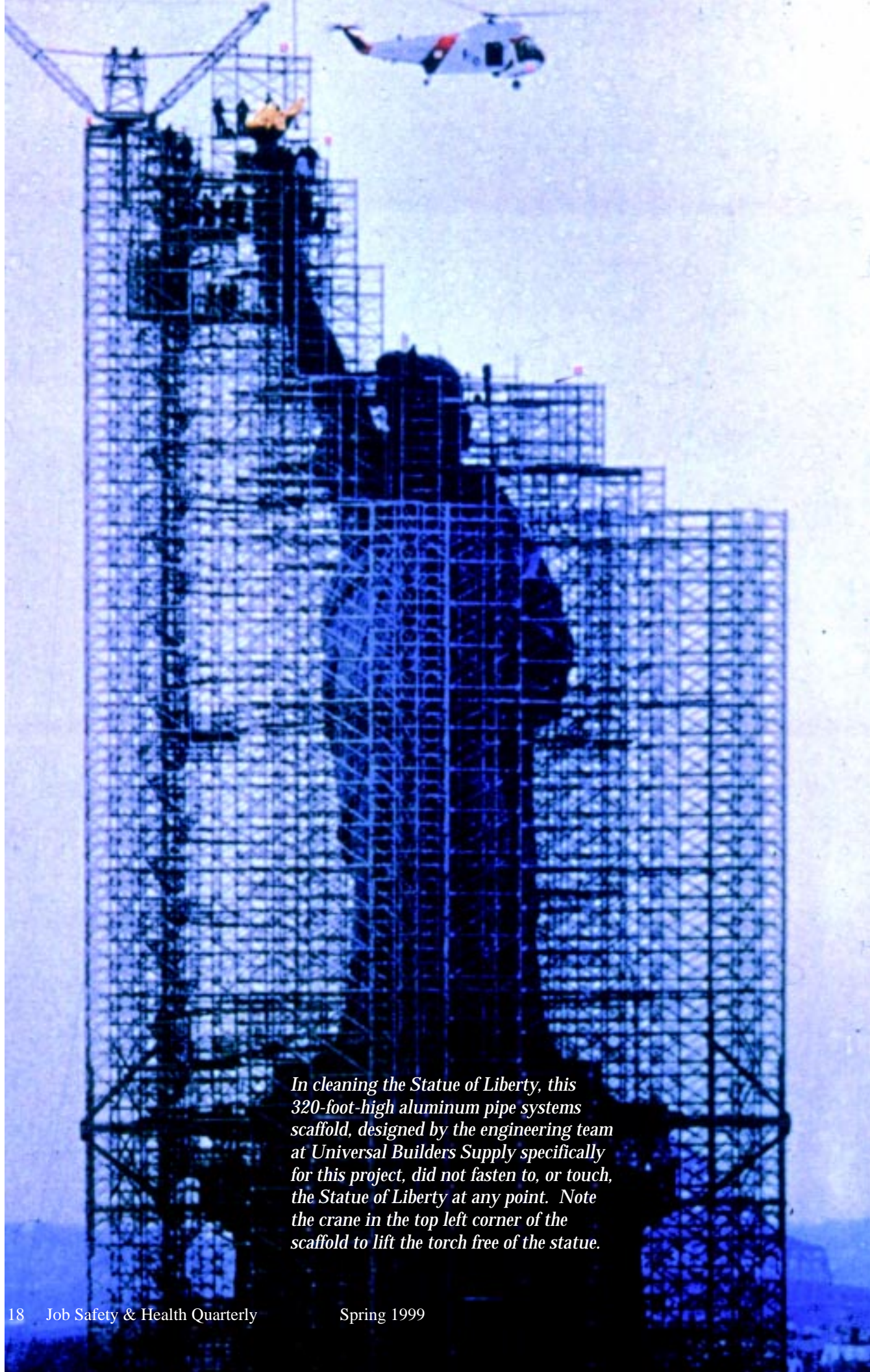
Walking Working Surfaces and Personal Fall Protection Systems (1910) (Slips, Trips, and Fall Prevention)
1218-AB80

Completed Actions

Powered Industrial Truck Operator Training (Industrial Truck Safety Training)
1218-AB33

Permit Required Confined Spaces (General Industry: Preventing Suffocation/Explosions in Confined Spaces)
1218-AB52 JSHQ

*Office of Management and Budget (OMB) Regulation Identification Number. For copies of OSHA final rules published in the *Federal Register*, contact the Superintendent of Documents, Government Printing Office, Washington, DC 20402, for \$8.00 a copy prepaid. Subscriptions are available at \$6.07 per year. GPO products also can be ordered online at www.gpo.gov.



In cleaning the Statue of Liberty, this 320-foot-high aluminum pipe systems scaffold, designed by the engineering team at Universal Builders Supply specifically for this project, did not fasten to, or touch, the Statue of Liberty at any point. Note the crane in the top left corner of the scaffold to lift the torch free of the statue.

Working with Scaffolds— Using Them Properly to Prevent Hazards

by Louis Rowe

An estimated 2.3 million construction workers, or 65 percent of the construction industry, work on scaffolds frequently.¹ In 1996, when OSHA issued the revised Scaffold Standard² for construction, the agency estimated that by protecting these millions of workers from scaffold falls, 4,500 injuries and 50 deaths from scaffold-related accidents would be prevented every year.³ In addition to this human savings, working safely on scaffolds also has financial rewards, with an estimated annual savings of \$90 million for American employers in workdays not lost.⁴

By definition a scaffold is a temporary, elevated platform that construction workers use for working safely at elevations. Scaffolds have

been around for thousands of years, and there are myriad types and uses. Some simple scaffolds are little more than planks and guardrails over two sawhorses; others are much more complex, such as the scaffolds erected hundreds of feet in the air to build skyscrapers or repair monuments like the Statue of Liberty. Scaffolds are fabricated from many materials—some common, and others not so common. As an example, even in this day of steel and iron, scaffolds made from bamboo sticks are still used in some Asian countries to erect large multistory structures. In the United States and Canada, most scaffolds

Examples of Scaffolding Rules

- Workers will use only the installed ladders for access and will never climb a scaffold using the cross braces or guardrails as ladders.
- Scaffolds must never be modified by anyone without permission from the *competent person*, including “just removing that brace for a minute to paint behind it...” or doing other seemingly harmless activities.
- Any damage to the scaffold will be reported to the *competent person* immediately.
- Scaffolds will not be used in high winds or electrical storms; the *competent person* has the final word on what constitutes these prohibited conditions.
- Snow and ice must be cleared from the scaffold before workers attempt to use it.

¹ U. S. Department of Labor, Office of Public Affairs, *OSHA National News Release*, USDL 96-352, August 29, 1996.

² *Title 29 Code of Federal Regulations (CFR)*, Part 1926.450-454. Under Section 18 of the *Occupational Safety and Health Act of 1970*, states have the authority to develop state occupational safety and health plans that are at least as effective as Federal OSHA standards. There are 25 states and territories operating their own state plan program. These states programs may be more stringent than the federal regulations. The scaffold competent person should contact state agency Consultative Services for specific information on his or her state. See also **Outreach** on OSHA's website at www.osha.gov.

³ U. S. Department of Labor, Office of Public Affairs, *OSHA National News Release*, USDL 96-513, December 12, 1996.

⁴ *OSHA National News Release*, USDL 96-352, August 29, 1996.



Clearance must be maintained between scaffolds and any electrical hazards. If clearance cannot be maintained, the lines can be deenergized and grounded by the utility company. The scaffolding shown here is in violation.

found at jobsites are made of steel, aluminum, or less commonly, wood. Frequently used types of scaffolds include the *fabricated frame scaffold*, the *mobile scaffold*, the *tube and coupler scaffold*, the *system scaffold*, and the *suspended scaffold*. There are many other scaffolds in use as well, each with advantages and disadvantages. The knowledgeable user knows how to select the right scaffold for the job, and he should—his life depends on it.

Using scaffolds properly can help prevent workplace accidents and injuries. Knowing what to do and when to do it can save lives. A thorough understanding of all aspects of constructing, using, and dismantling a scaffold is vital to protecting workers. Each has potential hazards that employers and workers need to be aware of so they can take the proper measures to protect against or prevent accidents and injuries.

Like all OSHA regulations, this responsibility is placed on the employer who must have a *competent person*, who is, by definition, the “one capable of identifying existing and predictable hazards...and who has authorization to take corrective measures to eliminate them.”⁵ A scaffold can only be erected, moved, dismantled, or altered under the supervision and direction of a *competent person* qualified in such activities.⁶ The *competent person* selects, directs, and trains the employees who erect, dismantle, move, or alter scaffolds. He or she also determines the feasibility of fall protection⁷ and safe access⁸ during erection. The *competent person* also inspects the scaffold before each work shift and after occurrences that could affect the integrity of the scaffold, such as a carpenter having removed a brace to reach his work, or discovering broken components.

Let’s look at the three stages of scaffolding—building, using, and dismantling—and identify their hazards.

Building Scaffolds

Before building a scaffold, all persons involved in the process must wear required, appropriate *personal protective equipment*, or PPE,⁹ for protection from the hazards present at the job site. Generally, safety boots or shoes, eye protection, and hard hats meeting OSHA standards¹⁰ are a minimum requirement on a construction

⁵ Title 29 of the Code the Federal Regulations (CFR), Part 1926.450(b).

⁶ 29 CFR 1926.451(f)(7).

⁷ 29 CFR 1926.451(e)(9).

⁸ 29 CFR 1926.451(g)(2).

⁹ 29 CFR 1926.28(a) and (b).

¹⁰ **Note:** The American National Standards Institute (ANSI) updated its ANSI Z89.1 Standard for Industrial Head Protection in 1997 and made significant changes in the types and classes of hardhats.

Fabricated Metal Frame Scaffold

Design

- Uses cross braces to connect prefabricated frames together. The size of the frames, as well as the length and type of the planks laid between them, dictate the maximum load possible.

Use

- Widely used at many jobsites due to simple assembly, rigid construction, low cost, and durability.
- Can be erected up to 125 feet in height.
- Available in different configurations and weight ratings to accommodate many types of work such as masonry and plaster work.

Limitations/Hazards

- Rigid prefabricated construction makes it less adaptable to unusual building shapes than other scaffold types such as the tube and coupler or the system scaffold.
- Fabricated frame scaffolds more than 125 feet high must be designed by a registered professional engineer per 29 CFR 1926.452(c)(6).
- Deenergize, guard, or mark all electrical hazards and keep all conductive materials at least 3 feet from electrical hazards (10 feet or more above 300 volts).
- Scaffold frames and panels must be attached together with pins, couplers, or equivalent devices.
- Scaffolds must rest on baseplates and mudsills, or other firm foundations capable of supporting the loaded scaffold without settling or displacing.



site. Other specialized equipment may also be required under certain circumstances, such as gloves, fall protection harnesses and equipment, and personal flotation devices.

The first step in building a scaffold includes a *site inspection* to identify site-specific hazards not identified in the preplanning stage and to ensure that the characteristics of the site are considered in the scaffold design. Meanwhile, erectors should inspect all scaffold parts before use, checking for cracks, dents, bends, breaks, corrosion, and bad welds on all metal pieces. Fittings need to be scrutinized for distorted, stripped, missing, or bent parts, and scaffold planks need to be checked for cracks, splits, or other damage. To prevent the use of inappropriate planking, the *competent person* should specify that all planks be marked “scaffold grade or equivalent.” Planks

should not be coated with opaque paints, because the paint may hide defects. Any damaged scaffold parts that are found need to be tagged, set aside, and repaired or replaced per the manufacturer’s directions.

Under the supervision and direction of the *competent person*, the process of building the scaffold now begins. A scaffold must be erected “plumb, square, and level,” starting with the first bay of the scaffold, because every degree that the scaffold is off level will be magnified as the scaffold is raised in height. The resulting instability will cause the weight of the scaffold to shift, potentially causing overload of one leg and eventual collapse of the scaffold. All diagonal, horizontal, or other bracing recommended by the manufacturer or qualified person must be installed as the scaffold is erected. Supported scaffolds with a height

An estimated 2.3 million construction workers, or 65 percent of the construction industry, work on scaffolds frequently.

more than four times the minimum base width (4:1) must be tied, guyed, or braced. These shall be installed according to the manufacturer's recommendations, but at a minimum, the scaffold must be tied closest to the 4:1 height and then repeated every 20 feet vertically for a scaffold 3 feet wide or less, and every 26 feet for a scaffold greater than 3 feet wide. The guys, ties, or braces must be placed horizontally at each end and at 30-foot intervals measured from one end only.¹¹

As the scaffold is built level by level, builders must have a means of *safe access*. There are specific OSHA requirements for safe access¹² for scaffold builders, dismantlers, and users. Some frame scaffolds meet these requirements with built-in ladders that have the proper spacing between rungs. For scaffolds without this feature, builders must install ladders. Using cross braces for access is not permitted by the OSHA scaffold standard.¹³ Decking or planking used by the builders must be at least 18 inches wide. After the building process is complete, it is important that all "working" levels of the scaffold are fully planked.¹⁴ Unless the employer can demonstrate that wider spacing is necessary in a particular scaffold installation, there should be no more than a 1-inch space between planks. Scaffold levels used only as a walkway must have planking or decking at least 18 inches wide¹⁵ or fall protection must be provided and used.

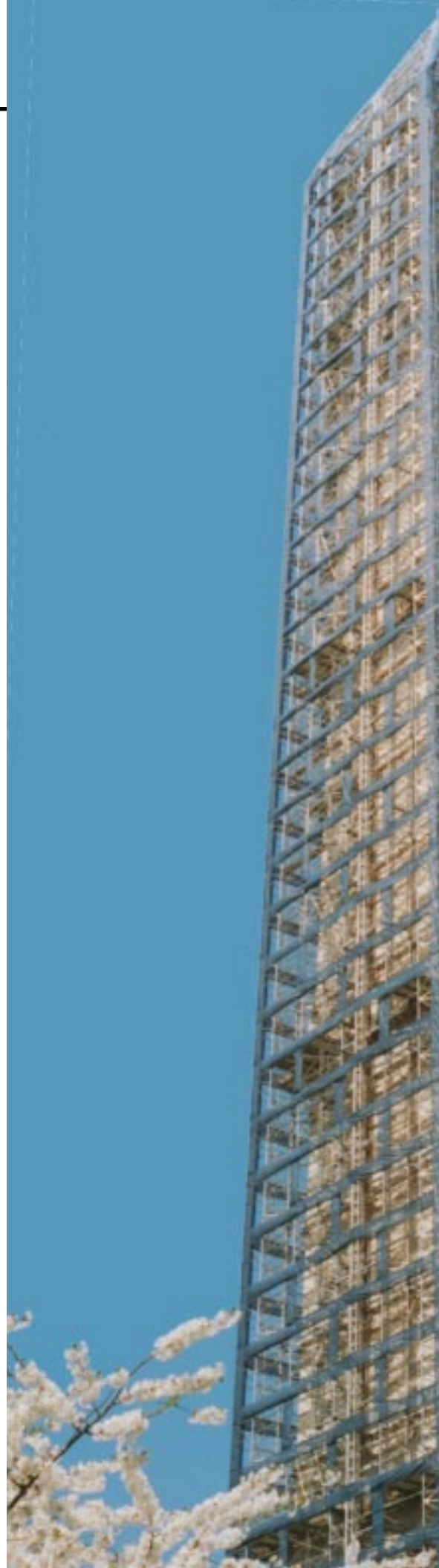
¹¹ 29 *CFR* 1926.451(c).

¹² 29 *CFR* 1926.451(e).

¹³ 29 *CFR* 1926.41(e)(1).

¹⁴ 29 *CFR* 1926.451(b)(1).

¹⁵ 29 *CFR* 1926.451 (b)(2).





The Washington Monument scaffolding, designed by the engineering team at Universal Building Supply, is an aluminum pipe systems scaffold. It is more than 555 feet high and is not mechanically fastened to the monument. All four sides follow the shape of the obelisk, tilting inwards 10 feet from base to tip.

Before builders can permit the use of a scaffold, *fall protection systems and falling object protection* must be installed on any scaffold more than 10 feet above a lower level. The fall protection system can consist of guardrails, a personal fall protection system with a body harness, lifelines, and anchor points, or other equally effective means of preventing falls from

Mobile Scaffold (Manually Propelled Rolling Tower)

Use

- Ideal for work involving repetitive tasks at the same height in different places, such as checking the fire sprinkler heads in a warehouse.

Design

- Can be a specifically designed construction, but often is simply a fabricated frame scaffold mounted on locking wheels known as casters.
- Has additional diagonal bracing for rigidity.
- Can use outrigger supports to widen the base for greater stability.

Limitations/Hazards

- Use on flat, smooth surfaces.
- This scaffold can be easily pushed into electrical wires. Deenergize, guard, or mark all electrical hazards and keep all conductive materials at least 3 feet from electrical hazards (10 feet or more for electrical hazards exceeding 300 volts).
- Rubber casters often have a limited load capacity compared to metal casters of the same size, and this may limit the maximum load the scaffold can support.
- Limited in height to two times the minimum base dimension, or a maximum height of 20 feet when employees remain on it while it is moved.*
- Casters must be locked after each move.
- Apply manual force as low as possible, and no higher than 5 feet from the floor surface when pushing the scaffold from one position to another.

* It is possible to ride a taller mobile scaffold, but it must be designed and constructed to meet or exceed nationally recognized stability test standards listed in Appendix A of the OSHA regulations for scaffolds. See 29 *CFR*, Part 1926.450-454.

Tube and Coupler, or Tube and Clamp, Scaffold

Use

- For placing elevated work platforms around structures with complex shapes.
- Can be erected up to 125 feet in height before requiring approval from a qualified engineer.
- Can be erected around and in tight places such as petrochemical or power-generating plants.

Design

- Four basic parts—baseplate, tube, right-angle clamp, and swivel clamp—combine to form a scaffold of almost infinite shape and size.



Limitations/Hazards

- Tube and coupler scaffolds over 125 feet high shall be designed by a registered professional engineer per 29 CFR 1926.452(b)(10).
- Deenergize, guard, or mark all electrical hazards and keep all conductive materials at least 3 feet from electrical hazards (10 feet or more for electrical hazards exceeding 300 volts).
- Follow the blueprints for erection, install all bracing exactly as drawn.
- Scaffolds must rest on baseplates and mudsills, or other firm foundations capable of supporting the loaded scaffold without settling or displacing.

the scaffold. The guardrail system¹⁶ must protect all open sides and ends of the scaffold. If the decision to use personal fall protection systems is made, it is important that a person who is competent in fall protection review the plan and approve any anchor points. The scaffold could potentially collapse if an employee “tied off” to the scaffold falls, so the *competent person* will have to consult with the scaffold manufacturer before making a decision regarding anchor points on a scaffold. To protect employees from falling objects, toeboards¹⁷ or other effective means—such as debris nets, canopies, or screens—need to be installed.

¹⁶ 29 CFR 1926.451(g)(4).

¹⁷ 29 CFR 1926.451(h).

Using Scaffolds

All persons who build or use scaffolds must receive *training* in the proper use of the scaffold and hazards associated with this activity.¹⁸ During this training, in addition to the mandatory items in the OSHA regulations, the *competent person* should establish and communicate the jobsite rules to the scaffold users. These and any other rules to be implemented should be put in writing, taught to all employees, and made part of the corporate culture.

Removing Scaffolding

Scaffolds should only be dismantled by employees who have been trained by the *competent person* to recognize the hazards inherent in scaffold erection and dismantling. Dismantling is the reverse of the building process with the same potential exposures to falls, electrocution, and other hazards. All work should be conducted from the top down. It is very important that workers at lower levels not get ahead of the dismantlers by removing braces, planking, or guardrails to “speed up the job.” When lowering the scaffold components to the ground, care must be taken not to damage the components by dropping them or throwing them around. Finally, the scaffold components should be cleaned as necessary, inspected, repaired, and stored in a manner that will prevent corrosion or other damage.

For more information on scaffolding regulations, please see OSHA regulations found in *Title 29 of the Code of Federal Regulations, Part 1926.450-454*. These are available on OSHA’s website at www.osha.gov. See also OSHA Publication 3150, *A Guide to Scaffold Use in the Construction*

¹⁸ 29 CFR 1926.454(a).



This scaffold is a prescription for a fall. Note lack of guardrails, innovative, but improper, stacking technique and employee access method through the window to reach the improperly positioned ladder.

Industry. This publication is available for purchase from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, phone: (202) 512-1800; fax: (202) 512-2250. Specify Order No. 029-016-00179-4; cost is \$4.00.

Other resources for safe scaffold use include training courses given by various organizations. The OSHA Training Institute (OTI) provides a 4-day course, *Principles of Scaffolding*, which focuses on the safety aspects of scaffolding and current OSHA requirements. Students learn the basics of scaffolding operations from installing to dismantling. Topics include built-up scaffolds, suspension scaffolds, and interpretation of related standards. The training includes a demonstration of scaffold installing and dismantling method as well as a 1-day field exercise.

System Scaffold

Use

- Like the tube and coupler scaffold, this system can be used to erect platforms around complex structures.

Design

- Similar to the tube and coupler scaffold except that instead of couplers (clamps) specialized end-fasteners function as an integral unit of the scaffold component, allowing for quick and easy erection of scaffolding in less time.
- Proponents of the system scaffold believe that the relatively high initial purchase cost is more than offset by the savings in time and manpower required each time the scaffold is assembled and disassembled.

Limitations/Hazards

- End-fasteners are unique to each manufacturer, and a variety of specialized parts may be required, thereby increasing the initial cost of the scaffold inventory.
- Deenergize, guard, or mark all electrical hazards and keep all conductive materials at least 3 feet from electrical hazards (10 feet or more for electrical hazards exceeding 300 volts).
- Scaffolds must rest on baseplates and mudsills, or other firm foundations capable of supporting the loaded scaffold without settling or displacing.
- Consult the manufacturer before mixing components from different manufacturers.



Suspended Scaffold

Design

- Rigged on cable or rope so that it hangs down from a structure. Can have single or multiple points of attachments on the structure.

Use

- A single-point suspended scaffold like a bosun's chair is simply a rope attached to a special harness that a worker sits in as he or she is raised and lowered up and down the structure.
- A two-point suspended scaffold consists of a platform and two ropes and hoists, such as that frequently used by window washers on large buildings.
- Multipoint suspended scaffolds consist of two or more ropes, hoists, and platforms that can be linked together in a straight line or at angles to conform to buildings with unusual shapes.

Limitations/Hazards

- This assembly can be very complex, and multiple hoists present hazards when raising and lowering work platforms since it is possible to raise one side and lower the other or to create gaps between platforms through which employees can fall.
- Because this type of scaffold is suspended from the structure, great care also must be used to ensure that the roof and parapet of the structure can support the additional weight imposed by the scaffold.
- Only items specifically designed as counterweights shall be used to hold down scaffold outriggers. Construction materials such as bags of sand or rolls of roofing felt are not acceptable for this use.



This mobile scaffold is not 10 feet tall, but the hole beneath it subjects employees to a fall of more than 10 feet to the next lower level, so guardrails must be used.

Another OTI scaffold safety course now available is offered as a result of a unique partnership with OSHA's Directorate of Construction, OTI, and the United Brotherhood of Carpenters and Joiners of America (UBC). Since 1996, more than 550 train-the-trainers and 21,000 UBC carpenters and millwrights have taken this 40-hour scaffold course to gain the knowledge necessary to safely erect and perform work on scaffolds.

The Scaffold Industry Association (SIA), which represents scaffolding manufacturers, also provides scaffold training. This organization may be reached by writing to the Scaffold Industry Association, 20335 Ventura Blvd, Suite 310, Woodland Hills, CA 91364, or calling (818) 610-0320. **JSHQ**

Rowe is a certified safety professional in OSHA's Directorate of Construction, Office of Construction Services, Washington, DC.

Competent Person Scaffold Inspection Checklist

The *competent person* should use this checklist for daily inspections of the scaffold. It is not all-inclusive and should be used as a starting point for the *competent person* to develop a checklist specific to the type of scaffold and jobsite conditions encountered.

- Are scaffolds and scaffold components inspected before each work shift by a competent person?
- Have employees who erect, disassemble, move, operate, repair, maintain, or inspect the scaffold been trained by a *competent person* to recognize the hazards associated with this type of scaffold and the performance of their duties related to this scaffold?
- Have employees who use the scaffold been trained by a qualified person to recognize the hazards associated with this scaffold and know the performance of their duties relating to it?
- Is the maximum load capacity of this scaffold known and communicated to all employees?
- Is the load on the scaffold (including point loading) within the maximum load capacity of this particular scaffold?
- Is the scaffold plumb, square, and level?
- Is the scaffold on base plates and are mudsills level, sound, and rigid?
- Is there safe access to all scaffold platforms?
- Are all working platforms fully planked?
- Do planks extend at least 6 inches and no more than 12 inches over the supports?
- Are the planks in good condition and free of visible defects?
- Does the scaffold have all required guardrails and toeboards?
- Are 4:1 (height to width) scaffolds secured to a building or structure as required?

Detach Here

Pre-Planning Tips for Building Scaffolds

Before building a scaffold you need to do some pre-planning to ensure that you choose the correct scaffold for the job. Pre-planning includes determining the type of scaffold you'll need for the job, its maximum load, what constitutes a good foundation, and how to avoid electrical hazards.

The Type of Work and the Scaffold Needed

Your type of work may require a specific type of scaffold. For instance, the heavy weight of brick and mortar, with the possibility of point loading materials in one spot while plastering or laying brick, can require that you will need a heavier rated mason's scaffold. Installing lighting in a gymnasium, however, may be done most quickly with a mobile scaffold. Preventing the escape of lead-contaminated paint chips on a lead abatement job might call for a scaffold enclosed with plastic sheeting, which also can increase the wind load and potentially cause the scaffold to collapse. Other examples could be scaffolds of unusual configuration requiring system or tube and coupler construction, or scaffolds of great height requiring a specific design by a professional engineer.

The Maximum Load

The maximum intended load on the scaffold must be known before selecting the proper scaffold. This includes the weight of scaffold itself plus the weight of all workers and tools¹⁹ plus the weight of materials and any other loads that will be placed on the scaffold. The scaffold must be able to support its own weight and four times the intended load.²⁰ Because scaffolds are of different sizes with different load ratings, scaffold manufacturers will provide the maximum load information for their products. Scaffold planks also have with three different ratings: *Light Duty*—25 pounds per square foot maximum load; *Medium Duty*—50 pounds per square foot maximum load; *Heavy Duty*—75 pounds per square foot maximum load. If scaffold components have had the manufacturer markings painted over, it is important to research the model numbers and manufacturers of these scaffolds. You will need this information to consult the manufacturer's charts or call the manufacturer to ensure the scaffold is suitable for the intended use.

A Good Foundation

The scaffold will rest upon a foundation of some type, usually dirt, asphalt, or concrete. The foundation must be adequate to support the scaffold and four times the intended weight of its load. There have been instances of scaffolds sinking into dirt, mud, or asphalt, or punching through a thin foundation such as a sidewalk into a basement or underground storage tank the scaffold erector was not aware of. Base plates are an integral member of the scaffold and should always be used. Mudsills, usually made of wood planks, also can provide additional support on soft surfaces or uneven terrain. They should be sized appropriately for the expected load.

Electricity and Scaffolds

Scaffold builders and users have been electrocuted while working close to electrical hazards. You must plan your job to prevent contact with energized circuits, either by keeping the scaffold and workers away from the hazard (to include warning signs or barriers for mobile scaffolds), or by de-energizing the circuit when working around it.

¹⁹ ANSI A10.8, *Scaffolding-Safety Requirements*, recommends using an estimate of 200 pounds per worker and 50 pounds for his or her tools.

²⁰ 29 CFR 1926.451(a)(1).

OSHA Supports New Whistleblower Legislation to Strengthen Protections for Workers

by Jeff Ezell

After a hospital nurse complains to the state health department that her employer failed to provide her with the latex gloves necessary to protect against HIV¹ and other bloodborne diseases, she is suddenly terminated from her job. Her supervisor cites poor job performance as the reason, although he cannot provide any specific examples.

The nurse is known as a “whistleblower.” Each year hundreds of concerned workers just like her are subject to employer discrimination and retaliation for calling attention to existing or potential safety and health hazards in their workplaces. Although these employees may not be popular with their supervisors, they play an important role in keeping America’s workplaces safe. With more than 6 million workplaces across the country, the Occupational Safety and Health Administration’s (OSHA) compliance officers could not possibly inspect every location and find every hazard. Although hazard identification and reporting are key elements in protecting America’s workers, many workers are reluctant to report safety and health hazards to their employers



¹ Human immunodeficiency virus, which causes AIDS.

or OSHA for fear of retribution. OSHA receives about 3,000 whistleblower complaints annually at the federal level and 1,450 per year in states with their own occupational safety and health plans.²

² Section 18(b) of the *Occupational Safety and Health Act of 1970* encourages states to develop and operate their own OSHA-approved job safety and health plans. The standards and requirements they adopt and enforce must be “at least as effective” as federal requirements. There are currently 25 state plans: 23 cover the private and public sectors (state and local governments) and 2 cover the public sector. For more information on state plans, see **Outreach** on OSHA’s website at www.osha.gov.

11 Statutes Cover Whistleblower Rights

Asbestos Hazard Emergency Response Act
Clean Air Act
Comprehensive Environmental Response, Compensation, and Liability Act
Energy Reorganization Act
Federal Water Pollution Control Act
International Safe Container Act
Occupational Safety and Health Act of 1970
Safe Drinking Water Act
Solid Waste Disposal Act
Surface Transportation Assistance Act
Toxic Substances Control Act

According to Secretary of Labor Alexis M. Herman, “If employees cannot be protected against retaliation, they will not feel free to bring hazards to the attention of management or violations of the law to the attention of OSHA. Effective whistleblower protections are essential to the kind of employee involvement the nation needs to make continued improvement in the safety and health of our workplaces.”

Employees who complain directly to their employers and those who work at small firms find themselves especially vulnerable. According to an audit report³ released in March 1997 by the Department of Labor’s Office of the Inspector General, small firm cases made up nearly 23 percent of all whistleblower actions filed with OSHA in a 1995 sample of 653 cases. More than 51 percent of all whistleblowers in the sample notified their employers first about safety and health hazards. Job termination was the most frequent form of reprisal.

To reduce the likelihood of discrimination against these workers, OSHA is proposing new legislation—the *Hazard Reporting Protection Act of 1999*. If enacted, the statute would strengthen existing whistleblower provisions under the *Occupational Safety and Health Act of 1970*. States with their own plans have similar nondiscrimination provisions and extend them to state and local government employees. Some states have whistleblower procedures in place that are similar to the proposed legislative changes. Once the federal legislation is enacted, all state

³ U. S. Department of Labor, Office of the Inspector General, *Whistleblower Protection Under Section 11(c) of the Occupational Safety and Health Act*, Report Number: 05-97-107-10-105, March 31, 1997.



Nurse Rosemary Cook, speaking at a recent Department of Labor press conference, explains her experience with unsafe conditions while working at a nursing home. On April 28, "Worker Memorial Day," Cooke received an honorary award from Labor Secretary Alexis M. Herman for her courage as a whistleblower.

plans would have to implement similar provisions.

The proposed legislation would increase the time allowed for an employee to file a complaint with OSHA. Under current statutes, most workers only have 30 days to file. The proposed legislation would extend that to 180 days.

This is an important change because many workers often are unaware that OSHA is available to provide assistance in whistleblower cases.

"With the 30-day filing requirement, many workers who have been discriminated against do not have enough time to find out what rights they have and take action," says OSHA Assistant Secretary Charles N. Jeffress. "Expanding the filing time to 180 days would make a big difference in the number of cases that qualify for OSHA's help."

The proposed legislation also outlines procedures OSHA will follow while attempting to resolve these situations. If OSHA concludes that an employer discriminated against a worker for raising concerns about a safety or health

hazard, it can order the employer to correct the violation, or reinstate the employee to his or her former position with compensation for lost wages and benefits. The proposed statute also authorizes the Secretary of Labor to order employers to pay the cost of attorneys' fees and other expenses incurred during the complaint process.

Under this proposed law, employers and employees would have new rights. They would have 30 days to appeal an OSHA decision and request a hearing before an administrative law judge. If not satisfied with the judge's decision, they could appeal to an Adminis-

"....Effective whistleblower protections are essential to the kind of employee involvement the nation needs to make continued improvement in the safety and health of our workplaces."

*—Alexis M. Herman
Secretary of Labor*

Labor Secretary Alexis M. Herman announced new whistleblower legislation and honored rescue heroes during a national press conference and award ceremony on April 28, "Worker Memorial Day," in Washington DC. From left to right: OSHA Assistant Secretary Charles N. Jeffress; crane operator Ivers Sims, Gay Construction, Atlanta, GA; Labor Secretary Alexis M. Herman; nurse Rosemary Cook, Tulsa, OK; Linda Chavez-Thyompson, executive vice president, AFL-CIO; and Representative Major Owens, New York, New York.



trative Review Board. If not satisfied with the board's decision, they could ultimately file for review in the U.S. Court of Appeals.

To raise awareness about whistleblower protection laws, OSHA recently implemented a pilot outreach program⁴ in OSHA's Chicago Regional Office, which includes Illinois, Indiana, Ohio, Michigan, Minnesota, and Wisconsin. Jeffress launched the program at the Ohio Safety and Health Congress in Cleveland, OH, on March 30.

"We are moving in several directions to help protect those conscientious employees who bring safety and health violations to the attention of their employers and OSHA," notes Jeffress. "While actively trying to strengthen the laws regarding whistleblowers, we also trying to educate workers about existing protections."

The outreach effort informs workers of their rights under the current 11 federal whistleblower protection statutes within OSHA's jurisdiction. After evaluating the

effectiveness of the pilot program, the agency may expand the effort nationally.

With added statutory protection and targeted outreach programs, OSHA's goal is to create an environment in which workers are not afraid to call attention to safety and health hazards. "Eliminating the risks associated with identifying hazards will not only benefit OSHA's enforcement efforts, but also the overall safety of America's workplaces as well," Jeffress believes. **JSHQ**

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

⁴ Indiana, Michigan, and Minnesota have their own safety and health plans.

Whistleblower Protection Legislation

Background

In the past decade, a bipartisan consensus has emerged that section 11(c) of the *Occupational Safety and Health Act of 1970* is inadequate to protect workers from reprisal. Secretaries of Labor in the Reagan, Bush, and Clinton administrations have called for improvements in OSHA's whistleblower protections. The former Administrative Conference of the United States, the General Accounting Office, Committees of the Congress, and the Department of Labor's Inspector General have all found the current protections in section 11(c) to be inadequate.

Some workers have better protection. For example, the *Surface Transportation Assistance Act of 1982*, which covers truckers and other transportation employees, includes more effective protections such as longer filing periods and firm deadlines for consideration of employee complaints. Coal miners also have a stronger anti-discrimination law.

Need for change

A sizable proportion of all whistleblower cases under section 11(c) are dismissed just because of the short filing deadline. Many others never reach the courts. The Department of Labor's Inspector General found that "Workers who complain about workplace safety/health hazards are frequently the targets of reprisals by their employers." If America's workers are to realize their right to a safe and healthful working environment they need protection against reprisal for exercising these rights.

Hazard Reporting Protection Act of 1999

The Administration is proposing whistleblower legislation that would strengthen protections for American workers by:

- Increasing the time for workers to file complaints from 30 to 180 days;
- Including reporting unsafe conditions, injuries, and illnesses as a protected activity;
- Setting firm deadlines for the Department of Labor to complete the investigation;
- Allowing the Department of Labor to order reinstatement, back pay, and damages without requiring the employee to go to court;
- Protecting workers who refuse to work in what they reasonably believe to be seriously dangerous conditions;
- Allowing workers, for the first time, to bring their own case to an Administrative Law Judge if the Department of Labor refuses to pursue the case; and
- Providing the Department of Labor and employees additional authority to seek relief in Federal courts when employers fail to comply with the Department's decision in whistleblower cases.

Philip Beck, is a program analyst, in OSHA's Directorate of Policy, Washington, DC.

OSHA Reaches Out to Small Businesses

by Ted Twardowski

OSHA:
New Ways
of WORKING

What is OSHA doing for small business? The answer is quite a lot. On March 4, 1999, OSHA hosted its first ever small business forum—"OSHA and Small Business: New Ways of Working." The event helped realize OSHA's new direction of partnering as well as goals and objectives of outreach, training, and education to help reduce worker injuries and illnesses. Small business represents a large constituency for OSHA and frequently these small employers cannot afford to hire professional safety specialists to deal with their issues. So, the forum provided an opportunity for small business owners and representatives from small business trade associations, including the National Federation of Independent Businesses and the Chamber of Commerce, to learn more about OSHA and what assistance it can offer.

The forum gave participants a chance to talk with OSHA staff and experts in the areas of construction, small business programs and advocacy, technical assistance,

compliance, construction, standards, consultation, voluntary protection programs, and training and education. The emphasis was on agency products and services available to help small businesses improve workplace safety and health in their establishments. OSHA exhibits and demonstrations showed how compliance assistance tools such as software advisors could help small employers learn about specific regulations on asbestos, cadmium, hazard communication, and others. Demonstrations of OSHA's website and technical pages allowed participants to savor the myriad topics and technical information available online to help them with compliance and other issues.

The keynote presentation by OSHA Assistant Secretary Charles N. Jeffress encouraged the forming of partnerships between business and government to improve workplace safety and health. Jeffress noted that "We are working hard to reach out to small businesses and involve them as partners in our rulemaking process and in

providing safe and healthful working environments." This recurring theme of partnering and leveraging resources, along with strong enforcement, are top priorities for the agency in reducing workplace injuries and illnesses.

OSHA's Small Business Liaison, Art DeCoursey, coordinated the forum and served as master of ceremonies. He emphasized that OSHA wanted to help inform small business on what it is doing and how many products and services can help "... us work together to create safer workplaces." DeCoursey also mentioned OSHA's participation in the upcoming National Small Business Week in late May.

The half-day seminars attracted about 150 participants who also had the opportunity to ask OSHA executives questions on standards, enforcement, consultation, and other relevant topics.

June Robinson, Director of the DOL Office of Small Business Programs, discussed her office's role as the "bridge between the enforcement agencies and the small

“We are working hard to reach out to small businesses and involve them as partners in our rulemaking process and in providing safe and healthful working environments.”

*—Charles N. Jeffress
OSHA Assistant Secretary*

businesses who are seeking information about the department’s rules and regulations.” Among other things, the office also works on procurement activities for disadvantaged business owners and women-owned businesses, and oversees the minority college and university programs. Jere Glover, Director of the Office of Advocacy of the Small Business Administration, updated the group on his role to help make sure that there are common sense regulations that are not overly burdensome to small businesses.

Rich Fairfax, Director of Compliance, spoke on compliance issues directly related to small business and told participants how small businesses can receive compliance assistance and technical advice from OSHA. Paula White, Director of Federal-State Operations discussed the assistance available through OSHA’s Voluntary Protection Program and Consultation Services.

Bruce Swanson, Director of the Directorate of Construction, spoke about the pilot programs the agency

is implementing with small businesses in the construction industry. Steve Witt, Director of the Directorate of Technical Support, introduced the participants to the new “technical advisors” and “expert advisors” developed by his staff. Marthe Kent, Director of Safety Standards, updated the small business community on upcoming OSHA standards.

Several exhibits and hands-on demonstrations of the agency’s compliance assistance and technical software displayed the kind of technical information the agency has online from A to Z. The Voluntary Protection Programs Participants’ Association exhibit gave attendees the opportunity to learn about OSHA’s Voluntary Protection Program and the recognition of worksites with exemplary safety and health programs.

OSHA received very positive feedback from those present at the conference for taking this step to help smaller employers. In the spring, OSHA will have similar regional small business forums to continue this outreach effort and

to help spread the word about its willingness to help small businesses improve their workplace safety and health.

For more information on OSHA’s assistance for small businesses, contact Art DeCoursey, OSHA’s Small Business Liaison at (202) 693-1900. [JSHQ](#)

Twardowski, a safety and occupational health specialist in OSHA’s Directorate of Safety Standards Programs, Washington, DC, assisted with the planning and logistics for the small business forum.

JCAHO and OSHA Partner to Protect Health Care Workers

by Gary Orr

Unless you have a parent or relative in a health care facility, you may not think about what an “accredited facility” means or who does this job. Accreditation is recognized nationwide as a symbol of quality, indicating that a facility or organization meets certain performance standards. The Joint Commission on Accreditation for Healthcare Organizations, or JCAHO, does just this. Its purpose is “...to improve the quality of health care for the public by providing accreditation and related services that support

performance improvement in health care organizations.”¹ The Joint Commission is an independent, not-for-profit organization and is the nation’s oldest and largest standards-setting and accrediting body in health care. It supports the use of programs and performance improvement tools to ensure that health care organizations meet the needs of the community they serve.

The Joint Commission developed its first standards in 1917 and currently evaluates more than 18,000 health care organizations in the United States. Recently, the Veterans Administration asked the Joint Commission to survey hospitals overseas. The Joint Commission’s evaluation and accreditation services cover the following health care groups:

- General, psychiatric, children’s, and rehabilitation hospitals;
- Health care networks, including health plans, integrated delivery networks, and preferred provider organizations;

¹ See JCAHO’s mission statement on their web page at www.jcaho.org

Teamwork between OSHA health and safety professionals and Joint Commission patient care experts means better protection for health care workers and patients alike.



- Home care organizations, including those that provide home health services, personal care and support services, home infusion and other pharmacy services, durable medical equipment services, and hospice services;
- Nursing homes and other long-term care facilities, including subacute care programs, dementia programs, and long-term care pharmacies;
- Behavioral health care organizations, including those that provide mental health, chemical dependency, and mental retardation/developmental disabilities services for a variety of patients in diverse organized service settings; and managed behavioral health care organizations;
- Ambulatory care providers, including outpatient surgery facilities, rehabilitation centers, infusion centers, group practices, and others; and
- Clinical laboratories.

To earn and maintain accreditation, an organization must undergo an onsite survey by a Joint Commission survey team at least every 3 years. Surveyors include more than 500 physicians, nurses, health care administrators, medical technologists, psychologists, respiratory therapists, pharmacists, medical equipment providers, and social workers. Because the Joint Commission and its survey reach most health care organizations, non-compliance with a standard or losing accreditation can severely affect a health care organization's ability to serve the community.

In 1996, OSHA and JCAHO joined forces to collaborate on worker and patient safety and health issues. This alliance makes sense for a number of reasons. This partnership seeks to create the same sensitivity for worker health and safety as currently exists within accredited organizations for patient care. Teamwork between OSHA health and safety professionals and



Joint Commission patient care experts means better protection for health care workers and patients alike.

“This partnership between OSHA and the Joint Commission is a very fruitful alliance,” notes Secretary of Labor Alexis M. Herman. “It has dramatically expanded OSHA’s reach in the health care industry and produced a results-oriented voluntary performance strategy that has im-

proved worker safety and health throughout the industry,” she adds.

A key element of the partnership involves identifying ways in which health care facilities can comply with both OSHA regulations and Joint Commission standards without undertaking duplicative activities. In addition, the two organizations have collaborated on the following:

- Developing training materials and conducting training sessions for health care workers.
- Showing how compliance with an OSHA standard also satisfies JCAHO standards. The Joint Commission includes specific examples of the crossover with OSHA regulations in their accreditation manuals, which they send to thousands of hospitals, long-term care facilities, ambulatory care programs, and home care programs;
- Producing a 90-minute satellite television network presentation on the partnership. The program features video presentations of exemplary safety and health projects in health care. From 12,000 to 14,000 health

“This partnership...has dramatically expanded OSHA’s reach in the health care industry and produced a results-oriented voluntary performance strategy that has improved worker safety and health throughout the industry.”

—Alexis M. Herman
Secretary of Labor

JCAHO Health Care Courses

The Joint Commission offers courses to health care professionals on safety and health. Listed here are some of the upcoming sessions available.

One-Day Courses in 1999

Indianapolis, IN - June 17

Chicago, IL - September 16

Little Rock, AR - November 15

Two-Day Courses in 1999

Harrisburg, PA - June 24-25

Denver, CO - July 15-16

These sessions are open to the general public. For more information or to register for OSHA-JCAHO courses, please call the Joint Commission's Customer Service Center at (630) 792-5800 between 8 a.m. and 5 p.m., Central Standard Time, weekdays.

care workers nationwide have viewed it;

- Encouraging health care organizations with excellent survey results to consider applying for the OSHA Voluntary Protection Program; and
- Producing print publications and videotapes promoting the partnership.

This type of partnership increases awareness about how to protect health care workers on the job. Partnerships can provide benefits and leverage resources that might not otherwise be accomplished individually.

In May of 1998, OSHA and the Joint Commission received Vice President Gore's prestigious "Hammer Award" for their work as partners in improving the health and safety of health care workers. The award recognized the partners for their training of health care personnel in both OSHA and Joint Commission standards covering worker safety and health.

"We are very pleased that our work with OSHA is being hon-

ored," says Dennis S. O'Leary, M.D., Joint Commission president.

"This award spotlights what is possible when organizations collaborate to achieve goals that one alone could not reach. "

Some of the benefits of the OSHA-Joint Commission collaboration illustrate how combining efforts and resources pays off.

OSHA benefits because the Joint Commission's broad and frequent contact with health care organizations means an increased employer awareness of safety and health issues, prompting employers to be proactive in protecting workers. The Joint Commission's recognition of worker safety and health issues and the response by the industry also will help OSHA meet its own strategic goals, including increased education, training, and outreach to reduce worker injuries and illnesses.

The Joint Commission benefits through its access to the health and safety professionals at OSHA. Expanding the Joint Commission's focus to include worker protection helps health care organizations



identify and control hazards that could affect patients, workers, and the industry.

Employers benefit from the partnership because they learn how to comply with OSHA and Joint Commission requirements. JCAHO helps assure organizations that they do not need to change their workplace to meet OSHA requirements and then do something else to meet those of the Joint Commission. They avoid duplicative standards.

Finally, health care workers benefit both from increased on-the-job protection and from an improved management commitment to worker safety and health. And really, that's the bottom line—making sure American workers go home safe and healthy every day.

JSHQ

Gary Orr is an ergonomist in OSHA's Office of Ergonomics, Washington, DC.

The author acknowledges and thanks Dr. Melissa McDairmid, associate professor of medicine, University of Maryland, School of Medicine, Baltimore, MD, for her contributions to this article; and to Gil Gillen, Assistant Regional Administrator, Federal State Operations, OSHA New York Regional Office; Nancy Quick, Area Director, Chicago North Area Office; and Lee Hathon, mechanical engineer, OSHA Salt Lake City Technical Center, for their work in the partnership. A special thanks to Carole Patterson, Associate Director of Standards Development at the Joint Commission, Oakbrook Terrace, IL, for her contributions to this article and support for the partnership.

TOOLBOX

Safe Access for All Types of Scaffolds

451(e)(1-9) - 1926

Rank in Frequency Cited #12

Rule

An access ladder or equivalent safe access shall be provided.

Intent

To decrease the risk of a fall, this standard requires a ladder or other equivalent means of access for scaffolds. Too often when ladders are not in place, workers climb the end-frames of the scaffolds—a common unsafe work practice in the construction industry. This can be hazardous because the end-frame structural members, when used as ladder rungs, can be narrower than the width of the average foot—thereby requiring the employee to actually stand on the side of his foot on the “rung.” The vertical distance between “rungs” also may be excessive (2 feet-3 feet), resulting in the employee reaching for the next “rung.” Unless the end-frame is designed as a ladder access frame, it must not be used as such. The scaffold manufacturer or dealer can assist the user in determining if a scaffold frame has a built-in ladder. Some of the common frames do not have built-in ladders. Scaffold ladders that attach directly to the frame can be obtained from scaffold dealers. Equivalent safe access to scaffold platforms can include access from a building floor/window directly to the platform or a portable system.

Hazards

Fall from elevation. Probable injuries vary from death to severe sprains/strains.



VIOLATION

IN COMPLIANCE

Employees access scaffolds by using a hook-on scaffold ladder. NOTE: The inward swinging gate allows employees to step from the ladder onto the platform.

(Among Other) Suggested Abatements

- Construct all scaffolds and related components (ladder access) as per scaffold manufacturers' technical literature.
- Whenever possible, use a window/floor at the elevation of the platform to gain access, thereby eliminating any hazard associated with climbing.



VIOLATION

IN COMPLIANCE

The scaffold above shows end frames which were designed by the manufacturer to be built-in ladders. NOTE: The chain above the platform guarding opening.

Selected Case Histories

While descending the end-frame of the scaffold that was not designed to be a built-in ladder, an employee lost his balance, fell 13 feet to concrete and suffered fatal head injuries.

Detach Here

Comments

(1) If the scaffold user has questions about the scaffold, such as construction or use, he or she should contact the scaffold manufacturer or dealer. Experience has proven that they are fully cooperative and can assist with technical questions.

(2) If workers use an attached ladder on the end-frame of the scaffold, the scaffold must be constructed to withstand the effects of the overturning force imparted on the scaffold due to the external loading caused by the weight of the person climbing the ladder. A material hoist on the same side as the ladder might increase the overturning force causing collapse of the scaffold. These loading factors must be considered in the design/construction phase.

(3) A portable ladder, constructed and used as per Subpart X of *Title 29 of the Code of Federal Regulations (29 CFR)*, Part 1926 is an acceptable ladder for access to scaffolding.

VIOLATION

IN COMPLIANCE

The two photos (left) show employees using the structural members of end frames as ladders. The scaffold manufacturer did not design these type end frames as built-in ladders. NOTE: The platform violations.

(4) This standard was cited in 35 fatality inspections conducted by OSHA over 5 years.

Additional Documents to Aid in Compliance

29 CFR 1926.45, 1051 and 1053-1060 (Subpart X). *A Guide to Scaffold Use in the Construction Industry* (OSHA 3150) revised 1998. Available from the Government Printing Office, Superintendent of Documents, P.O. Box 371954 Pittsburgh, PA 15250-7954; Phone (202) 512-1800; Fax (202) 512-2250. Order No. 029-016-00179-4; Cost \$4.00.

OSHA Compliance Letter

Date 2/25/83; From Chief, Division of Compliance Programs, to Individual Company; Synopsis—(1) It is not practical for employers to provide ladder access at all times for employees assembling/disassembling scaffolding; however, other safe access must be provided; (2) End-frames designed by a scaffold manufacturer as ladder access

are acceptable if they are erected in a continuous line and the maximum spacing between rungs is less than 16 inches; (3) Portable wood or metal ladders must comply with Subpart X (formerly Subpart L); (4) Fixed ladder standards do not apply to scaffolds; and (5) Subpart X does not apply to built-in scaffold ladders.

OSHA Clarification Letter

Date 4/7/87; From Director of Directorate of Field Programs to Regional Administrator; Synopsis—The following relate to designed and manufactured built-in scaffold access ladders: (1) allow a maximum 16¹/₂-inch rung spacing; (2) rungs may be spaced unevenly where end-frames join, provided they do not exceed maximum rung spacing; (3) climbing over top guardrail or scaffold board overlay is not a safe practice; and (4) guardrail systems shall be provided with removable rails, chains, or gates in accordance with manufacturers' recommendations. **JSHQ**



Detach Here

Accident Report

From the U.S. Department of Labor
Occupational Safety and Health Administration
FatalFacts No. 27

Accident Summary

Accident Type	Fall through Scaffolding
Weather	Clear
Type of Operation	Masonry Contractor
Crew Size	8
Collective Bargaining?	Yes
Competent Person Onsite?	No
Safety and Health Program in Effect?	Yes
Was the Worksite Inspected Regularly by the Employer?	No
Training and Education Provided?	Yes
Employee Job Title	Bricklayer
Age/Sex	52/Male
Experience at This Type of Work?	25 years
Time on Project	4 weeks

Brief Description of Accident

A crew laying bricks on the upper floor of a three-story building built a 6-foot platform spanning a gap between two scaffolds. The platform was correctly constructed of two 2 inch x 12 inch planks with standard guardrails; however, one of the planks was not scaffold grade lumber and also had extensive dry rot in the center. When a bricklayer stepped on the plank, it disintegrated and he fell 30 feet to his death.

Inspection Results

As a result of the investigation, OSHA issued a citation alleging two serious violations of its standards. Had OSHA construction safety standards been followed, this fatality might have been prevented.

Accident Prevention Recommendations

(1) Before each workshift and after any occurrence that could affect the structural integrity, a competent person must inspect the scaffold and scaffold components for visible defects (*Title 29 of the Code of Federal Regulations (CFR)*, Part 1926.451 (f)(3)).

(2) Scaffold planking must be able to support, without failure, its own weight and at least four times the intended load (*29 CFR* 1926.451(a)(1)).

(3) Solid sawn wood, fabricated planks, and fabricated platforms may be used as scaffold planks following recommendations by the manufacturer or a lumber grading association or inspector agency (*Appendix A (1)(b)&(c)*).

Sources of Help

- OSHA General Industry Standards [*29 CFR* Parts 1900-1910] and OSHA Construction Standards [*29 CFR* Part 1926], which together include all OSHA safety and health rules and regulations covering construction.
- OSHA-funded free consultation services. Consult your telephone directory for the number of your local OSHA area or regional office for further assistance and advice (listed under U.S. Department of Labor or under the state



government section where states administer their own OSHA programs).

- Courses in construction safety and health offered by the OSHA Training Institute, 1555 Times Drive, Des Plaines, IL 60018; (847) 297-4810.
- *A Guide to Scaffold Use in the Construction Industry* (OSHA 3150, revised 1998) Available from the Government Printing Office, Superintendent of Documents, P.O. Box 371954 Pittsburgh, PA 15250-7954; Phone (202) 512-1800; Fax (202) 512-2250. Order No. 029-016-00179-4; Cost \$4.00. **JSHQ**

Note: The case described is representative of fatalities caused by improper work practices. No special emphasis or priority is implied nor is the case necessarily a recent occurrence. The legal aspects of the incident have been resolved, and the case is now closed. Your company may duplicate this fact sheet to share with your coworkers.

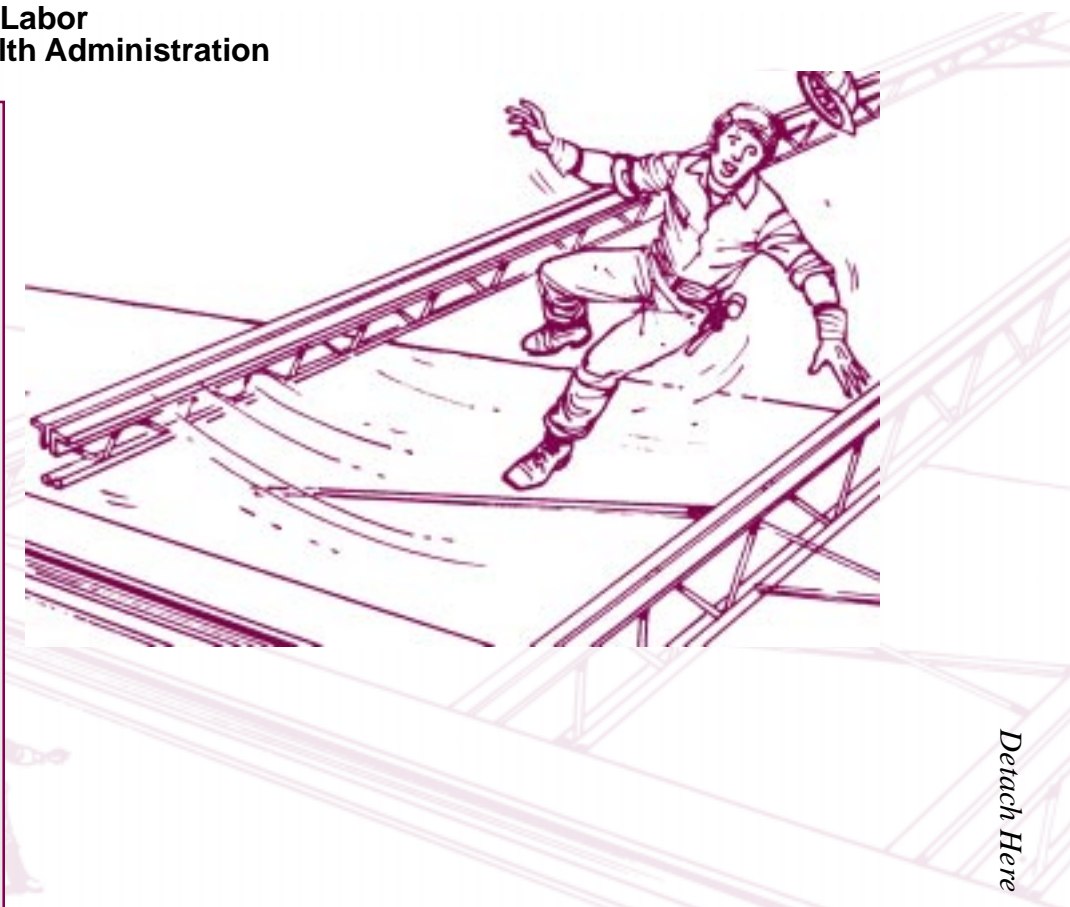
Detach Here

Accident Report

From the U.S. Department of Labor
Occupational Safety and Health Administration
FatalFacts No. 43

Accident Summary

Accident Type	Fall from Elevation
Weather	Clear
Type of Operation	Steel Erector
Crew Size	8
Collective Bargaining?	No
Competent Person Onsite?	Yes
Safety and Health Program in Effect?	Yes
Was the Worksite Inspected Regularly by the Employer?	Yes
Training and Education Provided?	No
Employee Job Title	Ironworker
Age/Sex	39/Male
Experience at This Type of Work?	None
Time on Project	1 day



Brief Description of Accident

An employee was assigned to connect the X-braces at the end of 40-foot long bar joists. Only one end of the bar joist he was working on had been welded. The employee was sitting on the unwelded end of the bar joist trying to connect the X-braces. He lost his balance, dislodging the bar joist from its end support, and fell approximately 24 feet to his death.

Inspection Results

Following its inspection, OSHA cited the employer for two serious and one other-than-serious violations of its standards involving employee training, bolting for lateral stability, and failing to report the fatality within the time specified in *Title 29 of the Code of Federal Regulations (CFR)*, Part 1904.8.

Accident Prevention

(1) Where longspan joists or trusses 40 feet or longer are used, employers must install a center row of bolted bridging to provide lateral stability before slacking the hoisting line (29 *CFR*, 1926.751(c)(2)).

(2) Employers must train employees to recognize and avoid hazards on their jobs, in this case joist erection (29 *CFR* 1926.21(b)(2)).

Sources of Help

- OSHA General Industry Standards [29 *CFR* Parts 1900-1910] and OSHA Construction Standards [29 *CFR* Part 1926], which together include all OSHA safety and health rules and regulations covering construction.

- OSHA-funded free consultation services. Consult your telephone directory for the number of your local OSHA area or regional office for further assistance and advice (listed under U.S. Department of Labor or under the state government section where states administer their own OSHA programs).
- Courses in construction safety and health offered by the OSHA Training Institute, 1555 Times Drive, Des Plaines, IL 60018; (847) 297-4810. **JSHQ**

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U.S. Department of Labor
Occupational Safety and Health Administration