



CONN-OSHA Quarterly

CONNECTICUT DEPARTMENT OF LABOR DIVISION of OCCUPATIONAL SAFETY and HEALTH

Fall Protection

By Bob Kowalski, Director of OSHA's Bridgeport Area Office

When asked, what is the most frequent cause of injuries and deaths in the workplace, falls from an elevation are at the top of the list. From October 1, 2006, through September 30, 2007, in Southern Connecticut, forty percent of all inspections had fall related issues. In more than one hundred of these investigations/inspections, the exposed workers either died or sustained a severe injury. To address this hazard, the U.S. Department of Labor-OSHA has implemented two Emphasis Programs, a **Fall Protection Emphasis Program** and a **Residential Construction Emphasis Program**.

Fall Protection Emphasis Program:

In the construction industry, falls from elevation cause more fatal injuries than any other accident event type. In general industry, falls from elevation are also a major cause of serious and fatal injuries. According to the 2002 National Census of Fatal Occupational Injuries, published by the U.S. Department of Labor's Bureau of Labor Statistics, there were 634 fatalities in 2002 resulting from falls to a lower level, accounting for 11 percent of all fatal injuries in workplaces nationwide. While the predominant fatal falls were from or through roofs, from ladders and falls from scaffolds, other common

work surfaces from which fatal falls occurred included: stairways, open-sided floors, stacked materials, building girders or other structural steel, and nonmoving vehicles.

In construction, fall expo-

sures often occur when employees are working within or on incomplete structures in the process of being built, or from scaffolds, aerial lifts, ladders and other work surfaces that are frequently moved or altered during the course of construction.

In general industry, employee exposures to fall hazards often occur when employees work on open-sided floors or platforms, or when they use portable ladders or aerial lifts. Fall hazards in general industry are especially common when employees are performing maintenance activities which require that they work on roof mounted equipment, or when they climb up onto the equipment being maintained. Employee exposures to fall hazards in general industry during maintenance operations typically involve brief, but reoccurring exposures, which usually can be anticipated and prevented by employers.

Residential Construction Emphasis Program:

In Connecticut, as elsewhere in the country, employers working on residential construction sites are often small employers with a frequent turnover of employees who have not been adequately trained in safety. The employer may have the same group of workers for a short period of time, but for the



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Fall Protection, *Cont*

most part, the work force is transient. The reasons vary, but it is our observation that employees leave their employer because they find work elsewhere at a greater rate of pay, leave to begin their own companies or in the worse case, they are injured. With the ready availability of certification without a safety and health training component and the transient work force, the need for an effective safety and health outreach and enforcement program is paramount.

Having identified the hazard, the methodology that is employed to address this hazard is two fold: outreach and enforcement.

The Federal Offices (Hartford and Bridgeport), in cooperation with CONN-OSHA, conduct numerous training sessions on fall protection. These sessions are part of the Alliance programs that have been established with many organizations, groups and employers around Connecticut. Fall protection is a module in both the General Industry and Construction 10 hour courses. Additionally, many small employers have sought the assistance of the Consultation Services offered by CONN-OSHA. Participation in these activities is free. Contact information and details about the program are listed below.

Compliance Officers are required to address observed instances where workers are exposed to fall hazards. The Compliance Officer will contact the local OSHA office and inform a supervisor of the condition. Once the office is notified, the Compliance Office will be instructed to open an enforcement inspection. The other common reason for opening an inspection is the receipt of a complaint involving a fall related issue.

The dynamics of a fall can be misleading. Many individuals believe that a fall from a great distance is more dangerous than a fall from a shorter distance. In fact, most fatalities and serious injuries are sustained from falls of less than 12 feet. In a majority of cases, when an individual falls a short distance, the body doesn't have time to rotate and the individual sustains an injury to the back of the head or neck.

Protecting yourself from a fall at work takes very little effort. However, every week in Connecticut workers are injured in a fall related accident. Take the time, do it right.



On-Site Safety and Health Consultation Program

CONN-OSHA's consulting services are tailored to match employers needs in both the private and public sectors. For more information call 860-263-6900, or access our web site at <http://www.ctdol.state.ct.us/osha/consulti.htm>. You may also write to the address listed below.

The request will be assigned to a safety consultant or an occupational hygienist. This person will contact you to discuss your needs and to schedule an on-site visit. Our consultation staff can help you with concerns such as health & safety training and education, fall protection, ergonomic evaluations, indoor air quality issues, and job hazard analyses. And don't forget, these services are *free*.

Connecticut Department of Labor - OSHA
38 Wolcott Hill Road
Wethersfield, CT 06109

To receive the *Quarterly* electronically, contact ggregory@list.state.ct.us. In the subject line type "*subscribe*" and provide your e-mail address. You may also reach us by phone at (860) 263-6900 or visit our website at <http://www.ctdol.state.ct.us/osha/osha.htm>

Hazard Corner...

INVESTIGATION: An engineer falls to his death

At approximately 9:30 a.m., three engineers arrived at a publicly-owned apartment complex to examine and measure the buildings in preparation for writing a proposal to the city for the provision of energy conservation engineering services. Two of the engineers worked for the general contractor (the employer) and one worked for a lighting subcontractor. The municipal Request for Proposals described the work to be bid as comprehensive energy management services, including capital improvements and maintenance at six separate public housing developments.

The three engineers were accompanied by a maintenance person who was employed by the housing development. His job was to take the group to the various buildings as they requested. The weather was sunny, hot and clear, and not a factor in the incident. The group had examined three buildings before entering the building from which the victim fell. It was approximately 11 a.m. when they started on this building. The roof was accessed by stairs to a small penthouse. The door of the penthouse would lock from the outside, so a clipboard was used to keep the door ajar. Each building was a modified L-shape, and the roofs of several buildings were attached. Some areas of the roof were narrow with less than six feet of width for walking. There was a short stack pipe on the roof of each building, but no ventilation or other equipment were located on the roof. The roof was covered with standard gravel over tar and was entirely flat to the edges.

Two of the engineers were measuring the roof with a tape measure. The third engineer was writing down the measurements. They were working quickly and had been on the roof only 5 to 10 minutes. As they were about to leave, they noticed that they had not measured one section. While the other two engineers and the maintenance person waited by the door, the victim, pulled out the tape measure while quickly walking backwards from the door. Apparently not aware of how close the edge of the roof was, he walked over the edge and fell. The distance from the penthouse door to the edge of the roof was approximately 38 feet. The victim fell approximately 29 feet to the sidewalk below. Emergency medical services were called and arrived on the scene. The victim was transported to a nearby local hospital where he was pronounced dead on arrival.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should employ alternative controls for fall hazards when personal fall arrest systems are neither required nor appropriate.

One option for fall hazard control that could have been employed is the use of a "safety monitoring system". Assigning one person to keep track of everyone and to remind people when they are close to the edge creates both an awareness of the hazard and an established method for control.

Recommendation #2: Employers should develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training all employees in fall hazard recognition.

Before the start of any job, an analysis of the hazards present or anticipated should be developed. Field employees should be encouraged to perform such an analysis by providing forms or checklists for their use. Anticipation of hazards will allow field employees to plan and bring with them any equipment (such as personal protective equipment, ladders, etc.) which might be necessary to control hazards.

Employee safety training should include professionals such as engineers. There may be a presumption that professional engineers are also skilled in identifying and controlling safety hazards. Although these employees can be expected to be personally responsible for their activities on a project, health and safety training reinforces the idea that no one is immune from job hazards and provides suggestions for the control of hazards in varying situations.

Recommendation #3: Building owners should consider the installation of guardrails at the perimeter of flat roofs wherever possible.

Although not required by building codes at this time, a guardrail around the perimeter of the roof would protect people on the roof from falling. Guardrails could be decorative in appearance, yet should be able to withstand at least 200 lbs. of horizontal force in order to be protective.

Many buildings do have equipment on the roof which must be accessed by maintenance and service personnel. Roofs have become the location of choice when this equipment is retrofit to older buildings. Since many of these service tasks are of short duration, the individual service providers are not likely to provide their own fall protection. Therefore, if building owners were to install permanent guardrails, all workers on the roof would be protected from falls.

Adapted from: Massachusetts FACE Program

Occupational Health Surveillance Project
Massachusetts Department of Public Health
250 Washington Street, 6th Floor
Boston, Massachusetts 02108

Connecticut Fatal Occupational Falls 1992 - 2006

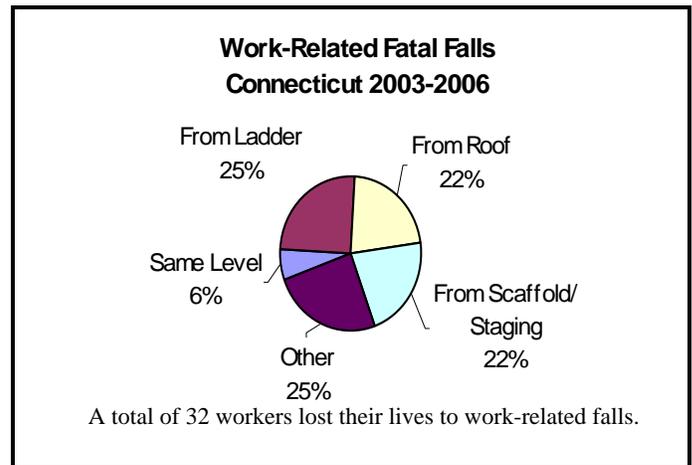
Year	CT Work-Injury Fatalities		
	Total	Falls	Percent
TOTAL	611	97	16%
1992	42	7	17%
1993	31	5	16%
1994	35	4	11%
1995	32	--	--
1996	35	8	23%
1997	32	7	22%
1998	57	10	18%
1999	38	4	11%
2000	55	7	13%
2001	41	9	22%
2002	39	4	10%
2003	36	4	11%
2004	54	16	30%
2005	46	8	17%
2006	38	4	11%

-- No data or data that does not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

This graph and table show just how frequently fatal falls occur in Connecticut. Training, education, equipment maintenance and inspection are elements of a fall protection program that will help prevent you from becoming a fall related statistic.

Falls from elevations occur in all industries and in all occupations. Are you hanging iron, cleaning windows or performing machine maintenance? Many occupations expose you to the risk of a fall which often leads to injuries.



CONN-OSHA ~ Training Update...

Breakfast Roundtable This discussion group meets the third Tuesday every month from 8:15 am to 9:45 am. Pre-registration is required. To be placed on the e-mail distribution list, call John Able at (860) 263-6902 or email able.john@dol.gov

Confined Space November 13, 2007 Confined spaces pose unique problems due to their contents and/or configuration. This class introduces you to the basic requirements and procedures involved with permit-required confined spaces as detailed in 29 CFR 1910.146.

Machine Guarding December 4, 2007 This session can help you identify and manage common amputation hazards associated with operating and using stationary equipment.

OSHA Recordkeeping January 11, 2008 This session will help you fill out the OSHA Log of Work-Related Injuries and Illnesses (Form 300) accurately and correctly. ***This class will be held from 9:00-12:00 noon.***

Classes are free and held at 200 Folly Brook Boulevard, Wethersfield, CT in Conference Room A/B from 10 am - 12 noon, unless otherwise noted in the class description. To register, contact John Able at (860) 263-6902 or able.john@dol.gov. **Pre-registration is required.** For more training information, visit www.ctdol.state.ct.us/osha/osha.htm.

Fatality & Casualty Reporting

State & Town: CONN-OSHA (860) 263-6946 (local) or 1-866-241-4060 (toll-free)
Private Employers: Report to Federal OSHA at 1-800-321-OSHA(6742)