

# ADOSH ADVOCATE

Improving Workplace Safety and Health



<http://www.ica.state.az.us>

Darin Perkins, Director

Spring 2004

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**Contributing Staff:** Darin Perkins, Sean Kriloff, Ernie Miller

**Special Thanks to Diane Robinson**

Kenneth P. Gaut: Design and Layout  
[gaut.ken@dol.gov](mailto:gaut.ken@dol.gov)

Comments and suggestions are welcome

Arizona Division of Occupational Safety and Health  
800 West Washington Street  
Phoenix, AZ, 85007  
(602) 542-5795

2675 East Broadway Road  
Tucson, AZ, 85716  
(520) 628-5478

### *Residential fall Protection*

In 1994, OSHA promulgated the fall protection standards for construction (29 CFR 1926.500-503). Since that time, there have been several changes to and interpretations of the standards, particularly those involving residential construction activities.

At its inception, the fall protection standard required employers engaged in residential (or residential-like) construction to use conventional fall protection methods (guardrails, safety nets or personal fall arrest systems) or, where the employer could demonstrate that these methods were infeasible or created a greater hazard, to develop and implement a fall protection plan in accordance with 1926.502(k).

Recognizing that conventional fall protection methods were frequently infeasible during residential construction work, the Industrial Commission of Arizona, including ADOSH, worked with the Home Builders Association of Central Arizona (HBACA) to develop an acceptable alternative fall protection plan that would meet the requirements of 1926.502(k). That plan was used as a model for contractors to follow if they chose not to use conventional fall protection methods.

In 1999, federal OSHA issued an interpretation (STD 3-0.1) on fall protection in residential construction. That interpretation allowed contractors to automatically assume that conventional fall protection methods were infeasible, and permitted them to use alternative measures without implementing a written program, or specifying those alternative measures in writing.

Until recently, ADOSH's enforcement efforts for residential construction were centered on this interpretation.

Effective January 1, 2004, ADOSH reverted back to enforcement of the fall protection standard as it is outlined in 29 CFR 1926.500-503. As mentioned above, the standard requires employers engaged in residential (or residential-like) construction to use conventional fall protection methods (guardrails, safety nets or personal fall arrest systems) unless the employer can demonstrate that these methods are infeasible or create a greater hazard. In such



cases, employers may develop a fall protection plan meeting the requirements of 1926.502(k). The plan must be in writing, be developed by a competent person, specify why conventional methods are infeasible, and outline the alternative measures that will be used on

the project. Additionally, employee training must be an active component of the plan.

Employers who were already in compliance with the 1999 interpretation should have no problem with these changes. At most, it may require the establishment of a written program as well as some additional thought given to the alternative fall protection methods used. However, should there be questions or concerns regarding compliance with the standard, or regarding ADOSH's enforcement position, please contact one of the consultation sections.

*Darin Perkins, Director*

## Ladder Safety

Ladders are an essential tool commonly used in construction projects, maintenance projects, or in other activities that require access to elevated heights. Depending on the task being performed, the use of ladders may be regulated according to 29 CFR 1926.1053 or 1910.25 - 27.

Ladders are manufactured in varying lengths, shapes, and sizes including A-frame and extension ladders. Ladders are typically constructed of wood, aluminum, or fiberglass and are required to be labeled with a Duty Rating applicable to the job that will be performed while using the ladder. Ladders should be selected according to the scope of work performed taking into account environmental factors. Employers are obligated to understand and know how the ladders will be used. Employees engaged in construction activity must be trained on the proper use, including recognition of hazards related to ladders, nature of fall hazards in the work area, correct procedures for erecting and maintaining, proper placement and care in handling ladders, and the maximum intended load-carrying capacities of ladders used. Employees engaged in "general industry" activities, should also be trained on the hazards they anticipate facing.

Use of ladders must conform to the manufacturer's intended use or employee injuries could result. Werner, a leading manufacturer, currently manufactures ladders in five (5) different use categories including: Special Duty, Extra Heavy Duty, Heavy Duty, Medium Duty, and Light Duty. Are the ladders your employees use rated for the actual manner in which they are used?



Misuse of a ladder can be a contributing factor to most ladder accidents. The following are a few "Do's & Don'ts":

### Do:

Keep body centered on the ladder.

Move materials with extreme caution.

Climb facing the ladder; always use three (3) points of contact.

Haul materials up on a line rather than carry them up an extension ladder; use caution when carrying anything up a ladder.

Use A-frame ladders on level and sure footings.

Extend ladder three (3) feet above roof line and tie off ladder to structure

### Do Not:

Do not stand above the highest safe standing level.

Do not climb a closed step ladder.

Do not stand or sit on the top or pail shelf.

Do not exceed the Duty Rating.

Do not place the base of an extension ladder too close to a building.

Do not place the base of an extension ladder too far away from the building; Set the ladder at a 75 degree angle.

Do not over-reach, lean to one side or try to move a ladder while on it.

In 2002, ADOSH issued 46 citations under 29 CFR 1926.1053. Between January 2003 and the October 31, 2003, there were 49 citations issued under that same standard. In general industry, only two (2) citations were issued under 1910.25 - 1910.27 in 2002. However, from January 2003 - October 31, 2003, 22 citations were issued.

Evaluate your training program. What are your training procedures? Are your employees properly trained? What is the current condition of the ladders your employees use? Do your employees inspect the ladder carefully prior to each use looking for missing, damaged, or loose components?

A ladder is a very simple, yet essential tool needed to conduct a variety of projects. Although a simple tool, if proper care is not utilized during use, employees could suffer major injuries or even death. No ladder is safe unless it is the right type and size for the job.

ADOSH has a consultation office that can answer questions or help employers comply with the ladder and other OSHA standards. The consultation sections can be reached at 602-542-1769 in Phoenix, or 520-628-5478 in Tucson.

**Sean Kriloff, Compliance Officer**

## ADOSH PLAYS A MAJOR ROLE IN BRINGING A SAFETY CULTURE TO YUMA

In January, 2002, Diane Robinson, Loss Control Consultant with SCF of Arizona and Jeff Denman, Safety & Environmental Specialist with the City of Yuma partnered to bring OSHA classes to Yuma on a continual basis. Following a meeting with Joe Gates and Fernando Mendieta, ADOSH Training Officers from the Phoenix office, monthly classes were scheduled for the year. By the end of 2002, thirteen classes were offered to the Yuma Community and approximately 1,000 individuals had been educated on safety topics in the General Industry and Construction Standards. In 2003, eighteen classes were held in Yuma educating approximately 50 to 75 individuals per class. The response and participation from the Yuma Community has been positive and the support from organizations such as the Yuma Daily Sun and the Southwest Contractor's Association, who have assisted in publicizing these classes for the Yuma Community, has been great. Safety in the workplace is now recognized as an integral part of an employee's workday and daily operations of an organization.

As attendance at these OSHA classes increased, safety professionals in various organizations and throughout the Yuma community were introduced to each other. An additional benefit of the OSHA classes was that "The Yuma Area Safety Council" has been "reborn" with new members. The Yuma Area Safety Council is comprised of safety professionals or individuals who have the responsibility of promoting and enforcing safety practices in their workplace. The Council's purpose is to be a resource for all individuals or organizations that need information or assistance with safety issues, programs or topics. Additional information can be found at [yumasafety.com](http://yumasafety.com) or by writing The Yuma Area Safety Council, P.O. Box 4262, Yuma AZ 85366.

This year in 2004, to enhance safety in the Yuma community, the Yuma Area Safety Council will hold its first annual "Safety Day for the Yuma Community". It is scheduled for November 18, 2004 at the Yuma Civic and Convention Center. With the assistance of ADOSH and other safety organizations and agencies, the Annual Safety Day will include booths for information, educational training sessions, hands-on demonstrations of safety equipment and a variety of safety topics such as workplace safety, agriculture safety, child safety, personal safety, driving/road safety, and safety for the elderly, just to name a few.

*Diane Robinson, President, Yuma Area Safety Council*

### Acetylene/Oxygen Storage

Regulations and good common sense dictate the safe handling and storage of acetylene and oxygen cylinders. The flammability limits for acetylene range from 2.5 to 100 percent by volume, an extremely wide range. For that reason, cylinders are to be used and stored in well-ventilated areas. The accompanying photograph demonstrates why ventilation is so important.



the weekend. Upon opening the truck door on Monday morning, a

employee. You can see the extensive damage that occurred to the truck.

Investigators believe that the employee did not fully close the acetylene cylinder, allowing the vapors to build up in the truck over the weekend. They surmise that the ignition source was either the internal light or the automatic door control, or possibly a mobile phone which was on the front seat of the truck.

An employee left oxygen and acetylene cylinders on the back seat of his Toyota extended cab truck over

large explosion occurred, causing facial and ear drum damage to the

## *Fatal Mistakes*

Every year, employees die from heat exposure, heat related stress and dehydration. Arizona is not "user friendly" in this area, and with the coming of warmer weather, we would like you to remember what heat can do to a human body. Simply stated, it can kill.

Two employees performing an aluminum spin casting job, were working in reflective aluminized foundry protective suits, gloves and hoods to protect them from being splashed in the event of a rotating mold fracture during the aluminum mold pouring. The molten aluminum, carried in a crucible with a temperature approaching 1,300 degrees Fahrenheit, was to be poured into a rotating mold. This work was being performed in a shed structure outside the main plant, with no ventilation other than the ambient breezes. The shed was open on three sides and had two small exhaust fans on the roof to remove fumes. Ambient temperature outside that day, according to the Weather Bureau, was 100.4 to 102.02 during the mid-day hours this work was performed.

This work was originally scheduled for the cooler morning hours, but was delayed until some parts for the molds were completed. The entire process took slightly over three hours to complete, at the peak of the days heat. Work proceeded with breaks of about 45 minutes between pours. The employees rested at the work site, rather than enter the air-conditioned building, in their words, "to keep from getting chills." Their clothes were soaked with perspiration, and both employees were seen to be perspiring profusely. During their "break", both employees removed the long sleeve jacket, the hood and their gloves, but did not remove their reflective trousers or splash boots. They cited the effort required putting on the trousers and boots as being too much when sweaty and wet as the reason for not removing this restrictive, hot clothing during the break. Plenty of cold water and Gatorade were available to the employees during work and breaks.

Upon completion of the job, one employee removed his protective gear, stumbled into the building, negotiated several doors, and collapsed in a hallway outside the mens' room. Emergency procedures revived him temporarily. He became agitated and non-cooperative for a brief period, and then collapsed. While he was transported to the hospital, he failed to respond to emergency treatment, and was pronounced dead at the hospital. The cause of death was hyperthermia.

The heat exposure in this case is not uncommon, though the process involved is somewhat unique. Even though the protective clothing is required to protect the employee, wearing it can present additional hazards or dangers. Care must be taken to prevent the employee from suffering hyperthermia as well.

Employees who are not wearing protective clothing are also at risk for hyperthermia. Working any outside job during the summer in Arizona can cause heat related illness and death. Care must be taken to protect employees from that stress.

Not all employees are equal in what they can tolerate. Judgment and close observation must be part of the protective system for heat-exposed employees. Just having water available is sometimes not enough.

Training, understanding for employees tolerance levels, and close observation are all good means of preventing heat related employee deaths. Engineering controls, such as removal of the heat exposure where possible (ice pack vests worn under the protective clothing are an example), or management controls, such as limiting exposure time per person or rescheduling for cooler time periods are also good controls.

Just be sure to do the right things to keep all employees protected from heat stress during the coming warmer weather.

*Ernie Miller, Compliance officer*

## *Did You Know?*

If your employees wear a tight fitting respirator in the course of their work duties you, (the employer) are required to institute a written program that includes:

Employee medical questionnaire and/or physical exam, Respirator selection, Fit testing procedures (qualitative or quantitative), Respirator care/maintenance and storage, Employee training and recordkeeping.

## ADOSH Education and Training Calendar

Registration for each class begins no earlier than 30 days prior to the date of the class. Location, address and time of class will be determined at the time of registration. All ADOSH classes are free of charge and are subject to change or cancellation without notice.

<b>Date</b>	<b>Class</b>	<b>Location</b>	<b>Trainer</b>	<b>Phone number</b>
April 4	Safety Management	Tucson	Glynn Condit	520-320-4229
April 6	Forklift Train-the-Trainer	Phoenix	Joe Gates	602-542-1641
April 7	Recordkeeping (300 Log)	Tucson	Glynn Condit	520-320-4229
April 8	Construction Safety Mgmt.	Avondale	Joe Gates	602-542-1641
April 13	Excavation Safety	Prescott	Joe Gates	602-542-1641
April 13	Hazard Communication	Tucson	Glynn Condit	520-320-4229
April 14	Scaffold & Ladder Safety	Yuma	Joe Gates	602-542-1641
April 14	Confined Space Entry	Phoenix	Fernando Mendieta	602-542-1640
April 15	Fall Protection	Yuma	Joe Gates	602-542-1641
April 20	Safety Management	Peoria	Joe Gates	602-542-1641
April 22	Forklift Train-the-Trainer	Tucson	Glynn Condit	520-320-4229
April 27	Excavation Safety	Phoenix	Joe Gates	602-542-1641
April 29	Construction Safety Mgmt.	Gilbert	Joe Gates	602-542-1641
April 29	Rigging Safety	Tucson	Glynn Condit	520-320-4229
May 4	Recordkeeping (300 Log)	Phoenix	Joe Gates	602-542-1641
May 4	Fall Protection	Tucson	Glynn Condit	520-320-4229
May 11	Construction Safety Mgmt.	Verde Valley	Joe Gates	602-542-1641
May 12	Electrical Safety	Tucson	Glynn Condit	520-320-4229
May 13	OSHA in the Medical Office	Avondale	Fernando Mendieta	602-542-1640
May 18	Hand & Power Tool Safety	Peoria	Joe Gates	602-542-1641
May 18	Excavation Safety	Tucson	Glynn Condit	520-320-4229
May 19	Heat Stress Prevention	Yuma	Fernando Mendieta	602-542-1640
May 20	Violence Prevention	Yuma	Fernando Mendieta	602-542-1640
May 20	OSHA 300 Log Recordkeeping	Flagstaff	Joe Gates	602-542-1641
May 20	Back Injury Prevention	Tucson	Glynn Condit	520-320-4229
May 25	Lockout/Tagout	Phoenix	Joe Gates	602-542-1641
May 28	Walking-Working Surfaces	Tucson	Glynn Condit	520-320-4229
June 1	Crane Safety	Tucson	Glynn Condit	520-320-4229
June 8	Respiratory Protection	Prescott	Fernando Mendieta	602-542-1640
June 8	Forklift Train-the-Trainer	Phoenix	Joe Gates	602-542-1641
June 9	Lockout/Tagout	Tucson	Glynn Condit	520-320-4229
June 10	OSHA in the Medical Office	Chandler	Fernando Mendieta	602-542-1640
June 15	Fall Protection	Peoria	Joe Gates	602-542-1641
June 16	Electrical Safety Awareness	Yuma	Joe Gates	602-542-1641
June 16	Forklift Train-the-Trainer	Tucson	Glynn Condit	520-320-4229
June 17	Lockout/Tagout	Yuma	Joe Gates	602-542-1641
June 18	Safety Management	Tucson	Glynn Condit	520-320-4229
June 23	Respiratory Protection	Phoenix	Fernando Mendieta	602-542-1640
June 29	Heat Stress	Tucson	Glynn Condit	520-320-4229

All Tucson classes will be held at 2675 East Broadway Tucson Az. Please call if you have any questions.

Trainers may also be contacted by e-mail at [joe.gates@osha.gov](mailto:joe.gates@osha.gov), [fernando.mendieta@osha.gov](mailto:fernando.mendieta@osha.gov), and [glynn.condit@osha.gov](mailto:glynn.condit@osha.gov)

## ADOSH ADVOCATE

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### Occupational Fatalities Investigated by ADOSH October 1, 2003 through December 31, 2003

- A water line undergoing a pressure test exploded killing one employee.
- An employee was electrocuted during an attempt to repair an electrical line.
- An employee was crushed when his forklift went off of the loading dock.
- An employee was crushed under an automobile when the hydraulic lift was activated.
- The owner of a company was killed when a 10,000 gallon tank exploded during an attempt to purge the tank of residual gasoline vapors.
- An employee bled to death after severely lacerating his upper leg with a small grinder that had a wood cutting blade attached.
- An employee was crushed by a wood-framed wall that fell while being lifted in place.
- An employee was crushed by trusses and a load of plywood when the trusses collapsed.
- An employee was crushed against a tree by a truck that was moving backwards.

**ADOSH**  
**800 West Washington**  
**Phoenix, AZ. 85007**