



Health and Safety

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RESOURCE

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Review ladder safety basics in this issue.

On the cover: More Oregon workers are injured in falls from ladders than any other elevated surface.

RESOURCE

Oregon Health and Safety Resource

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Ladder safety: It isn't always about training

By Michael Wood



More than 10 years ago, I was injured. Although I was not on the job, I was working from a ladder putting up siding (actually, putting up Tyvek to go under the siding).

I was hurrying – my wife and I had a “date night” and I needed to get ready.

I was a bit out of position as I stapled the last sheet over the door.

The ladder was not positioned quite right either, because the ground where I should have put it was not level (and I was using a stepladder when I probably shouldn't have been using a stepladder).

I fell. And I was not doing a thing wrong ... that I didn't know was wrong.

You can imagine how my staff of safety and health professionals handled my injury. Let me just say that it was not a display of excessive sensitivity or compassion, although I did have a helpful ladder safety checklist or two posted on my door when I returned to work a day later. And I was struck by how everyone throughout the state knew what had happened to me – our formal communication channels rarely worked that reliably.

In looking at the fall later, I noticed the positioning of the landscape rocks on which I did not land. I realized that there was a sharp branch where a shrub had been cut back recently. And so I knew that it could have been a great deal worse.

As it is, I broke my arm. That was the first (and so far, the last) time I ever broke a bone. I was not an “accident prone” child (I had a cousin who handled that on behalf of all of the rest of us). In fact, I had always been reasonably careful. And yet, I fell from a ladder doing several things that I knew I really should not have been doing quite that way.

I tell this story (which is not one of my favorites, for what should be obvious reasons) in part because we have recently been taking a close look at fall injuries (and deaths) in construction. And, over and over again, we see ladders playing a key role.

We do need to pay attention to footing. We do need to pay attention to appropriate ladder use. And, I believe, we do need to find ways to replace ladders as working platforms or access methods with safer methods when practical. It is not that a

person cannot use a ladder safely. It is simply that we so often do not do so. If there is room for carelessness, if there is room for human error, the simple truth is that it will occur.

Of course, the other thing that struck me about my story was the distance of the fall. If you had asked me at the time of the accident, I would have told you I fell about 10 feet. But the fire department's report said four feet and they were, of course, exactly correct (my head, of course, fell quite a bit farther). A broken arm. And it could have been much worse. A four-foot fall.

We need to use ladders carefully, and we need to make sure those who work in Oregon understand that proper selection, proper setup, and proper use is always critical. But we also need to find ways to take ladders out of the equation when we can. Because humans are fallible, in more ways than one. And we always will be.



Stepping up

Making ladder safety a priority rung-by-rung

By Melanie Mesaros

In 2011, a repair technician was preparing to make adjustments to an HVAC unit on the top of a one-story building in Northwest Portland.

"There was a metal roof with a slick, sheet-metal awning," said Steve Barrett, an Oregon OSHA safety compliance officer. "The worker took an extension ladder and leaned it against the gradual angle of the awning (55 degrees) and it slipped right out from under him. He fell to the pavement and ended up with multiple fractures to his right leg and ankle."

Continued on page 5

The gradual awning on this roof made it difficult for the worker to place the ladder. Photo: Steve Barrett

Stepping up continued



When setting up a ladder, the angle should be an arms length away when feet are positioned at the base of the ladder.

Barrett said not only was the portable ladder set up improperly (extreme angle), the rubber pads on the feet of the ladder were worn.

Oregon OSHA Safety Enforcement Manager Gary Beck said ladder accidents are often the result of a ladder being used improperly.

"We see workers who use a step ladder when it should be an extension ladder," said Beck. "Other times, the ladder is too short or it's damaged in some way, or they try to carry too much when going up."

Despite the fact that ladders are a basic tool for many trades, employees may not be trained on ladder safety to avoid an injury. Educating workers on the three-point system is a good place to start, said Beck.

"Workers should always face the ladder when going up or down and have one hand on the ladder," he said.

A person climbing a ladder should always maintain three points of contact.



Stepping up continued



Inspect your ladder for damage.

According to the Oregon OSHA rule 1926.1053(b)(16), portable ladders with any defects such as broken, bent, or missing rungs, corroded components, worn feet, etc., must be tagged and put out of service until repaired.

"Sometimes, the right ladder isn't available to a worker or they didn't take the time to get the right one for a job," said Beck.

Barrett said improper ladder use is a common citation, particularly in construction.

"I have seen companies use a ladder for something it's not designed for – scaffolding, for instance," he said. "They will place a scaffold plank across a step ladder to hold up the end. If you put a lot of weight on the scaffold, it's designed to hold one person, not the weight of the plank, a person, and all their materials."

Beck said ladder falls are preventable and employers need to ensure their workers know how to properly use them.

"It's not a bad idea to review ladder safety once a year," said Beck. "It could save a life or prevent a serious injury."

NIOSH

The National Institute for Occupational Safety and Health (NIOSH) has a ladder safety application available for iPhone and Android devices that allows users to figure out the optimal angle for ladder placement:

www.cdc.gov/niosh/updates/upd-06-17-13.html



Make sure your footing is secure and level before using the ladder.



Side brace is not secure until engaged fully.



Side brace is secure when locked down.

LADDER VIOLATIONS



Photo credit: Steve Barrett

The worker on this ladder was exposed to a fall into oncoming traffic. Cones or caution tape should have been used.



Photo credit: Jeff Green

A Eugene-area company was cited for using this 30-foot, fiberglass extension ladder with a long crack going down the side and impact damage.



Photo credit: Sky Wescott

The worker was on the top steps of a 10-foot ladder while leaning to install a down spout at a Wilsonville business.



Photo credit: Jeff Wilson

The workers were using a ladder as a ledge to hold their materials.



Photo: Jeff Wilson

Falling off a ladder – then and now

By Ellis Brasch

Ladder accidents – and their causes – have a curious continuity. Consider this news item:

“Failure to secure a ladder resulted in the death several weeks ago of a telephone lineman. [He] was repairing a drop line, having set up an extension ladder with the middle of it resting over a fence and the top leaning against a fir limb 19 feet above the ground.

The ladder slipped off the limb when the lineman apparently reached too far out to connect the wires. The bottom of the ladder also slipped [because] it had not been secured. The lineman fell to the ground, dying a day later of a broken neck. He left a wife and two children.”

And this quote, in another news item, from an emergency medical responder who tended to a worker critically injured after a fall from a ladder:

“Usually, you won’t get hurt that badly falling off a ladder...But he must have landed wrong.”

The first item appeared in the September 1945 issue of **Safer Oregon**, a newsletter published by the State Industrial Accident Commission. The emergency responder was quoted in an article published in the Oregonian in January 2012. Sixty-seven years separated these two events, but the causes of ladder accidents haven’t changed since John H. Balsley invented “the improved stepladder” in 1862. And that lineman might very well have had the same thought – before he fell from the ladder in 1945 – that the emergency responder expressed in 2012: “Usually, you won’t get hurt that badly falling off a ladder.”

Falling off a ladder — then and now – continued



Every year, more Oregon workers are injured in falls from ladders than from any other elevated surface – including roofs, scaffolds, balconies, and even stairs. They fall from ladders for one (or more) of the following reasons:

- They use the wrong type of ladder for the job
- The ladder is defective and shifts unexpectedly or collapses
- They set up the ladder improperly and the ladder unexpectedly shifts or slips
- Their foot slips or they lose their balance when they are climbing or descending
- They overreach and lose their balance
- Something knocks the ladder over
- They think they won't get hurt badly if they fall



Of course, you can get hurt just as badly falling off a ladder as you can from falling off other elevated surfaces. It's not the fall that hurts you; it's what happens when you hit the ground.



Before you start your next job, check out the Oregon OSHA portable ladder app: www.orsosha.org/ladder/index.html

If you need help convincing skeptical people how ladder accidents happen, you can share summaries of every ladder accident reported to Oregon OSHA for the past six years (taken from the OSHA 170 Fatality and Catastrophe Investigation Summary). You can find [Ladder-related accident narratives, 2007 to present](#) on Oregon OSHA's website under A-Z Topic List: "[Ladders.](#)"

Need a quick refresher on how to select, set up, and use a portable ladder? Check out Oregon OSHA's [portable ladder app](#), also available for mobile devices in the [Google Play store](#).

Heads up construction-industry employers. If you have employees who use ladders, make sure that a competent person has trained them. Training must cover ladder hazards, how to use ladders, ladder capacities, and Oregon OSHA's requirements for the ladders they use. A competent person is one who can identify existing and predictable hazards where employees work and who has authority to correct the hazards promptly.

SAFETY NOTES



Accident Report

Incident | Exposure to hot cooking oil

Business | Restaurant

Employee | Line cook

A line cook was cleaning the inside of a hood over a 360-degree deep fat fryer in the restaurant's prepping and hot cooking area, a task that he did every evening before the restaurant closed. The restaurant had provided him with a five-foot long, cloth-covered, deck brush for cleaning under the hood but he needed to climb on the counter to do the job.

He had placed a cookie sheet over the fryer to prevent any debris from dropping into the oil and was standing with his left foot on top of the fryer and his right foot turned sideways on the lip next to the fryer when he lost his balance. He stepped onto the cookie sheet, which gave way and his foot plunged into the 350-degree oil.

Just as the line cook stepped into the hot oil, his supervisor entered the cooking area and came to his aid. His girlfriend, who was waiting for him to get off work, took him to the emergency room where he was treated for second-and-third-degree burns to his lower left leg and foot.

Continued on page 10



Left: The restaurant cooking area where the worker was standing on the counter to clean the hood overhead.

Applicable standards

- **437-001-0760(1)(a)** – The employer did not see that workers were properly instructed and supervised in the safe operation of any machinery, tools, equipment, process, or practice which they are authorized to use or apply.
- **437-001-0760(3)(a)** – The employer did not investigate every lost time injury that workers suffered in connection with their employment, to determine the means that should be taken to prevent recurrence.
- **437-001-0765(5)** – The safety committee did not meet at least monthly except during months when a quarterly worksite inspection was performed.

Oregon OSHA investigates methylene chloride exposures, issues hazard alert

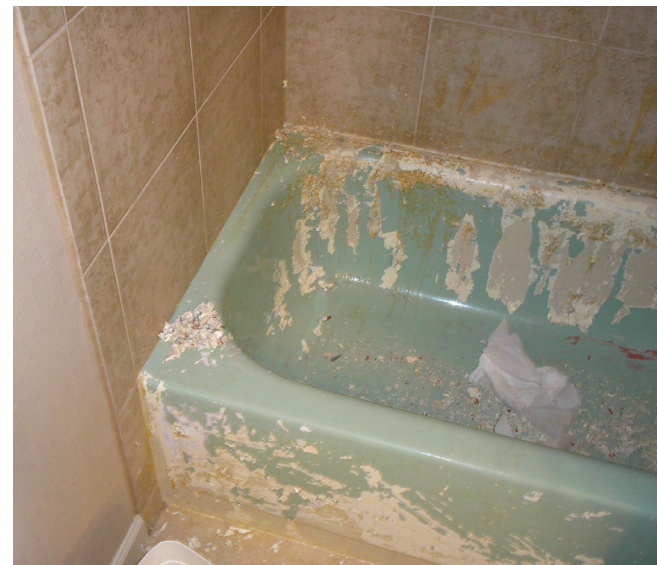
One worker died and another became sick after an exposure to methylene chloride while performing separate bathroom resurfacing projects in the Portland area in recent months. Oregon OSHA is urging employers to take precautions to avoid exposure to the chemical, which can severely burn the skin and eyes; damage the liver, kidney, and brain; and may cause death. Symptoms include dizziness, headache, and disorientation.

In January, the victim in the first incident was discovered hunched over the bathtub by the homeowner after vapors from a methylene chloride stripper overcame him. He was not wearing a respirator and was working in a small bathroom with a ceiling fan and closed door. He never regained consciousness and died in the hospital.

In the second incident, a worker finished applying methylene chloride to a sink in a bathroom with no fan and a window opened just a few inches. The homeowner called for help after the worker was acting incoherent. He was not wearing a respirator.

Many stripping products, including those found over the counter, contain high percentages of methylene chloride. Use of these chemicals in bathrooms is dangerous, particularly because bathrooms are often small, with little or no ventilation. Workers should use full-face supplied air respirators, protective gloves, and other appropriate personal protective equipment (PPE) during the entire refinishing process and should be properly trained on the hazards of methylene chloride.

More information about the chemical dangers and bathroom refinishing is available in a new Oregon OSHA hazard alert: [Methylene chloride — bathroom fixture refinishing](#).



Photos: Brian Hauck

Rising temperatures increase risks for workers



WATER. REST. SHADE.

1-800-522-2688
www.osha.org

Oregon OSHA

The work can't get done without them.

HEAT ILLNESS CAN BE DEADLY.
 Remember to:
 • Drink water often, even if you aren't thirsty.
 • Rest in the shade to cool down.
 • Report heat symptoms early.
 • Know what to do in an emergency.

Let's make heat safety part of the job. If you have questions, call Oregon OSHA. We can help!

Imagine cooking over a hot stove or working on a rooftop construction site when temperatures climb into the 90s and higher.

Outdoor jobs become more than just uncomfortable – workers risk developing a heat-related illness when physical activity and high temperatures are combined.

Oregon OSHA encourages employers and workers to understand common signs of heat exhaustion. A person overcome with heat exhaustion will still sweat but may experience extreme fatigue, nausea, lightheadedness, or a headache. If heat exhaustion is not treated promptly, the illness could progress to heat stroke and possibly even death.

“Workers in Oregon aren’t acclimated to working in this type of heat,” said Penny Wolf-McCormick, health enforcement manager for Oregon OSHA. “It’s important to drink water, seek shade during the day, and recognize the signs of trouble.”

From 2008 through 2012, 35 people received benefits through Oregon’s workers’ compensation system for heat-related illnesses. In at least two cases, truck drivers without air conditioning suffered from heat exhaustion.

To help those suffering from heat exhaustion:

- Move them to a cool, shaded area. Do not leave them alone.
- Loosen and remove heavy clothing.
- Provide cool water to drink (a small cup every 15 minutes) if they are not feeling sick to their stomach.
- Try to cool them by fanning them. Cool the skin with a spray mist of cold water or a wet cloth.
- If they do not feel better in a few minutes, call 911 for emergency help.

Heat stroke is a different condition than heat exhaustion. There are several reactions that occur in the human body with heat stroke: hot, red skin (looks like a sunburn); mood changes; irritability and confusion; and collapsing (person will not respond to verbal commands). Call for emergency help immediately if you think the person is suffering from heat stroke. If not treated quickly, the condition can result in death.

Here are some tips for preventing a heat-related illness:

- Perform the heaviest, most labor-intensive work during the coolest part of the day.
- Use the buddy system (work in pairs) to monitor the heat.
- Drink plenty of cool water (one small cup every 15 to 20 minutes).
- Wear light, loose-fitting, breathable clothing (such as cotton).
- Take frequent short breaks in cool, shaded areas – allow your body to cool down.
- Avoid eating large meals before working in hot environments.
- Avoid caffeine and alcoholic beverages (these make the body lose water and increase the risk of heat illnesses).

Employers can calculate the heat index for their worksite with the federal OSHA heat stress app for mobile phones. The tool is available at www.osha.gov/SLTC/heatillness/heat_index/heat_app.html. A number of other tools are also available at www.osha.gov/SLTC/heatillness/index.html.

Oregon OSHA also has a pocket-sized booklet available, in both English and Spanish, with tips for working in the heat: www.orosha.org/pdf/pubs/4926.pdf (English version).



Photo: Overton Safety Training, Inc.

Work suspended on a small-capacity crane operator training rule

Oregon OSHA is not moving forward with a proposed small capacity crane operator safety-training rule. Stakeholders recommended discontinuing work on the rule as a result of an expansion of training options and a delay by federal OSHA until Nov. 10, 2017.

In December 2012, Oregon OSHA proposed the new rule (Crane operator safety training requirements, 437-002-0231) governing

crane operator safety training for small-capacity cranes. After three public hearings in January 2013 and a comment period that extended until Feb. 21, 2013, Oregon OSHA announced the agency would not continue with the rulemaking.

Federal OSHA is considering addressing concerns about crane operator qualification and certification requirements in future rulemaking.

Training videos now available online

Oregon OSHA is now offering 17 video titles from the agency's library online for download. Previously, just a couple videos were available on the Web. The videos cover topics such as pesticides, noise control, and workplace violence.

Search the list of titles at www.orosha.org/video/av-video-resources.html.



Part 2 on YouTube
8 minutes



Congratulations to the new SHARP company:

- Suterra LLC, Bend

Q:

When do I need my safety data sheets?

I know that my company's employees must be trained on the new 16-section safety data sheet format by Dec. 1, 2013, and that distributors must comply with the 16-section format by June 1, 2015. Will Oregon OSHA cite employers who have requested, but not received, new safety data sheets for their hazardous chemicals by June 1, 2015?

A:

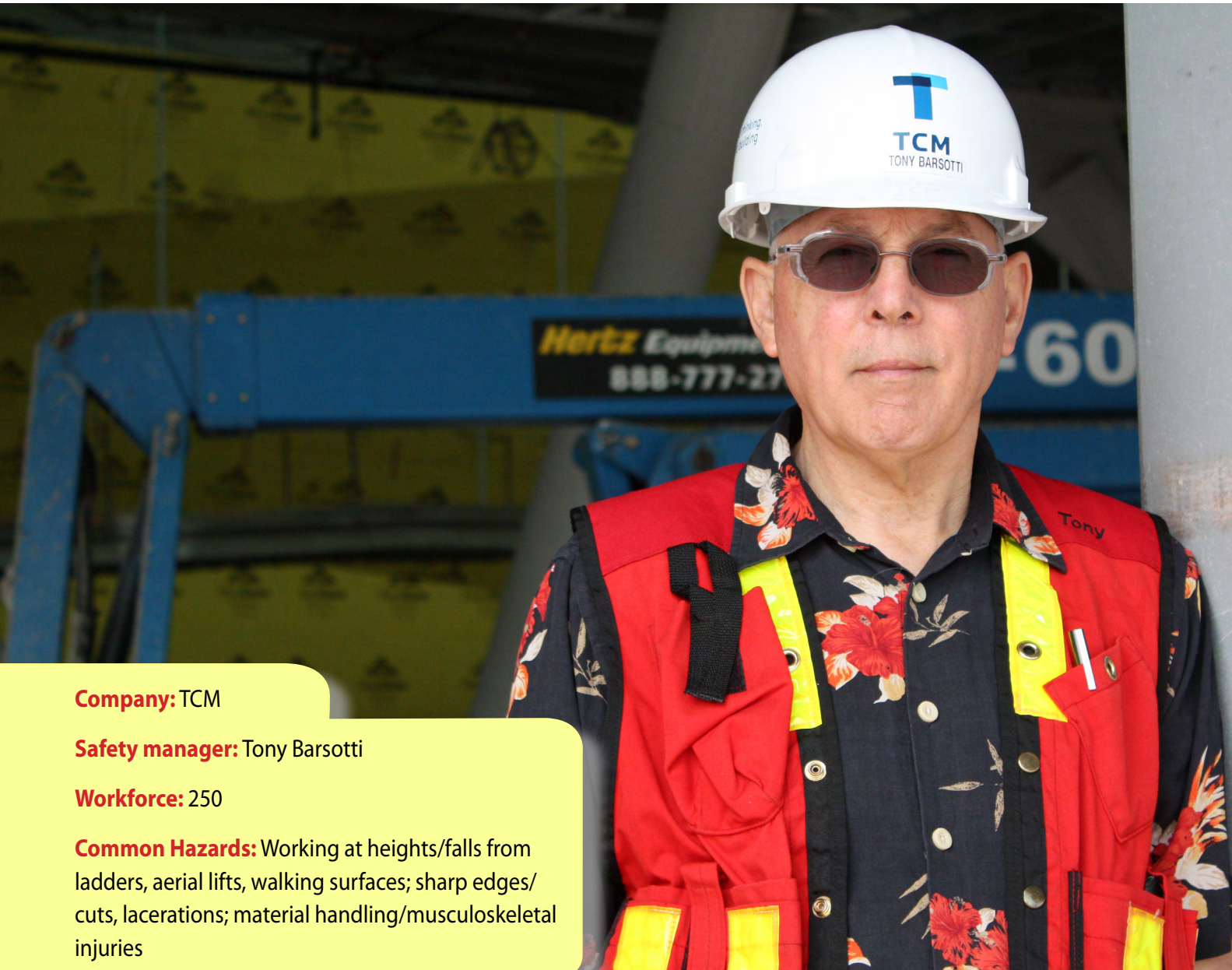
Because chemical manufacturers and distributors must comply with all requirements of the hazard communication standard by June 1, 2015, you should have no problem receiving new safety data sheets for currently produced chemicals.

You are not required to obtain a new safety data sheet for chemicals you get before June 1, 2015. You should receive one, however, with orders your company places after that date. If you request a safety data sheet, but the manufacturer or distributor can't (or won't) send you one, keep your documentation showing that you tried to get it in the new format; Oregon OSHA will not cite employers who have requested, but not received, new safety data sheets in these cases.

Manufacturers are not required to create safety data sheets for their discontinued chemicals. Employers should keep their material safety data sheets – regardless of the format – for those products.



GOING THE DISTANCE – Meet a leading Oregon health and safety professional



Company: TCM

Safety manager: Tony Barsotti

Workforce: 250

Common Hazards: Working at heights/falls from ladders, aerial lifts, walking surfaces; sharp edges/cuts, lacerations; material handling/musculoskeletal injuries

What is your background and safety philosophy?

All injuries are preventable and most injuries are a result of a failure of a management system. My journey as an advocate for eliminating exposures that can lead to injuries began with asbestos exposures working as a pipefitter in the 1970s. Since then, I have advocated for legislative and regulatory improvements and taught apprenticeship and journeymen safety classes. I transitioned to a full-time safety professional in 1994, when I worked for Hoffman Construction, primarily on Intel projects. In 2004, I went to work for TCM in a corporate safety role.

What are the unique safety challenges you face on current projects?

Our primary challenges are having enough time to plan and integrate hazard identification and methods of control into our overall project and short-interval plans. Other challenges come from poor levels of communication between different organizations on a project.

Continued on page 18

GOING THE DISTANCE - Continued

Ladder falls are a common hazard in your industry. How do you tackle this issue?

Ladders are an essential part of the mechanical trades. Though we minimize ladder use through aerial lifts where we can, our work is normally at an elevation above the drop ceilings. We have more than 300 ladders in inventory and our first line of defense is ensuring that ladders provided to the field have been inspected and are in “as new” condition. All of our foremen are OSHA 30 trained and are held accountable for having appropriate equipment for their crews and for the use of best practices. Additionally, we have field safety personnel who conduct audits to ensure practices are appropriate. While people do at times need reminders about ladder practices, it is rare that people are not aware of how the ladders should be used. More often, they have rationalized the choice to take the risk of improper ladder use. In those cases, some constructive coaching addresses the issue.

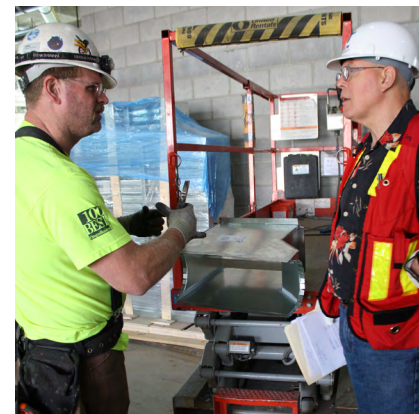
How do you keep your crews engaged in safety issues?

The primary way we engage our crews is through daily interactions with their foremen. Regardless of what we say in our new hire and project-specific orientations, the actual assessment of what is important to the company is derived from those conversations. As a result, we have facilitated several workshops and other leadership development activities for our foremen on the soft skills of communicating, including the importance of listening. We are currently participating with industrial/org psychologists from Colorado State University through a NIOSH grant to enhance leadership skills and help our supervisors understand their role in creating the safety culture of our organization.

Continued on page 19

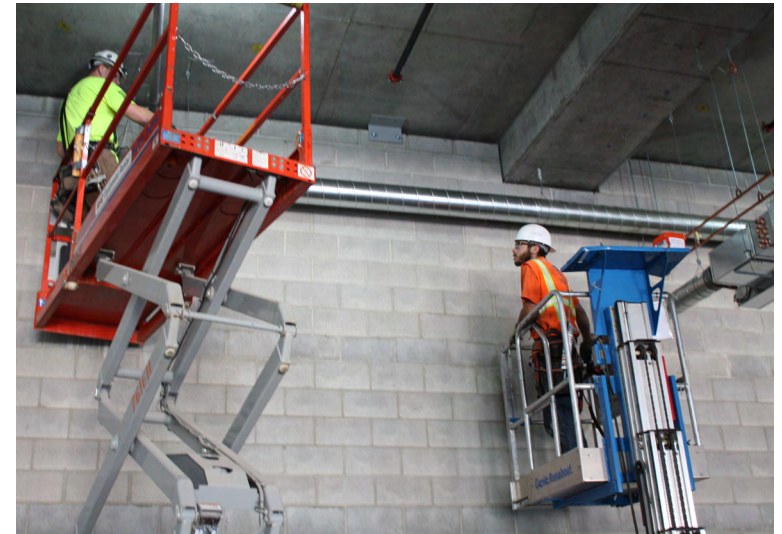
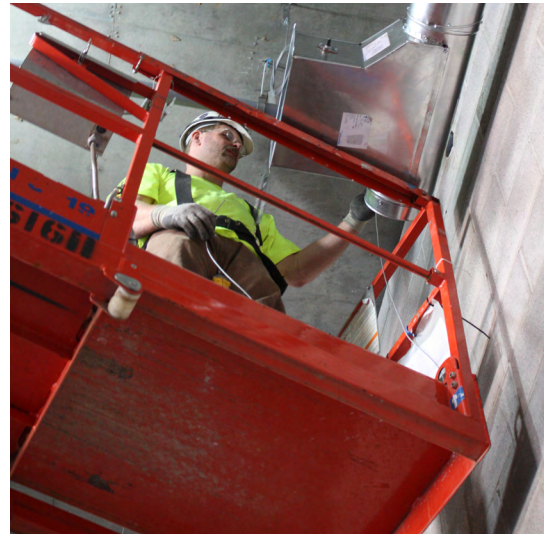


Above: Barsotti (left), with John Fitzgerald, said they have 300 ladders in the company and regularly conduct audits in the field.



Top: Sheet metal worker John Fitzgerald performs overhead work on a ladder at a project in Portland.
Bottom: Tom Boyhan (left) talks with Barsotti before starting a job on the scissor lift.

GOING THE DISTANCE - Continued



Left: Dylan Payne (left) and Barsotti review plans to assemble a fan.

Middle: Tom Boyhan assembles duct work on a scissor lift.

Right: Boyhan (left) and Chris Detherage are trained to work at heights.

What advice do you have for other safety and health managers hoping to make a difference?

My longstanding advice is to seek to understand. For work with the crews in the field, it is important to respect their dignity and the work being performed. It is critical to understand not only what they are doing, but why. Usually, this is best done by open and inquiring conversations. The other area where I believe we have an opportunity to help our organizations mature and improve their injury prevention efforts is by integrating hazard identification and control into all project delivery systems. This would include estimating, purchasing, pre-project planning, and the various project scheduling and coordination systems. These may be more challenging, but in the long run, it will help our organizations improve performance and reduce the amount of effort that safety professionals need to exert putting out fires. ■

September 2013



Do Your Safety and Health Programs Have You Covered? **September 18 & 19, 2013**



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Shawn M. Galloway
President, ProAct Safety, Inc.

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- ◆ Safety Committee and Meetings
- ◆ Making Safety Work
- ◆ Invisible Hazards
- ◆ Office Ergonomics and Equipment Solutions
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- ◆ Confined Space Regulations and Best Practices
- ◆ Disaster Preparedness and Business Continuity Planning
- ◆ Job Hazard Analysis
- ◆ Chemical Exposures and Monitoring
- ◆ Incident Analysis and Problem Solving to Root Cause
- ◆ Communicating Effectively for Safety

NEW for emergency services:

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- ◆ Fireground Respiratory Protection Best Practices
- ◆ Post Traumatic Stress Disorder – In and Out of the Workplace
- ◆ Conducting Live Fire Training (NFPA 1403)
- ◆ PPE Inspection, Selection, Care, and Maintenance (NFPA 1851)

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- Globally Harmonized System (GHS)
- The Courage to Intervene
- Emerging Issues in Ergonomics
- Trenching and Excavation
- Pesticide Training
- Tech Tools/Apps
- Safety Leadership
- What to Expect from an Inspection



OCTOBER 16 & 17, 2013

MEDFORD SCHOOL DISTRICT EDUCATION CENTER

Registration opens in late-August.

More information available at:

www.orosha.org/conferences

A joint effort of the Southern Oregon Chapter of ASSE and Oregon OSHA.

