Health and Safety

RESOURCE

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ODOT mourns the loss of a worker killed in a 2014 work zone accident.

On the cover: Employees perform road work on a busy Portland street, where dangers exist from passing drivers and moving equipment.

RESOURCE

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Department of Consumer and Business Services
Pat Allen, Director
Oregon OSHA
Michael Wood, Administrator
Resource editor
Melanie Mesaros
Design and illustration
Patricia Young
DCBS editor
Mark Peterson

If you have questions about the information in **Resource**, please call 503-378-3272.

For general information, technical answers, or information about Oregon OSHA services, please call 503-378-3272 or toll-free within Oregon, 800-922-2689.

DEPARTMENT OF CONSUMER & BUSINESS SERVICES
Oregon OSHA

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The key to our success

By Michael Wood

By most measures, Oregon's efforts to encourage workplace health and safety have been successful. We can always do better, but we have seen steady decreases in injury and illness rates for the past two and a half decades. And we have seen worker fatality rates drop during the same period.

Here at Oregon OSHA, we get positive feedback from other worker health and safety programs – as well as private sector advocates – around the country. And our most recent federal OSHA "audit" of the program identified no formal findings or recommendations – a relatively rare achievement, but one that we have managed more than once during the past decade.

There are a number of elements that have helped the Oregon approach achieve this relatively high level of success. We rely upon effective collaboration with employer and worker organizations. We use a variety of tools, including enforcement, on-site consultation, and a wide range of educational tools. But, in the midst of discussions about methods and strategies, it is sometimes too easy to overlook one of the primary reasons for any organization's success: its people.

Over the past few weeks, I have had the opportunity to recognize several Oregon OSHA staff members for their years of public service. We sometimes talk about the special initiatives or extraordinary projects as though those are the reasons for our success. And they can certainly help. But as I remind the staff members at those events, it is the day-in, day-out efforts of enforcement staff, consultants, administrative staff, and others who truly make a difference. The reason that Oregon OSHA is as successful as we are has more to do with the work they do every day than it does with any particular special initiative.

When I arrived here nearly a decade ago, I was told that one of my jobs was to be the "public face of Oregon OSHA." That's true in a sense. I do get speaking invitations and other opportunities to represent the organization. But the real "face" of this organization is a composite portrait of all the staff members who have interacted with the public in the past week, the past month, the past year, or the past decade. The organization you know as Oregon employers and workers is not primarily the organization that I present when I speak – it is the one that those hardworking safety and health advocates exhibit to you.

Last month, I spent a day with Tom Hoffman, a long-time Oregon OSHA employee who has been the "face" of Oregon OSHA on the south coast. Tom truly exhibits the best of this organization, and as he approaches his long-planned retirement, we are scrambling to make sure that we can pursue our mission as effectively after he is gone. Another of our long-term employees, Regan Danielson, will be stepping into the role.

It will be a change, of course. We are the same organization. We have the same rules, the same policies, and the same publications that we always have. But whether the work is done by Tom or Regan, it will be the front-line staff who truly make a difference on behalf of workers on the southern Oregon coast. And that same reality plays out, every day, throughout Oregon. ■

Safety in the zone

How a tragedy changed a workplace

By Melanie Mesaros

On July 22, 2014, tragedy unfolded on Highway 320 in Echo, Ore., when an Oregon Department of Transportation crew was performing a chip seal operation.

"One of the managers called and told me he thought we lost Don," said Marilyn Holt, ODOT District 12 manager. "I just remember thinking, 'What do you mean?' He said, 'We backed over him.' I just remember standing there and felt like the whole world stopped turning for a minute."

Don Kendall, an ODOT maintenance crew veteran, was killed when a dump truck backed over him as he was raking crushed rock during the road project. The accident sent shock waves throughout the organization, deeply affecting others on the work crew that day, managers, and co-workers who thought of Kendall as a friend.

"Don was really a hard worker and prided himself as being the ground guy," said Holt. "Because of that, everyone knew him and he had been here almost 30 years. He worked with so many people."

Some 27 years ago, Holt started her career at ODOT in Ukiah and first worked with Kendall.

"He was the kind of guy who was everyone's friend," she said. "It wasn't just losing a co-worker."

Don Kendall (right), an ODOT employee for nearly 30 years, was killed in a backover accident in eastern Oregon.

Photo: Oregon Department of Transportation

Safety in the zone

ODOT Employee Safety Manager David Solomon said the chip seal process is one of the more dangerous projects crews perform because it is a moving operation, with multiple dump trucks backing up simultaneously.

"The tanker truck sprays hot oil, a chip spreader comes through and drops rock," he said. "As soon as one truck is empty, then the next one comes in, backing up the entire time. It's a delicate, complicated ballet. There are guys on the ground who are spreading the rocks, followed by the rollers. A lot of stuff is going on and with multiple pieces of equipment, plus traffic, there can be a lot of distractions."

Kendall (left), seen here on an earlier project, was known as the "ground guy" to co-workers, who say he was also a hard worker.

Photos: Oregon Department of Transportation

Oregon OSHA Safety Enforcement Manager Gary Beck said Kendall's accident highlights the fact that people on the ground inside a work zone are the most at risk.

"Workers need to focus on what's going on around them at all times," said Beck. "You never want to place yourself between a moving piece of equipment and something else. Employers should also try to minimize the number of people on the ground."

According to statistics released by ODOT, more than one work zone crash happens each day in Oregon. ODOT cites the main causes of crashes in work zones as inattention, speeding, and driving too fast for conditions. While drivers need to do their part to slow down and pay attention, Beck said employers have more control over the hazards that exist on the other side of the cones.

"Controlling traffic outside the work zone is only part of the picture," he said. "It's just as important to pay attention to hazards inside the work zone."

Safety in the zone

Following the accident, ODOT examined how to prevent it from happening again. Solomon said they are exploring use of new technology such as back-up cameras and proximity alarms, and created a library of job hazard analyses (JHAs) for high-risk operations, including chip seal, paving, and tree falling.

"When an innovative hazard mitigation is discovered in one part of the state, it can be shared with crews who are doing similar work in other parts of the state," he said.

The accident has also led to some changes in the chip seal procedure for rakers. Rather than working in a position where they are exposed to backing hazards, rakers have now been moved to the back of the operation. The loss of Kendall prompted more communication about improvements, engaging workers at different levels, Solomon said.

"It was a catalyst for re-examining practices and there's been a lot of soul searching that's been going on," said Solomon. "It's opened the door to conversations about how we do things, how we plan projects and make priorities. For instance, we've been doing things a certain way, but is it the best way? It's unfortunate that it takes a tragedy to spur change, but that's really what I see happening here."

Holt said June will be the first time her district will perform a chip seal job since the accident.

"I want people to know that a year later, we are all still really hurt," she said. "We are never going to be the same. It changed how I feel about my job, and this job is my life. "

ODOT Employee Safety Manager David Solomon and Marilyn Holt, ODOT District 12 manager, mourn the loss of Kendall during a May 18 memorial ceremony in Salem.

Photos: Oregon Department of Transportation

Holt takes a moment to reflect with an ODOT collegue. She said, “The day I got that phone call, you don’t ever want to hear it’s anybody. But there are those people you just think it can’t be. Not Don.”

In light of the loss, Holt recalled a mantra well known to work crews: “Look twice. Think twice.” It now has more meaning than ever before.

“We all feel a responsibility to keep each other safe,” Holt said. “In this particular case, every one of us has had to ask ourselves the question if we did everything we could to prevent this accident.” ■

Technology complementing safety

Just like in passenger vehicles, newer models of loaders and ready-mix trucks are coming equipped with video cameras with in-vehicle display monitors. After testing, NIOSH has concluded that back-up cameras are helpful in giving operators a view of what is behind them.

“It’s going to be commonplace in the near future for this equipment,” said Lynn Gullickson, Northwest division safety manager for Knife River.

However, Gullickson cautions that the cameras are not a fail-safe in preventing accidents.

“The cameras are a great aid that helps improve safety,” he said. “But you still have to look and turn around and see with your direct eyes. We train our operators to use the technology as a tool in conjunction with actively looking around for possible hazards. Doing both of those together minimizes our risk, cuts down on accidents, and keeps our people safe.”

A camera installed on a Knife River ready-mix truck gives this driver a view of activity behind him.

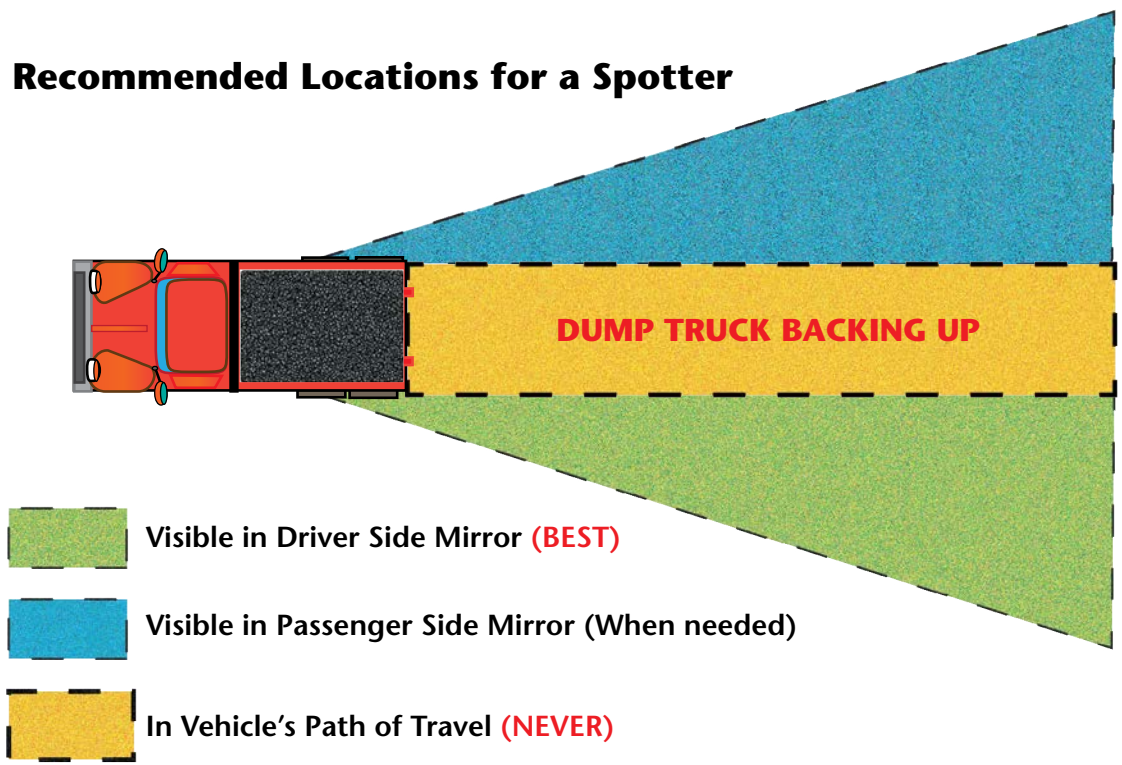
Tips for preventing backover accidents at construction sites

By Ellis Brasch

When they are on construction sites, workers sometimes forget that they are just as vulnerable to approaching vehicles as other pedestrians. On May 1, a dump truck made a routine trip at a construction site to drop off a load of asphalt. An Oregon worker died as the truck was backing up, becoming another victim of a backover accident. In July 2014, another Oregon worker died when a dump truck backed over him in a similar situation.

Dump trucks are historically the most common cause of fatal backover injuries at construction sites, but other vehicles – including forklifts and pickup trucks – also cause backover accidents.

Why do backover accidents happen? Drivers might not see a worker standing in their vehicle's blind spot or they may assume that their vehicle's path of travel is clear. And pedestrians – the workers on foot – might not hear a vehicle back up over surrounding noise or because they may be focused on doing their own tasks.



4 ways to prevent backover accidents on construction sites

The key to preventing backover accidents on construction sites is to ensure that drivers and pedestrians are more aware of the activities going on around them. Here are four ways to accomplish that:

1 Develop a traffic control plan

- Lay out worksites that minimize the need for vehicles to back up.
- Separate moving vehicles and equipment from workers with physical barriers.
- Put up signs and cones to show workers where to walk in high-traffic areas.
- Ensure that contractors are aware of any changes in the flow of daily construction traffic at the site.

2 Conduct regular vehicle inspections

Inspect vehicles at the beginning of each shift. Make sure that brakes, lights, horns, and backup alarms and cameras are working properly. Put defective vehicles out of service until they are repaired.

3 Enhance workers' awareness of the work environment

- Consider installing equipment that can detect objects in the vehicle's path. Back-up cameras, proximity detection systems, and radio-frequency identification (RFID) tag-based systems (such as RFID tags worn by workers that send signals to drivers when the workers get too close) are examples.
- Ensure that vehicles with restricted views to the rear use backup alarms or a spotter directs them when they are backing up. Always maintain contact (visually, verbally, or by hand signals) with a spotter when backing up a vehicle.
- Ensure that workers know about the blind spots on any equipment they operate.
- Ensure that vehicles' mirrors and windows are clean and that the mirrors are set properly.
- Ensure that workers wear high-visibility garments — day and night.
- Prohibit the use of personal cellphones and headphones in areas where they could distract workers from approaching vehicles.

4 Keep workers informed

At the start of each shift, review communications signals between equipment operators and spotters with all workers who will be on the site.

What are Oregon OSHA's requirements for vehicles with obstructed views to the rear?

Oregon OSHA's construction-industry rule for vehicles that have obstructed views to the rear is ***437-003-3225(9), Warning Devices***, which requires that such vehicles have a backup alarm that can be heard over surrounding noise. This does not apply when the vehicle backs up and a spotter (or the operator) verifies that there is no one behind the vehicle and that no one will enter the "danger area" without the operator's knowledge. A similar requirement – ***437-002-2225(9), Warning devices*** – applies to general-industry workplaces. ■

SPECIAL THANKS
to the 2015 Safety Break participants

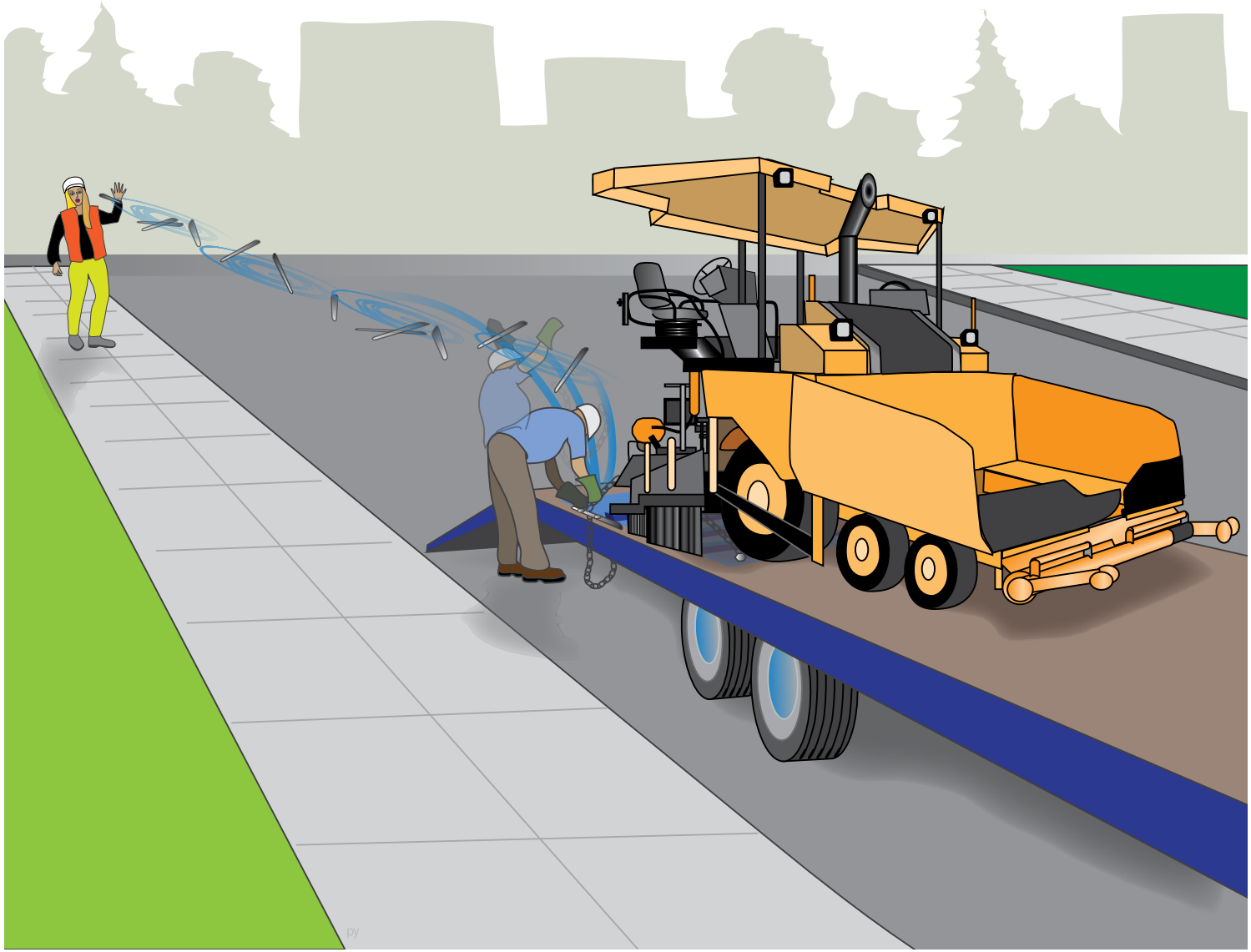
- *Associated General Contractors*
- *Bonneville Hatchery – Oregon Department of Fish & Wildlife*
- *Canron Western Construction Company*
- *Carlson Roofing Co. Inc.*
- *Center for Dialogue and Resolution*
- *Central Oregon Pediatric Associates*
- *City of Harrisburg*
- *City of Lake Oswego*
- *City of Newberg*
- *City of Newport*
- *City of North Bend*
- *City of Portland – Bureau of Environmental Services*
- *City of Sweet Home*
- *City of Wilsonville*
- *Comcast – Beaverton*
- *Comcast – Corvallis*
- *Comcast – East Portland*
- *Comcast – Longview*
- *Comcast – Nimbus*
- *Comcast – Salem*
- *Comcast – SW Washington*
- *Comcast – Tigard*
- *Deacon Corp.*
- *DeSantis Landscapes*
- *Emerick Construction Co.*
- *Fiskars/Gerber Blades*
- *Fred Shearer & Sons, Inc.*
- *Fumimi Corporation*
- *Harry's Fresh Foods*
- *Home Builders Association of Marion & Polk Counties*
- *Industrial Commercial Electric Company*
- *Kirby Nagelhout Construction*
- *LMC Construction*
- *Market Contractors Ltd*
- *Mid-Valley Gastroenterology*
- *Miller Nash Graham & Dunn LLP*
- *Mt. Angel Financial Services*
- *Multnomah County Risk Management*
- *Oregon Department of Consumer and Business Services*
- *Oregon Department of Forestry*
- *Oregon Department of State Lands*
- *Oregon Home Builders Association*
- *Oregon Institute of Technology*
- *Oregon Military Department*
- *Oregon Trucking Associations*
- *Pacific States Marine Fisheries Commission*
- *pod4print*
- *Portland General Electric*
- *Portland Habilitation Center*
- *Portland State University Facilities and Construction Groups*
- *Quality Plus Services, Inc.*
- *R.D. Bussard & Son, Inc*
- *REACH Inc.*
- *S&B James Construction*
- *SAIF Corporation*
- *Scenic Fruit Company*
- *Schmitz Timber Management Co., Inc*
- *Selectemp Employment Services*
- *Slayden Construction*
- *Special Districts Association of Oregon*
- *Sunriver Owners Association*
- *Swinerton Builders*
- *The Oregon Clinic*
- *Thermo Fisher Scientific*
- *Truitt Bros.*
- *VTM Group, Inc.*
- *Weyerhaeuser – Springfield Woods*
- *Weyerhaeuser – Springfield TOPS*
- *Weyerhaeuser*

Accident Report

Incident | Struck in the head by binding bar

Industry | General industry

Employee | Flagger



The victim, an experienced flagger, was controlling traffic at a gated entrance to a large construction site. A truck pulled up to the gate hauling a paving machine on a lowboy trailer that was going to be used for road construction at the site.

The equipment was a day early, however, and the site's staging area was not ready for the delivery, so the driver decided to unload the paver at a curb near the gate. The flagger walked over to the truck because she thought that flagging might be necessary to control vehicles and pedestrian traffic as the paver was unloaded.

When the driver placed a binder bar over the chain binder lever to release the tension on the chains, the bar flew off the lever and struck the flagger, who was standing 15 feet away, in her forehead. She suffered a severe concussion with lingering effects that included disorientation and sensitivity to noise and light.

Findings

- The binder bar had been shortened, although a label on the bar read, “Do not alter.”
- The altered binder bar was being used as an extension over the chain binder lever, although the chain binder lever was stamped with a manufacturer’s warning that read, “No extensions.”
- The employer did not train employees in the proper safe process of securing and releasing heavy equipment loads.

Standard cited

437-001-0760(1)(a): “The employer must see that workers are properly instructed and supervised in the safe operation of any machinery, tools, equipment, process, or practice that they are authorized to use or apply.” Employees were not properly trained and supervised in the process of securing and releasing heavy equipment to lowboys.

Photos: **(Top)** Binder bar – the engraved message says, “No extensions, stay clear of handle.”
(Bottom) Binder operating instructions: Warning says, “Stay clear of handle, as it could suddenly release with force.”

Protect outdoor workers from dangers of heat stress

Landscaping, construction, and agriculture are all labor-intensive activities that can raise the body temperature of workers in hot weather. This could lead to heat illness or even death, if precautions are not taken.

"Workers in Oregon aren't acclimated to working in this type of heat," said Penny Wolf-McCormick, health enforcement manager for Oregon OSHA. "Employers should provide drinking water, offer a shaded place for workers to take breaks, and watch for signs of trouble."

Oregon OSHA encourages employers and workers to learn the signs of heat illness and focus on prevention. Exposure to heat can lead to headaches, cramps, dizziness, fatigue, nausea or vomiting, and even seizures or death.

From 2010 through 2014, 28 people received benefits through Oregon's workers' compensation system for heat-related illnesses.

"Heat illness can be deadly, but it's preventable," Wolf-McCormick said.

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.

Certain medications, wearing personal protective equipment while on the job, and a past case of heat stress create a higher risk for heat illness.

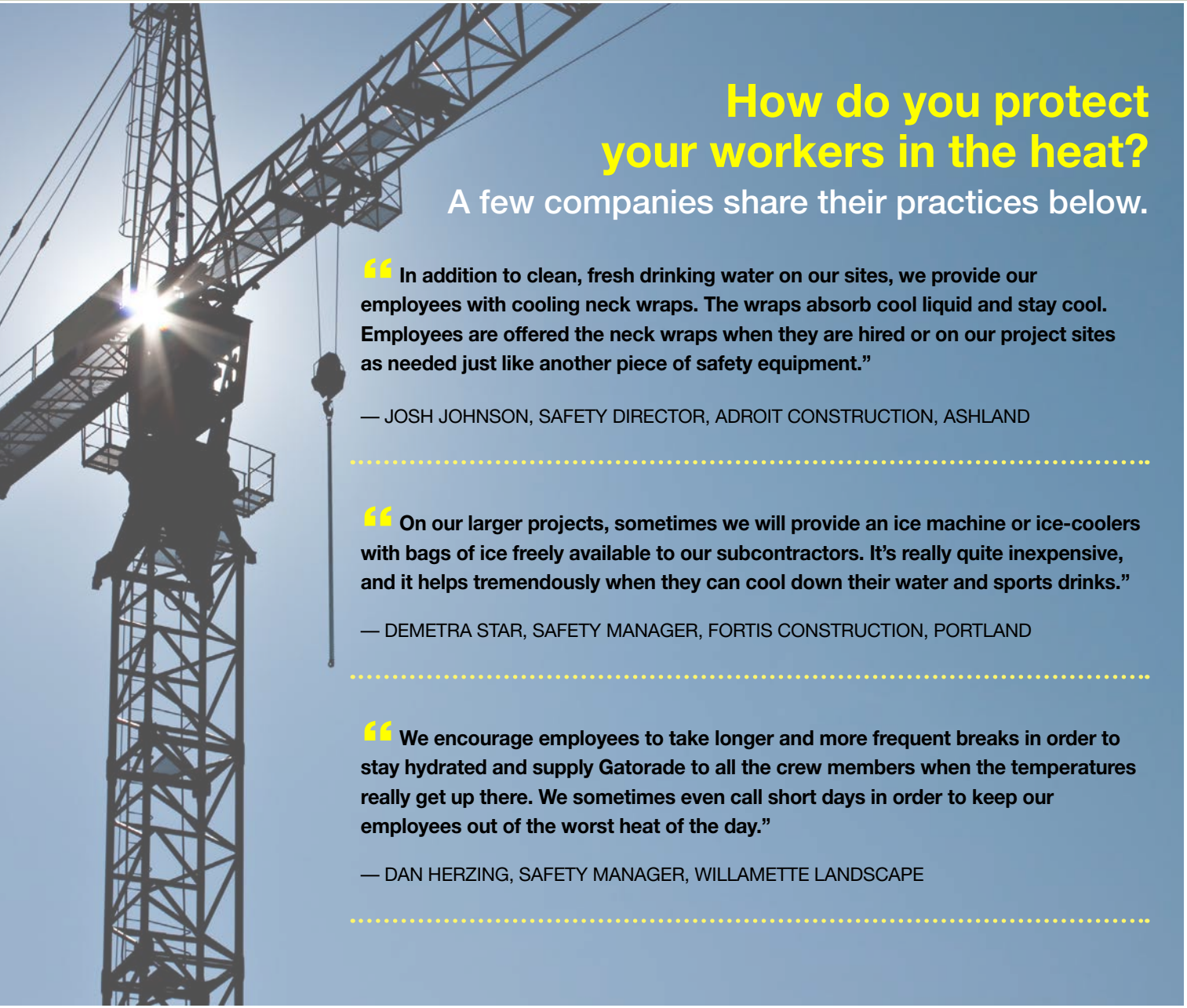
Heat stroke is a more severe condition than heat exhaustion and can result in death. Immediately call for emergency help if you think the person is suffering from heat stroke.

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 smart phones. The tool is available at www.osha.gov/SLTC/heatillness/heat_index/heat_app.html. A number of other tools are 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).



How do you protect your workers in the heat?

A few companies share their practices below.

"In addition to clean, fresh drinking water on our sites, we provide our employees with cooling neck wraps. The wraps absorb cool liquid and stay cool. Employees are offered the neck wraps when they are hired or on our project sites as needed just like another piece of safety equipment."

— JOSH JOHNSON, SAFETY DIRECTOR, ADROIT CONSTRUCTION, ASHLAND

"On our larger projects, sometimes we will provide an ice machine or ice-coolers with bags of ice freely available to our subcontractors. It's really quite inexpensive, and it helps tremendously when they can cool down their water and sports drinks."

— DEMETRA STAR, SAFETY MANAGER, FORTIS CONSTRUCTION, PORTLAND

"We encourage employees to take longer and more frequent breaks in order to stay hydrated and supply Gatorade to all the crew members when the temperatures really get up there. We sometimes even call short days in order to keep our employees out of the worst heat of the day."

— DAN HERZING, SAFETY MANAGER, WILLAMETTE LANDSCAPE

Attention employers – new guidelines for reporting accidents

Not sure when to call in an accident or incident? Oregon OSHA has a newly updated card that spells out exactly when and what type of work-related incidents must be reported.
Order or download it here:
www.orosha.org/pdf/pubs/5009.pdf.

Workers Memorial Day ceremony honors fallen in Oregon

The names of more than 50 workers who died on the job in 2014 were read during a somber ceremony at the Fallen Workers Memorial outside the Labor and Industries Building in Salem on April 28.

"Each of those names we read, there is a story of a life and dreams, family and friends and loved ones, and there is a story that was cut short by a tragedy in the workplace," said Michael Wood, Oregon OSHA administrator.

The memorial service, coordinated by the Oregon AFL-CIO, also featured remarks from Oregon Gov. Kate Brown, who said no job is worth a life. "One work-related fatality is one too many," said Brown. "Oregon can do better. We can, and we must."

Wood challenged employers to address hazards and to avoid the dangerous belief that we have done all we can do.

"I pledge to you that I will do more," he said. "I will fight harder. I will push harder to see workplaces in this state safer."

The annual Workers Memorial Day serves as a nationwide day of remembrance. It recognizes the thousands of U.S. workers who die each year on the job and the more than 1 million people in the U.S. who are injured each year at work. The observance is traditionally held on April 28 because Congress passed the Occupational Safety and Health Act on that date in 1970.

Top left: Family members of those killed on the job attended the annual Workers Memorial Day observance at the Fallen Workers Memorial in Salem on Tuesday, April 28.
Left: Parents Leon and Claire Barker and daughter-in-law Beth Ann stand in memory of Jeremy Barker at the Fallen Workers Memorial in Salem. Barker died Oct. 6, 2014, in an industrial accident at a Tualatin manufacturer.
Above: Gov. Kate Brown delivers remarks during the Workers Memorial Day observance.

South Salem High School student wins statewide safety video contest

John Patterson, first-place winner

John Patterson, a student from South Salem High School, won $500 for his first-place video titled "Lorenzo's Blog," which promotes young worker safety and the importance of speaking up. The video, told from a first-person diary perspective, depicts Lorenzo's struggle with finding a job and ultimately being asked to do unsafe duties. South Salem High School also won a matching amount of prize money.

"My grandpa died from asbestos and he worked in a factory when he was really young," said Patterson. "I thought that making this video would help people who should have a voice and encourage young people to speak up."

SAIF Corporation's Corey Jenkins served as emcee.

FIRST PLACE ($500):

"Lorenzo's Blog"

John Patterson, South Salem High School

SECOND PLACE ($400):

"This is My Scar"

Joshua Elliot, Robert Elliot, South Salem High School

THIRD PLACE ($300):

"Work Safety for Teens"

Zachary Tennant, La Pine High School

Finalists of the 2015 "Speak up. Work safe." video contest

The creators of the top videos were presented their awards during a special screening at the Northern Lights Theatre in Salem on May 2. The contest is designed to increase awareness about safety for young workers, with the theme of "Speak up. Work safe." Students were asked to create a video with a teen job safety and health message and were judged on creativity, production value, youth appeal, and the overall safety and health message.

All of the winning videos, as well as the other finalists, are available for viewing on YouTube: www.youtube.com/playlist?list=PLM75uPd4sBhw4U8dnwg5OKrKsxo0rvrLa.

The Oregon Young Employee Safety Coalition (O[yes]) organizes the contest. The sponsors are Oregon OSHA, SAIF Corporation, local Oregon chapters of the American Society of Safety Engineers, the Oregon Institute of Occupational Health Sciences at OHSU, the SHARP Alliance, the Central Oregon Safety & Health Association, the SafeBuild Alliance, Northern Lights Theatre Pub, Hoffman Construction, and Construction Safety Summit.

Oregon businesses celebrate Safety Break for Oregon May 13

Dozens of companies across Oregon paused from their regular activities to take a break for safety on Wednesday, May 13. The annual Safety Break for Oregon event was marked by businesses that hosted luncheons, employee recognition events, and safety training.

Portland-based R&H Construction participated by having workers stand-down for safety meetings at more than 14 active sites and addressed site-specific hazards. At one location, the company focused on fall protection with a demonstration on calculating fall distance.

"Safety needs to be at the heart of our work processes every day on every job, non-stop," said Art Bush, R&H corporate safety director.

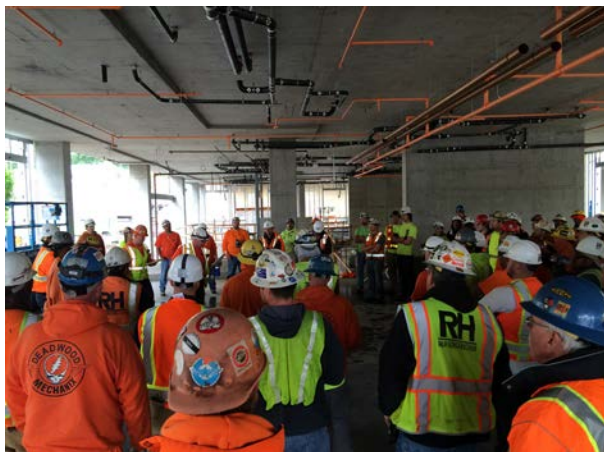
"Working safely is a huge learning process, and something we can never truly finish. Safety Break gives us an opportunity to reinforce that value."

At Fred Shearer & Sons in Beaverton, Oregon OSHA Administrator Michael Wood spoke to workers at a company barbecue about their commitment to working safely every day.

"We know how to prevent deaths. ... The way we can have greater success is by demanding better," said Wood.

Comcast in Tigard, Industrial Commercial Electric Company, and Thermo Fisher each won a $100 pizza luncheon prize as part of the SHARP Alliance sponsored contest.

Above: Oregon OSHA Administrator Michael Wood. **Top right:** R&H Construction. **Middle right:** Scenic Fruit Company.
Below left: R&H Construction. **Below middle:** Red Shearer & Sons. **Bottom right:** City of Harrisburg

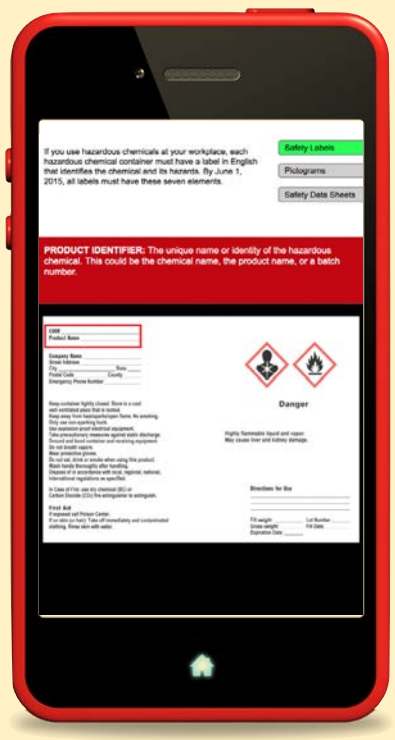


Q: **I was told that our company needs to replace all of our current Material Safety Data Sheets with the new Safety Data Sheets by June 1, 2015, to meet OSHA requirements. Is that true?**

A: **You are not required to replace your Material Safety Data Sheets with Safety Data sheets by June 1.** That requirement applies to chemical manufacturers, not to end-users. Just make sure that the chemical products you receive have complete, legible labels and that you have a Material Safety Data Sheet for the product.

Beginning June 1, any product you receive from the manufacturer must have a new label on it. (Manufacturers must develop new product labels that include signal words, pictograms, hazard statements, and precautionary statements for chemicals based on their hazard classification and category.) Products that you receive from distributors are allowed to have old labels until Dec. 1, when all products must have new labels.

Remember, if you receive a product from a chemical manufacturer after June 1 and do not receive a new Safety Data Sheet, you need to show your due diligence in trying to get the Safety Data Sheet – either from the manufacturer or distributor. ■



GHS app online from your computer or mobile device

GOING THE DISTANCE

Company: Fortis Construction, Inc.

Safety manager: Demetra Star

Workforce: 140

Common Hazards: Falls, falling objects, strains, sprains, tripping hazards, and cuts and lacerations

What is your background and safety philosophy?

I came into construction safety serendipitously. Earlier in my career, I was in grad school and involved with basic developmental biology research at Carnegie Mellon University. Later, I switched gears when I realized that I wanted to work with people and make an impact with a practical application. As a result, I was drawn to industrial hygiene and safety. I received a second master's degree in occupational hygiene and industrial safety from West Virginia University.

Although I never anticipated working in construction safety, when I found myself here, I realized that it was my calling. I love being able to distill complicated ideas into approachable, understandable concepts. I thrive on the challenge when so many people come together on a single construction project to build something bigger than themselves and that we have a chance to affect so many people at once.

My safety philosophy is that every person matters. Each and every aspect of their lives, their families, their livelihoods all matter, and a good safety approach can make a vital difference in a life.

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

Like many construction projects, the risk of falls and falling objects is a constant area of focus. By its very nature, construction presents unique working conditions. A vast amount of work occurs overhead, openings in floors and roofs are created, walls come down and are rebuilt. It's crucial to anticipate and prevent those safety hazards and risks by building guardrails, hole covers and sequencing the work to avoid creating exposures. When a building is designed to have permanent roof fall-protection anchors, we make an effort to install those early so that our subcontractors can use the tie-off points. Wherever we can, we attempt to reduce the risk of falling objects by ensuring that overhead work, such as forklift loading zones, scaffold systems, and boomlift activity are blocked off below by danger tape to prevent other vehicles or personnel from entering in that area.

Workers from Apollo Sheet Metal install an HVAC system on a Fortis job. Star said sequencing work and pre-task planning help minimize risks during projects with multiple subcontractors.

GOING THE DISTANCE

A majority of the construction work that we do ultimately involves de-energizing systems, re-working them, and then re-energizing or installing new systems that need to be tied into the main utility. It's the type of work that creates risks for electrical shocks, arcs, short circuits, and uncontrolled hazardous energy. Safely working around and tying into electrical systems has been a focus area for us. We require that our subcontractors create a thorough "Method of Procedure" (MOP) that outlines step by step what precautions will be taken. For instance, where and what breakers or switches will be turned off and locked and tagged out, what type of NFPA70E arc flash gear will be worn, where the safe stopping points are, and what possible impacts will need workarounds prior to the work occurring. The MOPs are reviewed with our subcontractors, project teams, building owner, and, in some cases, with the involved local utility company. Often, the MOPs allow us to require the use of remote control switch devices (Chicken Switches) that allow breakers and switches to be closed from safe distances. In this way, we feel we are raising the bar for safety.

Chuck McCarty (left) of Rosendin Electric uses a Chicken Switch (remote control) to test a 12.47kV medium voltage switch gear at a data center project. Workers can control breakers from outside the arc flash zone. Arc flash protective clothing is not necessary because of the remote activation and other Fortis staff were clear of any danger.

Hanging cones help guide construction traffic from coming too close to a building in progress on the Rock Creek campus of Portland Community College.

Another challenging area for us has been preventing impacts to buried or hidden live utilities in the walls and ceilings (during demo), in the slab (during saw cutting), and in the ground (during excavation). We implemented a program called "Don't Hit It" to prevent those kinds of impacts. The "Don't Hit It" process uses multiple redundant checks (such as ground-penetrating radar scanning, reviewing as-builts, getting locates, and walking the job) to conduct exploratory work to determine what might be hidden in the walls, slab, or ground. In addition to the exploratory evaluation, we also require specific controls and effective communication to prevent impacts of known lines. The ultimate goal is that everyone involved in the process from Fortis (general contractor) to the electrical or mechanical subcontractor, and the operator using the saw or digging equipment, are provided with all the information uncovered in the exploratory evaluation.

Construction sites involve many moving pieces and include workers and equipment from different contractors. How do you ensure employees are aware of all the hazards?

Like many contractors, we have implemented processes (MOPs and "Don't Hit It") that attempt to share lessons learned and best practices with our subcontractors. In addition, we require that all personnel perform a job hazard analysis of their area each day for their task (a pre-task plan). We attempt to share recognized hazards at our site-specific safety orientations, project-wide safety meetings, and evaluate near misses and incidents with a root cause analysis. The incident report is often shared with the project teams and, in some cases, may generate a new program or initiative within our company.

How do you keep your crews engaged in safety issues day to day?

The cornerstone of our safety program is creating a self-propagating safety culture of an injury-free environment. We encourage leadership through action, a personal commitment across all individuals on a project, accountability, as well as free and open lines of communication between our subcontractors, our crews, and their supervisors. Fortis foremen and superintendents fully embrace the responsibility of creating that strong safety culture. They set the tone for a project.

I think the answer to keeping crews engaged in the safety effort is their active participation in pre-task planning (a written daily document that lists the steps, hazards, and controls for their task) that allows them to anticipate the hazards of each step and implement controls to eliminate or reduce those hazards. Each individual makes hundreds of decisions a day about how they are going to perform their work. Any method we can use to help them develop approaches that reduce their personal risk makes a difference.

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

Stay curious. Create a culture of transparency where near misses and behavior trends are freely discussed and enthusiastically considered. Carefully analyze your trends and develop creative, new, and simple ways to prevent reoccurrence. Keep your co-workers informed, well-trained, and active participants. Together, you can develop an approach that helps to keep everyone in good health and enjoying their lives and taking pride in their work. ■

Peter Huitinga (middle) of Commercial Refrigeration Inc. goes over a pre-task plan and layout of tubing with Star.

> **“Keep your co-workers informed, well-trained, and active participants.”**

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