

Health and Safety

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Chilled to the bone

What you should know about cold stress p. 6

Deep winter

Oregon's classic winter storms p. 11

Going the Distance

Meet Brian Silbernagel of Morrow Equipment Company p. 18



Resource

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An icy cold Deschutes River flowing through Drake Park in Bend, Oregon, during a snow storm.

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Reflecting on the close of 2017

by Michael Wood

As 2017 draws to a close, we here at Oregon OSHA are able to look back at a reasonably busy year. We have, of course, continued our bread-and-butter activities – enforcement visits, on-site consultation visits, and outreach efforts of various sorts. But we've also been tackling several additional issues.

For example, our effort to tackle at least a few of the outdated regulatory exposure levels is well underway – we've launched stakeholder advisory groups for both lead and manganese. The clearest lesson we've learned at this point is that nothing about these projects will be simple, but in each case, we've also been able to come together on a plan to move toward a formal proposed rule.

In 2017, we also implemented the previously adopted revision to the fall protection standard, with the 6-foot threshold taking effect the beginning of the year and the elimination of slide guards as a primary means of fall protection as of Oct. 1. And, in general industry, we adopted a slightly modified version of the comprehensive revisions to the (long overdue) changes to the walking/working surface rules adopted by federal OSHA.

Oregon OSHA
Administrator

Throughout 2017, we have also been working on the final phase of the pesticide worker protection standard updates, which relate to limited protective measures in areas adjacent to the treatment area where pesticides are applied. That rulemaking is still in process and won't quite be resolved until February 2018 – it's generated a good deal of discussion (and criticism) from a variety of perspectives as we attempt to strike an appropriate balance of worker protection and practicality.



And, of course, we are in the process of completing the hiring and training for the new field staff authorized by the Legislature for both enforcement and consultation – we know that one of our real assets as a program is the presence we have been able to establish in Oregon workplaces, and we are doing what we can to maintain that presence.

We also recently saw one of the clearest indications of our success, when the department announced an average 14 percent decrease in the pure premium rate for workers' compensation. Oregon's continued success in driving workers' compensation rates down is due in large part to Oregon's success in preventing claims, rather than simply managing them after they occur. And that reality provides an important reminder: Workplace safety and health is not simply the right thing to do, and is not necessarily in tension with the bottom line. Rather, it often can support the bottom line. Preventing workplace injury, illness, and death is good business. ●

A handwritten signature in black ink, appearing to read "Michael Wood".

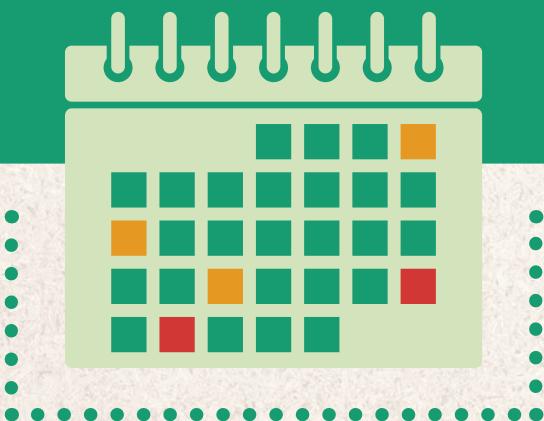


Don't miss...

Education: December-January workshops

Dec. 13, 2017 • Milwaukee
 8 a.m. Safety Meetings and Committees
 1 p.m. Job Hazard Analysis

Jan. 11, 2018 • Salem
 8 a.m. Job Hazard Analysis
 1 p.m. Root Cause Analysis



For more information:
osha.oregon.gov/edu

For the most recent public education schedule updates:
osha.oregon.gov/edu/Pages/workshops.aspx



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Riverhouse on the Deschutes

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Join us at the Hilton Eugene, for the 18th biennial conference, which will cover a wide variety of topics from "Emergency Preparedness" to "Marijuana and the Workplace."

Keynote Speaker: Joe Estey
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18th Biennial



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Did you know?...



Hypothermia, frostbite, and trench foot are the most common types of cold stress. When the body can no longer maintain core temperature, it shivers to compensate for the lost heat.

Cold temperatures, wind, dampness, and cold water are the key factors that increase the risk of cold stress. Wind chill refers to the rate of heat loss resulting from the combined effect of low air temperature and wind.

Planning cold weather work and dressing appropriately are the most important ways to prevent cold stress.

Learn about hypothermia, frostbite, and wind chill from Oregon OSHA's [cold stress card](#), in English and Spanish.

Learn about Oregon OSHA rules related to cold stress by visiting [Division 2, Subdivision J – General Environmental Controls](#).

Borrow DVDs about cold stress from [Oregon OSHA's Resource Center](#).



“The challenge, the desired result, is for safety to become a personal value to us. Not because we must be compliant, but because it is important, relevant, and non-negotiable to us. Mandated or not, we choose to be safe.”

– Al Arguedas, owner of AJA Associates LLC, a safety leadership and management consulting firm.

Quotable

Datapoints

- » Wind chill is the term used to describe the rate of heat loss from the human body, resulting from the combined effect of low air temperature and wind speed.
- » The wind chill temperature is a single value that takes both air temperature and wind speed into account. For example, when the air temperature is 40 degrees F, and the wind speed is 35 mph, the wind chill temperature is 28 degrees F. This measurement is the actual effect of the environmental cold on exposed skin.
- » Shivering reaches a maximum when the core temperature falls to 95 degrees F. Without another heat source to warm the body, hypothermia is possible.
- » Severe hypothermia is likely when the core temperature drops below 86 degrees F.
- » Frostbite occurs when layers of skin tissue freeze; trench foot is possible when feet are immersed in cold water for long periods of time – it's similar to frostbite but generally less severe.

Chilled to the bone: What you should know about cold stress

by Ellis Brasch

When they're unprepared and unprotected, humans are easy targets for winter weather. Hypothermia, frostbite, and a variety of other injuries related to cold temperatures are all part of the mix.

Hypothermia is an abnormally low core body temperature (95 degrees F or lower) that happens when the body is exposed to cold and loses heat faster than it can make heat. Wet clothing, wind, and cold temperatures (generally lower than 40 degrees F) play a key role in lowering skin temperatures and eventually lower core body temperature. Other factors, such as diabetes, thyroid conditions, some medications, severe trauma, drugs, and alcohol, can all increase the risk of hypothermia.

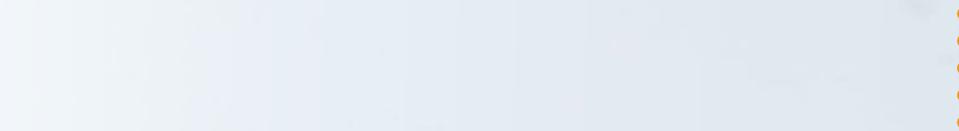
Prolonged low-core body temperature affects the brain, making it difficult to think clearly or move properly. This makes hypothermia especially dangerous because victims are less likely to know what's happening to them. Initial symptoms include shivering in adults and older children; clumsy movements; apathy; poor judgment; and cold, pale, or blue-gray skin. Anyone who is not properly clothed or sheltered with adequate heat can become a victim. If the heat loss is not stopped, hypothermia can quickly lead to unconsciousness and death. The keys to preventing hypothermia are layering clothing to avoid sweating from overheating, staying fueled with

high-energy food and fluids, moving to keep extremities warm, and taking frequent breaks out of the cold.

Frotnip – often an early stage of frostbite – may cause numbness or blue-white skin for a short time, but normal feeling and color return when the tissue is warmed; there is no permanent tissue damage.

Frostbite happens when the skin and the tissues under the skin freeze as temperatures fall below 32 degrees F. Commonly affected are the hands, feet, and face. Frostbitten skin begins to look pale or blue and feels cold, numb, and stiff or rubbery to the touch. Longer exposures will affect the top layers of skin, which will feel hard to the touch, then turn red and blister when warmed. When exposure continues, the skin becomes white, blue, or spotty, and feels hard and cold to the touch. As the skin thaws, blood-filled blisters form and turn into thick black scabs. It's likely that some tissue will die; tendons, muscles, nerves, and bones may also be affected.

Most frostbite can be prevented by staying dry and wearing clothing that protects the extremities; insulated boots, thick socks, mittens, and a warm, wind-resistant hat that covers the ears are best.



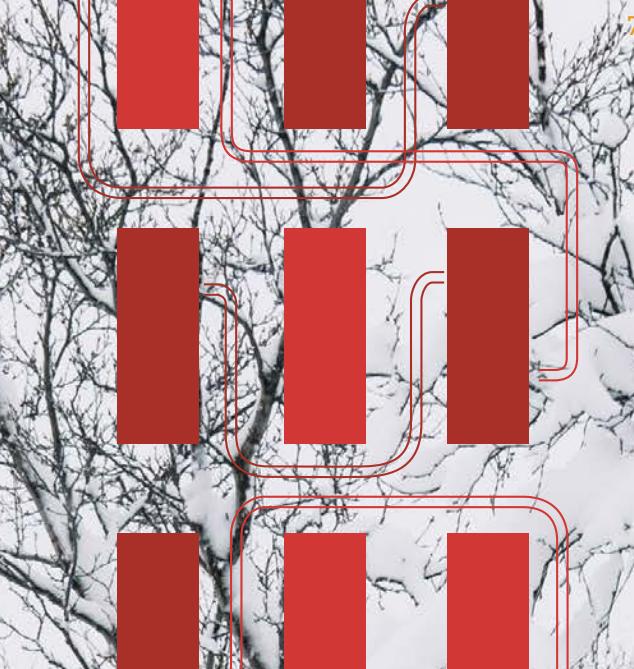
Nonfreezing cold injuries

Trench foot, chilblains, and Raynaud's Phenomenon are skin and soft-tissue injuries that can result from spending too much time in cold, but not freezing, temperatures. The skin does not actually freeze.

Trench foot happens when blood vessels in wet feet constrict to divert blood to the body's core; over time – as little as 13 hours – the lack of blood can cause tissue and nerve damage in the heel, toes, or the entire foot. Although cold temperatures can make the condition worse, the cause is prolonged exposure to moisture. Initial symptoms include lack of feeling and red or blue skin resulting from the lack of blood.

Chilblains are small, itchy swellings on the toes, fingers, heels, ears, and nose that usually develop several hours after exposure to the cold as blood vessels near the skin's surface expand with increased blood flow. This can cause blood to leak into the surrounding tissue, causing it to swell and feel itchy. Affected skin may also turn red or dark blue. Chilblains usually heal completely in a few weeks if further exposure to the cold is avoided. You can reduce the risk of chilblains by gradually warming cold skin. Heating the skin too quickly – in hot water or near a heater, for example – is one of the main causes.

Raynaud's Phenomenon can be caused by cold temperatures and stress. In either case, blood vessels spasm and block the flow of blood to the affected area – typically the fingers, but any extremity can be affected. The affected area often becomes white, and then turns blue and red as the blood returns over a period that can last from minutes to hours. Numbness and a "pins and needles" sensation may also occur. Staying warm and wearing gloves or mittens may help prevent the onset of cold-triggered Raynaud's. Raynaud's can also occur as a "secondary" condition related to other diseases, such as scleroderma, lupus, and rheumatoid arthritis.



Ask Technical

Question:

I have to work outside two or three days each week during the winter. Does my employer have to pay for my winter clothing?

Answer:

No. Employers are not required to pay for ordinary clothing, skin creams, or other items used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

[See 437-002-0134(4)(d)(C).]

Eight ways to protect yourself from the cold

1

Know the signs and symptoms of cold-related injuries.

2

Check the forecast. Know the weather you will be up against when you go outside.

3

Dress properly. Select and layer clothes for cold, wet, and windy conditions. Avoid wearing cotton next to your skin, which can become cold and damp if you perspire. Don't forget a hat and gloves or mittens.

4

Take frequent short breaks in a warm, dry shelter so that your body can warm up.

5

Work during the warmest part of the day, if possible.

6

Pair up with a co-worker, if possible.

7

Stay hydrated. Avoid drinks with caffeine (coffee, tea, or hot chocolate) or alcohol.

8

Stay fueled. Carbohydrate-based foods, such as breads, cereals, and pasta, are a good food source to help your body produce heat.

Getting traction in winter

If you do much winter driving in Oregon, you have probably seen the Oregon Department of Transportation (ODOT) SNOW ZONE signs that tell you the current requirements for chains or traction tires. Do you know what they mean? Here's a primer.



You must have chains or traction tires in or on your vehicle; they must be the right size for your vehicle and meet ODOT's [chain requirements](#).



You must use chains if your vehicle is towing or rated more than 10,000 pounds gross vehicle weight (GVW). Chains must also be used on a trailer or vehicle being towed.



You must use chains if your vehicle is rated 10,000 pounds GVW or less and is towing. You must use chains on any single drive axle vehicle rated more than 10,000 pounds GVW whether towing or not. Chains must also be used on the trailer or vehicle being towed.



You must use chains if your vehicle is towing or is rated more than 10,000 pounds GVW. Chains must also be used on a trailer or vehicle being towed. If your vehicle is rated 10,000 pounds GVW or less and is not towing, you must use chains or traction tires.

Drivers who disobey SNOW ZONE signs are subject to a class C traffic infraction.



A four-wheel or all-wheel drive passenger vehicle is exempt from ODOT's chain requirements if all of the following are true:

- It has an unloaded weight of 6,500 pounds or less.
- It provides power to both the front and rear wheels.
- It is carrying chains.
- It has mud-and-snow, all-weather radial, or traction tires on all of its wheels.
- It is not towing another vehicle.
- It is not being operated in a manner or under conditions that cause the vehicle to lose traction.

Conditional closures. When travel on a state highway becomes especially hazardous, the Oregon Department of Transportation may impose a conditional road closure that applies to certain types of vehicles, or all vehicles, depending upon the conditions. Typically, ODOT or Oregon State Police will be on site to advise drivers about the closure.



So, what are traction tires anyway?

The Oregon Department of Transportation cryptically defines traction tires as "studded tires, retractable studded tires, or other tires that meet the tire industry definition as suitable for use in severe snow conditions." Here is an explanation:

The tire industry standard for traction tires is the ASTM F1805 snow traction test, which measures tire performance on snow and ice. Tires that pass the test can display a Three-Peak Mountain Snow Flake. The characteristic feature of these tires is a tread design with bigger gaps than those on summer tires; the gaps allow snow to penetrate into the tread, where it compacts and provides resistance against slipping.

Studs are essentially hard steel pins enclosed in a softer base that wears faster than the pin. To be effective, the pin should protrude at least 1 millimeter (0.04 inches) above the surface of the tire. Studded tires are only legal for use in Oregon from Nov. 1 through March 31.

You won't find any retractable studded tires in Oregon. *Nokian Tyres* developed "the world's first non-studded winter tire with studs" to celebrate the 80th anniversary of the winter tire – but it's just a concept now. ●

Deep winter: Oregon's classic winter storms

Winter storms in Oregon are most likely to occur from December through February. Generally, western Oregon is spared the cold temperatures and snow that are common east of the Cascades, but not always. Under the right conditions, a winter storm can leave the entire state under a blanket of snow and ice. Here are 12 record-breaking events since 1900:

• Jan. 5-10, 1909

Many locations, particularly in western Oregon, received more snow in this six-day period than they normally received in an entire year.

• Dec. 9-11, 1919

One of the heaviest snowfall-producing storms to hit Oregon also brought the lowest statewide average temperature since recordkeeping began in 1890. The Columbia River froze over, closing the river to navigation from the Willamette River upstream; nearly every part of the state was affected.

• Jan. 11-15, 1916

Every reporting station in western Oregon, except for the southwestern interior and the coast, recorded at least five inches of snow from this storm and many had eight or more.

• Jan. 9-18, 1950

There were three storms, but very little time separated them; the net effect was one continuous storm. Deep snowdrifts closed highways west of the Cascades and throughout the Columbia Gorge. Severe sleet began on the 18th and later turned to freezing rain, which halted traffic for three days in the Columbia Gorge. Hundreds of motorists had to be rescued by train.

• Feb. 10, 1933

Very cold temperatures spread across the state; the city of Seneca, in northeast Oregon, recorded the state's all-time record low temperature of -54 degrees F. The next day the temperature was nearly 100 degrees warmer.

December 1964 - January 1965

Heavy snow, followed by persistent heavy rain, caused record flooding throughout the state and killed 17 people. Several observing stations across central Oregon recorded two-thirds of their normal annual rainfall in just five days. Scores of stations set new rainfall records for both 24 hours and the month of December. The Willamette River rose to 29.8 feet in downtown Portland, a record high for the winter.

Deep winter: Oregon's classic winter storms (continued)

Dec. 28, 2003 - Jan. 9, 2004

The most significant winter storm in several years brought snowfall to most of Oregon. Parts of Interstate 5 shut down for nearly a day as ODOT maintenance crews and Oregon State Police dug stranded motorists out of five- to six-foot snowdrifts. Two feet of snow fell in the Blue Mountains in eastern Oregon. Roadside snow levels exceeded 6 feet along Oregon Route 204.

Jan. 25-31, 1969

For many locations in Oregon, this storm was the most extreme on record. Snow across the state was above normal, especially in Lane, Douglas, and Coos counties. Along the coast, January snowfall ranged from two to three feet.

Feb. 1-8, 1989

Heavy snow fell across state, bringing record-low temperatures in many locations. Wind-chill temperatures ranged from 30 to 60 degrees below zero.

Dec. 1-3, 2007

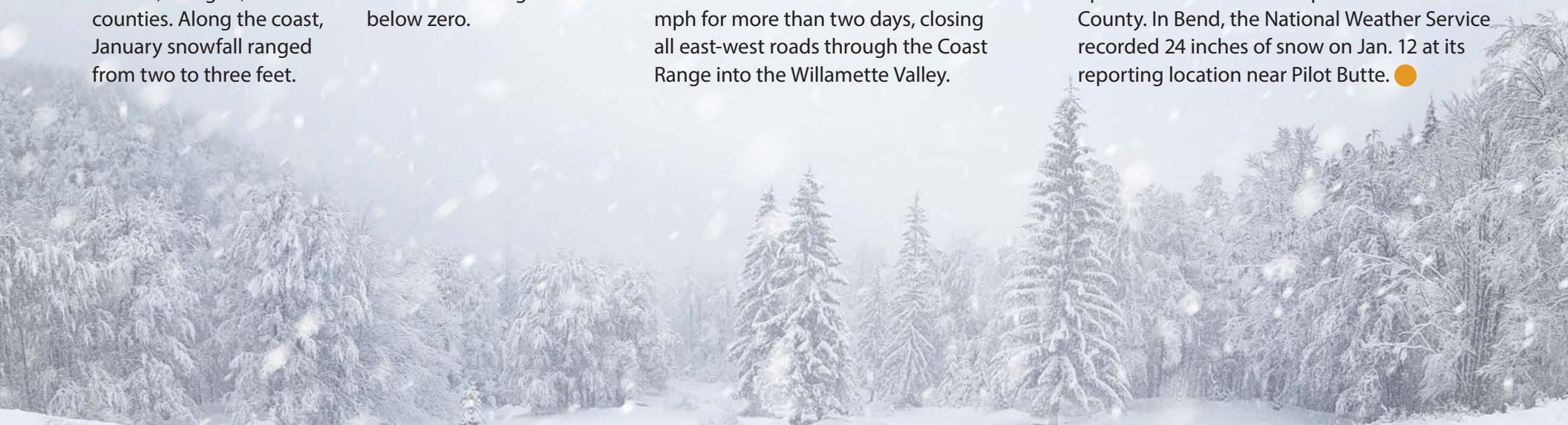
A hurricane force windstorm battered the coast of Oregon with gusts that were second only to that of the 1962 Columbus Day Storm; Bay City had a peak gust of 129 mph. The wind continued in excess of 50 mph for more than two days, closing all east-west roads through the Coast Range into the Willamette Valley.

Jan. 17-18, 2012

This storm produced snowfall totals reaching up to 50 inches in some locations. A 110 mph wind gust was reported at Otter Rock. More than 12 Oregon highways were closed due to storm damage, and many more were partly closed.

Jan. 7-12, 2017

A series of storms brought record snowfall, ice, and freezing rain to much of the state. On Jan. 12, up to 15.5 inches of snow was reported in parts of Portland's west hills, the city's heaviest snowstorm since February 1995. Further south, up to an inch of ice was reported in Lane County. In Bend, the National Weather Service recorded 24 inches of snow on Jan. 12 at its reporting location near Pilot Butte.



Short takes



Oregon OSHA inks alliance with foundation drilling group

Oregon OSHA and the [West Coast Chapter of the International Association of Foundation Drilling](#) (WCC-ADSC) have signed an alliance that aims to raise awareness of workplace safety and health, and to reduce illness and injury rates in the construction and demolition industries.

The alliance will work to raise awareness about drilled shaft and foundation drilling operations, and the installation of micropiles and earth retention systems. The alliance's outreach and communication goals include:

- Providing expertise in developing information on the recognition and prevention of workplace hazards
- Speaking, exhibiting, or appearing at Oregon OSHA's or WCC-ADSC's events
- Sharing information among Oregon OSHA personnel, and industry safety and health professionals about WCC-ADSC best practices
- Encouraging WCC-ADSC members to participate in Oregon OSHA's consultation services program, the Safety and Health Achievement Program (SHARP), and the Voluntary Protection Program (VPP)

The alliance also will participate in forums and stakeholder discussions about safe practices involving foundation drilling activities, earth retention systems, and other related equipment and machinery commonly found in this specific construction sector.

Visit Oregon OSHA's "[Working with you](#)" page online for more information about the agency's collaborations. ●

Photo: (Left to right) Michael Wood, administrator for Oregon OSHA, Becky Patterson, chapter administrator of WCC-ADSC, and John Bickford, vice president of WCC-ADSC, gathered recently to sign an alliance that focuses on safety and health in foundation drilling operations.

Award recognizes Oregon's return-to-work programs

The Oregon Workers' Compensation Division (WCD) has received an award from a worldwide organization for the division's ongoing efforts and track record of success in helping injured Oregon workers return to work.

The International Association of Industrial Accident Boards and Commissions – the largest trade association of workers' compensation agencies in North America – honored WCD with a 2017 President's Award. Such awards recognize the contributions of regulators and industry professionals in improving workplace health and safety, including helping workers recover from on-the-job injury and illness.

WCD's award, recently announced by the association during its 103rd annual convention held in Portland, recognizes **two Oregon programs**: the Employer-at-Injury Program and the Preferred Worker Program.

The Employer-at-Injury Program encourages the early return to work of injured workers by helping lower an employer's early return-to-work costs and claim costs. Since 1995, it has helped more than 160,000 injured Oregon workers achieve both long-term employment and wages that are higher than those who did not use the program.

The Preferred Worker Program encourages re-employment of qualified Oregon workers who have permanent disabilities from on-the-job injuries. The program, which focuses on small- to medium-sized businesses, offers Oregon employers a chance to save money by hiring preferred workers. Since 2012, the program has served an average 1,029 newly eligible workers per year.

"This award reflects the energy, hard work, and professionalism of all of our staff," said Lou Savage, administrator for WCD.

"And we remain committed to what matters most: helping improve the lives of injured workers – and their families – in Oregon."

Learn more about WCD's return-to-work programs online or by calling 800-452-0288 (toll-free), or by sending an email to the Employer-at-Injury Program – Eaip.oregon@oregon.gov – or the Preferred Worker Program – Pwp.oregon@oregon.gov.



...we remain committed to what matters most: helping improve the lives of injured workers – and their families – in Oregon.

Lou Savage



Bend company earns safety, health recognition

Oregon OSHA has announced that Suterra LLC in Bend has graduated from the Safety and Health Achievement Recognition Program (SHARP).

SHARP provides an incentive for Oregon employers to work with their employees to find and correct hazards, develop and implement effective safety and health programs, and continuously improve. The program encourages employers to become self-sufficient in managing workplace safety and health issues. Currently, about 23 employer locations in Oregon participate in SHARP. That's in addition to about 157 employers that have graduated from the program. An employer becomes a graduate when it completes five years of SHARP.

With 70 employees at the Bend facility, Suterra LLC is a leading provider of bio-rational products for crop protection and commercial pest control. Through international product sales, the company works to help growers reduce their use of traditional insecticides.

The SHARP program helped the company take a fresh look at its policies and processes, and reinforced the company's ongoing efforts to improve safety, according to Aman Khapoya, vice president of global operations for Suterra.

The recognition that comes with being a SHARP company also serves as a valuable tool to recruit new employees, Khapoya said.

"As our business grows and we compete for new talent, we hope candidates see our achievements under the SHARP program and realize that we are truly committed to the health and safety of our team," he said. "The candidates for whom that safety commitment is important are precisely the ones we want – and the ones we will need to make Suterra even better."

(Left to right) Cory Stengel (Oregon OSHA health consultant); Amber Hofer (Suterra plant safety manager); Randy Nice (Oregon OSHA safety consultant); Aman Khapoya (Suterra vice president of global operations); Kevin Kilroy (Oregon OSHA field consultation manager)



Safety Notes

What happened?

A tree trimmer fell 35 feet from a tree while attempting a timed tree-rescue exercise.

How did it happen?

The tree trimmer was preparing to attempt a timed tree-rescue training exercise for certification and he was getting anxious because he had to perform the exercise in front of his co-workers.

To qualify for certification, he had to climb a 40-foot tree to a mannequin suspended in a climbing harness. Then, he had to tie into a climbing rope, secure the mannequin, and rappel from the tree with the mannequin in four minutes or less.

He began climbing with a split tail (and additional piece of rope that connects the climber to the climbing rope) already tied onto his climbing rope. When he got to the mannequin, the tree trimmer threw his climbing rope around the trunk of the tree with the split tail end, but it was not the way he usually did it. With the minutes ticking away, he got frustrated as he rushed to tie into the tree with the split tail and wasn't able to do it. He untied the friction knot that connected the split tail to the climbing rope and retied it while he was still secured to the tree with a safety lanyard and climbing spurs. Finally, he secured the mannequin and removed his safety lanyard.

He sat back into his climbing line and descended about five feet when the friction knot at the end of the slip tail came loose and he free-fell to the ground, landing on his right upper leg and lower back.

The company safety director, who was leading the training exercise, and the tree trimmer's co-workers immediately called 911, retrieved a first aid kit, and stayed with him until medical personnel arrived.

The tree trimmer was taken by ambulance to a local hospital where he was admitted and remained overnight; however, no one from the company reported the incident to Oregon OSHA until eight days later.

Accident Report

Event: Fall

Industry: Landscaping Services

Worker: Tree Trimmer





Violation

437-001-0704(4): "The employer did not report in-patient hospitalizations, loss of an eye, and either amputations or avulsions that resulted in bone loss, to Oregon OSHA within 24 hours after occurrence of the work related incident or employers knowledge of the event."

Why did it take so long to report the incident?

The safety director said the delay in reporting this accident was unintentional, caused by a series of mistakes:

- There was confusion on the day of the accident and the accident report form was completed and submitted by the corporate office.
- Normally, the safety director completed the form, but he had a commitment to finish the training certification for other employees. Also, it had been several years since the company had a reportable accident so Oregon OSHA's reporting requirements were not on his mind.
- Because the safety director didn't complete the accident report form, he wasn't reminded by the notice at the bottom of the form to report an overnight hospitalization to Oregon OSHA within 24 hours.

How did the tree trimmer think the accident happened?

The tree trimmer said he was confident in his climbing skills and believed he fell for the following reasons:

- He has always been very anxious when required to take a test or demonstrate a skill.
- His mother had recently passed away and he had been working through her estate dealings, which had been on his mind recently.
- Pre-tying a friction knot at the end of the split tail was part of his normal climbing routine and should not have been an issue. However, because he was nervous, he threw his climbing rope around the tree trunk opposite the way he normally did, which confused him. So, he decided to untie the knot and retie it, rather than thinking through his mistake.
- In re-tying the knot, he forgot to wrap the end of the split tail under and around the climbing rope before threading it back under the bottom two wraps of the knot, which eliminated the knot's ability to create friction against the climbing rope.
- He also forgot to tie a figure-eight knot at the end of the split tail to prevent the friction knot from failing. If the figure-eight knot had been tied, he would not have fallen. ●

Going the Distance

**Company:**

Morrow Equipment Company

Corporate safety director:

Brian Silbernagel

Workforce/operations:

In business since 1968, Morrow employs about 300 people in North America. The company, which supplies tower cranes and hoists to the construction industry, will celebrate its 50th anniversary in 2018.

The company's Salem corporate office provides administrative and support services for 23 Morrow facilities in the U.S., Canada, Australia, New Zealand, and Mexico. These services include sales and marketing support, engineering, corporate advertising and publications, field service and parts inventory control, technical training and instructional programs, documentation, fleet equipment inspection/quality control, and safety programs. Morrow's fleet encompasses more than 650 tower cranes and 230 personnel hoists.

Responsibilities/hazards addressed:

Silbernagel oversees the daily operations of the safety department of Morrow, one of the largest tower crane companies in the world.

He is responsible for the development and implementation of all company safety programs, including fall protection, hazardous communications, lockout/tagout, safety committee, and use of company vehicles. He conducts regular inspections of company facilities and jobsites to observe compliance of policies and regulations.

Over the years, what are some key ways in which on-the-job safety, culturally or technologically, has changed in your line of work?

The overall safety culture has changed greatly over the years. In the past, safety would be discussed once a month at a safety meeting or post-accident, and was viewed as a deterrent to completing the job. In my previous professional experiences, working in the construction industry and as a compliance officer with Oregon OSHA, it seemed OSHA was the primary force of whether employees were provided a safe work environment. Currently, safety is a significant component when bidding a job and is considered as prominent as material, engineering, and equipment. General contractors have established safety/training criteria that each contractor or subcontractor must meet before bidding, and insurance providers assist in this process. Committees are created with OSHA, industry leaders, insurance carriers, and training contractors to achieve a consensus on best practices and standards. This transition has created a more positive safety environment.

Technology has changed the way equipment and tools are used, as well as how a jobsite is managed. Many tasks previously completed manually are now completed by equipment and tools. These are supplied with guards or other safety devices that are difficult to bypass. Although some may view such safety devices as a replacement for employee training, they should be used in addition to training to ensure safe operations.



When it comes to workplace safety, how do you measure success?

The obvious answer would be to have all employees leave work at the end of the day in the same physical state in which they arrived. But it is important to note that such a result is achieved by many contributing factors. Many things in our lives are affected by our attitudes, and attitudes can be influenced by the delivery of a strong safety message. Employees should be involved in the development of a safety program, so that they take ownership of it. If they help build the program, then it is difficult for them to tear it down. In fact, a safety program will never be successful without employee involvement. Regulatory agencies have limited time and options to deliver their safety message, and companies need to be committed to correcting an issue with the goal of preventing it from happening again. Satisfaction, for me, is achieved when the employee embraces the safety program, uses all of the training and tools provided by the company to complete their duties, and does all of this because they choose to – not because management or OSHA is watching. I have observed companies discipline or terminate an employee for a safety infraction when the companies had not provided the necessary training or proper tools to complete the task. Training, proper tools, and realistic expectations must be provided to employees before disciplinary action occurs. Otherwise, employees will not accept or respect the company or the safety program.

You have experience working in the construction industry, as a safety compliance officer for Oregon OSHA, and, currently, as safety director for Morrow. What can you tell us about how these experiences have informed your approach to safety?

I have been very fortunate in all three places of employment to be surrounded by the best in their industries. When I was in construction, it was a family business. The company completed a broad scope of tasks, including steel erection, concrete, welding/fabrication, excavation, and logging roads. The employees had their own specific expertise, but could complete any challenge. The owner and all employees were great mentors and were willing to take the time to teach me the trades they had worked so hard to master. Although safety was not a term used often, it was practiced and observed continuously. That was the case because we truly cared about the well-being of our co-workers – not because of a code or regulation. What these friends taught me has become the foundation on which my career was built, and I will never forget it.

As an Oregon OSHA compliance officer, I was fortunate to interact with many OSHA staff and contractors who had a passion for safety. That passion inspired me to excel. I found support, mentorship, compassion, and attention to detail from a range of OSHA sources, including the compliance and accident investigation teams.

I would single out Tim Baker (former Portland field office manager) for special attention, because Tim energized the Portland team and showed enthusiasm for the mission of saving lives. He led the way

in building camaraderie all around. Working for OSHA is where I came to understand, and to truly believe, that safety saves lives.

At Morrow, I met Rick Morrow who shared his dream and the path to achieve it. Rick wanted to have a safety program that paralleled the company's business success. To do this, he was willing to commit his time and all necessary resources. Rick once said, "We have the best equipment, the best facilities, but our greatest asset is our employees." He truly wanted to ensure the safety and well-being of all employees. It was an example of another key to a successful safety program: management commitment. Morrow has allowed me to enter the national and international stage of safety, and I have been very fortunate to work with and learn from the best safety professionals across North America.



During a tour of Morrow's training facilities, Silbernagel discussed how the company puts its safety programs into practice, including the use of fall-protection equipment.

What is some advice you'd give to those looking to keep their workplaces safe or for others seeking a career in this field?

Employees are the professionals in what they do, no matter their job titles. Listening to them is essential to creating and maintaining a safe workplace. It is also important to understand that just because someone has been doing a job for many years does not necessarily mean they have been doing it correctly. New perspectives may provide a better or safer way to complete a task. Encourage long-term employees to mentor newly-hired employees. This helps assimilate the new employee to the company's work and safety culture. The safety message must be consistent throughout the organization, which prevents confusion and provides clear expectations. Establish a network of safety professionals that are trustworthy, and do not hesitate to seek their opinions. Do not be afraid to ask questions. The only dumb question is the one that isn't asked.

My belief is to keep things as simple as possible, but no simpler. While some may believe that citing codes will impress employees, I recommend delivering your safety message by trying to relate it to something your employees are familiar with. That way, they will better understand your expectations. I focus on protecting the employee. If I am successful, then the company will achieve regulatory compliance and workers' compensation premiums will stay low.



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