Health and Safety

RESOURCE

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Resource

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Department of Consumer and Business Services
Andrew R. Stolfi, Director

Oregon OSHA
Renée Stapleton, Acting Administrator

Resource editor
Aaron Corvin

Editor
Mark Peterson

Designer
Dominic Groshong

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.

OSHA | Oregon OSHA
Department of Consumer and Business Services

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Don't miss.....

Education:

Workshop classes will be held virtually until further notice.

A minimum of five registrants is needed to hold a virtual workshop.

Registered participants will receive an email if a cancellation is necessary.

Register and attend

Using the secure online registration portal, you can find classes. The workshop schedule changes every three months.

For more information, visit the classroom workshops page.

Find more information about education resources by visiting Oregon OSHA's education and training page.

Mark your calendar for these workplace safety and health conferences:

Southern Oregon Occupational Safety & Health Conference
Oct. 18, 2022 ▪ Ashland
Oct. 19-20, 2022 ▪ Virtual

Seguridad y salud laboral y sus derechos en el trabajo
8 Noviembre 2022 ▪ Salem

Western Pulp, Paper, and Forest Products Safety & Health Conference
Nov. 29-Dec. 2, 2022 ▪ Portland

Mid-Oregon Construction Safety Summit
Jan. 30-31, 2023 ▪ Bend

Oregon GOSH Conference
March 6-9, 2023 ▪ Portland

Northwest Safety & Health Summit
May 16-18, 2023 ▪ Kennewick, WA

Blue Mountain Occupational Safety & Health Conference
June 5-6, 2023 ▪ Pendleton

To receive conference registration materials, exhibitor information, or sponsorship information, contact the Conference Section:
oregon.conferences@dcbs.oregon.gov | **503-947-7411** | osha.oregon.gov/conferences

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HONOR

Award nominations

are now being accepted in categories for organizations and individuals who make extraordinary contributions to workplace safety and health.

DUE: OCT. 28, 2022

EXHIBIT/SPONSOR

Registration and info packets

can be found on the Oregon GOSH website!

Did you know?

Oregon OSHA is offering an updated "Quick Facts for Employees" publication about personal protective equipment (PPE) that includes information in both English and Spanish.

The publication gives you the most important information you need to know about PPE and does so in quick, reader-friendly fashion. It defines PPE, features photos, summarizes your employer's PPE responsibilities, and provides links to more PPE resources.

Get the publication now.

Quotable

"I have truly enjoyed helping workers and their families to better understand their rights. Also, my team has been wonderful all these years. I am proud that we have built a team that delivers excellent customer service, active listening, empathy, advocacy, and accurate information to workers and their families."

– **Jennifer Flood,**
the State of Oregon's Ombuds for Oregon Workers, who is retiring Dec. 31, 2022, after 44 years of public service, nearly all of it with the Department of Consumer and Business Services (DCBS)

Datapoints

- In 2023, Oregon employers, on average, will pay less for workers' compensation coverage
- The decline in costs marks 10 years of average decreases in the pure premium rate – the base rate insurers use to determine how much employers must pay for medical costs and lost wages.
- Underpinning the cost decreases is the success of Oregon's workers' compensation system, which includes efforts to improve workplace safety and health, programs to control costs and maintain good worker benefits, and work to ensure employers carry insurance for their workers.
- Employers, on average, will pay 93 cents per $100 of payroll for workers' compensation costs in 2023, down from 97 cents in 2022. That figure covers workers' compensation claims costs, assessments, and insurer profit and expenses.
- The pure premium rate will drop by an average 3.2 percent.
- Employers' total cost for workers' compensation insurance includes the pure premium and insurer profit and expenses, plus the premium assessment. Employers also pay at least half of the Workers' Benefit Fund assessment, which is a cents-per-hour-worked rate.
- Helping sustain the trend in lower costs is the stability of Oregon's workers' compensation system. The system includes Oregon OSHA; the Workers' Compensation Division; the Workers' Compensation Board; the Ombuds Office for Oregon Workers; and the Small Business Ombudsman.
- Those successful programs are funded by the premium assessment.
- The premium assessment is a percentage of the workers' compensation insurance premium employers pay. It is added to the premium. It would remain at 9.8 percent in 2023, the same as 2022. This would be the first time since 2016 that the premium assessment has not increased.
- Get more information about Oregon workers' compensation costs online.

Oregon OSHA's general industry welding rules have changed, and there is a new PEL for manganese compounds and fume

By Ellis Brasch

On Sept. 1, many of Oregon OSHA's general industry welding, cutting, and brazing rules received updates, along with three new rules. These changes happened thanks to a rulemaking effort that began more than a year ago to lower the permissible exposure limit (PEL) for exposures to manganese compounds and fumes to 0.1 milligrams per cubic meter (mg/m3).

Previously, Oregon OSHA allowed a manganese "ceiling limit" of 5 mg/m3, but both the National Institute of Occupational Safety and Health and the American Conference of Governmental Industrial Hygienists have long recommended a more protective limit. Also, Oregon workers across many industries are exposed to manganese fumes, primarily through welding activities; overexposure can damage the lungs, liver, and kidneys and lead to a neurological condition called manganism.

The new manganese PEL is listed in Table Z-1 of Oregon's rules for air contaminants: OAR 437-002-0382 (general industry); OAR 437-003-1000 (construction); and OAR 437-004-9000 (agriculture). The changes to Oregon OSHA's subdivision 2Q welding, cutting, and brazing rules include three new rules and significant changes to some of the subdivision's other rules. Here is a summary:

New rule: OAR 437-002-0279, Additional Oregon confined space requirements

This new rule says that before employees perform welding operations in a confined space, the space must first be evaluated to determine if it has any hazards that make it a permit space. If the evaluation determines that the hazards are directly related to the welding process, then the requirements in 437-002-0279 apply. (If the evaluation determines that hazards are not directly related to the welding process – such as slippery surfaces, excessive noise, or poor lighting – then the requirements in Oregon OSHA's general industry confined space rule, OAR 437-002-0146, apply.)

OAR 437-002- 0279 requires employers to:

- Control respiratory hazards in a permit space with forced air ventilation or require the use of supplied air respirators in accordance with Respiratory protection (29 CFR 1910.134).
- Ensure that employees continuously test the internal atmosphere of the space with a properly calibrated, direct-reading instrument so the atmosphere remains safe while they are inside.

- Document each entry and keep the documentation for at least one year.

"Additional" in this rule's title means that, when employees perform welding operations in confined spaces, the requirements in 437-002- 0279 and the General requirements for all welding operations (29 CFR 1910.252) apply.

See the fact sheet, Welding in confined spaces, for more information.

New rule: OAR 437-002-0281, Manganese

This new rule gives employers the option to use two different levels of respiratory protection – based on assigned protective factors (APF) – when employees do certain welding and welding-related tasks. The APFs and the tasks are described in Table Q-2 in the rule. Table Q-2 sets an APF of 10 or 25 for each eligible task.

See the fact sheet, Airborne exposure limit for manganese and how to protect welders, for more information.

OAR 437-002-0282, Job planning and layout

Before employees start welding operations, employers must ensure that:

- Portable equipment is securely blocked to prevent it from moving.
- Tanks, boilers, drums, and similar containers are equipped with ladders when necessary for safe access and egress.
- Welding equipment is not allowed on elevated structures unless the structures are designed and built to support the loads imposed on them.
- Work areas are laid out to prevent welding hose and cables from creating tripping hazards.

OAR 437-002-0283, Additional protective clothing requirements during hot work activities

Employees must completely cover their skin with a double layer of clothing or something equivalent to prevent burns or damage from ultraviolet light. Wearing highly flammable clothing (such as clothing made from synthetic materials) is prohibited.

"Additional" in this rule's title means that there are other requirements related to protective clothing in 29 CFR 1910.252. See 1910.252(b)(3).

OAR 437-002-0284, Additional specifications for eye and face protection

Employers must:

- Provide and require the use of appropriate eye and face protection during all welding, cutting, and grinding tasks, in accordance with the requirements in OAR 437-002-0134, Personal Protective Equipment.
- Provide additional eye protection from flying particles when a lift-front welder's helmet is used.

"Additional" in this rule's title means that there are other requirements related to eye and face protection in 29 CFR 1910.252. See 1910.252(b)(2)(ii).

OAR 437-002-0285, Additional special precautions

Before employees begin welding or cutting on walls, floors, or ceilings, they must inspect the hidden side to ensure that no combustible material is present.

"Additional" in this rule's title means that there are other special precautions in 29 CFR 1910.252. See 1910.252(a)(2).

OAR 437-002-0286, Flammable preservative coatings

A competent person must test any preservative coating whose flammability is not known before welding, cutting, or other hot work begins. Highly flammable coatings (defined as "coatings whose surface scrapings ignite when heat is applied") must be stripped from the area to be heated to prevent ignition.

OAR 437-002-0287, Toxic preservative coatings

- In confined and other enclosed spaces, coatings that are toxic but not highly flammable must be removed at least four inches from the area that will be heated to prevent the production of toxic fumes and gases.
- As an alternative to removing the coating, an employer can protect affected employees by requiring the use of appropriate respiratory protection in accordance with Respiratory protection, 29 CFR 1910.134.
- Artificial cooling of the metal surrounding the heated area may also be used to limit the size of the area that must be removed. "Coated Steels" are excluded from this requirement unless the manufacturer's safety data sheet designates the product as a health hazard when heated.

OAR 437-002-0288, Additional general health protection

- When welding, cutting, or grinding operations are performed on or with the materials listed in Table Q-1, Additional protective measures, follow the protective measures in the table. These measures are not required if air monitoring samples confirm that the permissible exposure limits in OAR 437-002-0382, Oregon rules for air contaminants, are not exceeded.
- Provide nearby workers who have potential exposure to these materials with equivalent, effective protection.
- Where feasible, use effective engineering controls and local exhaust ventilation as the primary control measures for indoor workplaces. Use respiratory protection when engineering controls are not feasible or effective.

"Additional" in this rule's title means there are other requirements related to general health protection in 29 CFR 1910.252. See 1910.252(c)(1).

OAR 437-002-0297, Oregon Requirements for welding or cutting containers

- A competent person must ensure that before hot work is performed on drums, barrels, or tanks that contain substances that are flammable or could produce toxic vapors:
  - The containers are cleaned and ventilated
  - Any pipe lines or connections to the containers are disconnected or blanked unless they are necessary to release pressure when heat is applied
- Use appropriate atmospheric testing equipment during the hot work to confirm that the air in a container is safe.
- Document the actions taken to ensure safe conditions were maintained. Keep the documentation for at least one year following after the work is completed.

Note: There are other requirements related to welding or cutting containers in 29 CFR 1910.252. See 1910.252(a)(3).

OAR 437-002-0298, Supplied air respiratory equipment

Use self-contained breathing apparatus or other supplied air respiratory equipment in areas that are immediately dangerous to life and health (IDLH). All respiratory equipment used must be approved by the National Institute for Occupational Safety and Health (NIOSH) and used in accordance with Respiratory protection, 29 CFR 1910.134.

New rule: OAR 437-002-0299, Definitions

This new rule:

- Includes definitions of seven common terms used throughout subdivision 2Q.
- Includes definitions of the nine welding tasks listed in Table Q-2.
- Includes Oregon OSHA's recommended practice for the standard order of atmospheric testing in confined spaces.

Trigger requirements: What are they and what Oregon OSHA's rules have them?

By Ellis Brasch

What is a trigger requirement?

Sometimes, there isn't a clear distinction that separates a hazardous condition from one that isn't. Consider the fate of a worker who falls 50 feet to the ground from a scaffold. Now, consider the fate of a worker who falls "only" three feet. The 50-foot fall has a rather certain outcome – but not the three-foot fall. Where do you draw the line between a safe outcome and one that isn't?

Think of a trigger requirement as a dividing line or a threshold that, when exceeded, increases the risk of an unsafe condition. You will find such requirements in some Oregon OSHA rules; they're often based on a specific number – such as a fall distance or an exposure level – that "triggers" one or more safe practices employers must follow when the number is exceeded. Which rules have them? Here is a summary of Oregon OSHA's most common trigger requirements.

Fall protection: Trigger heights

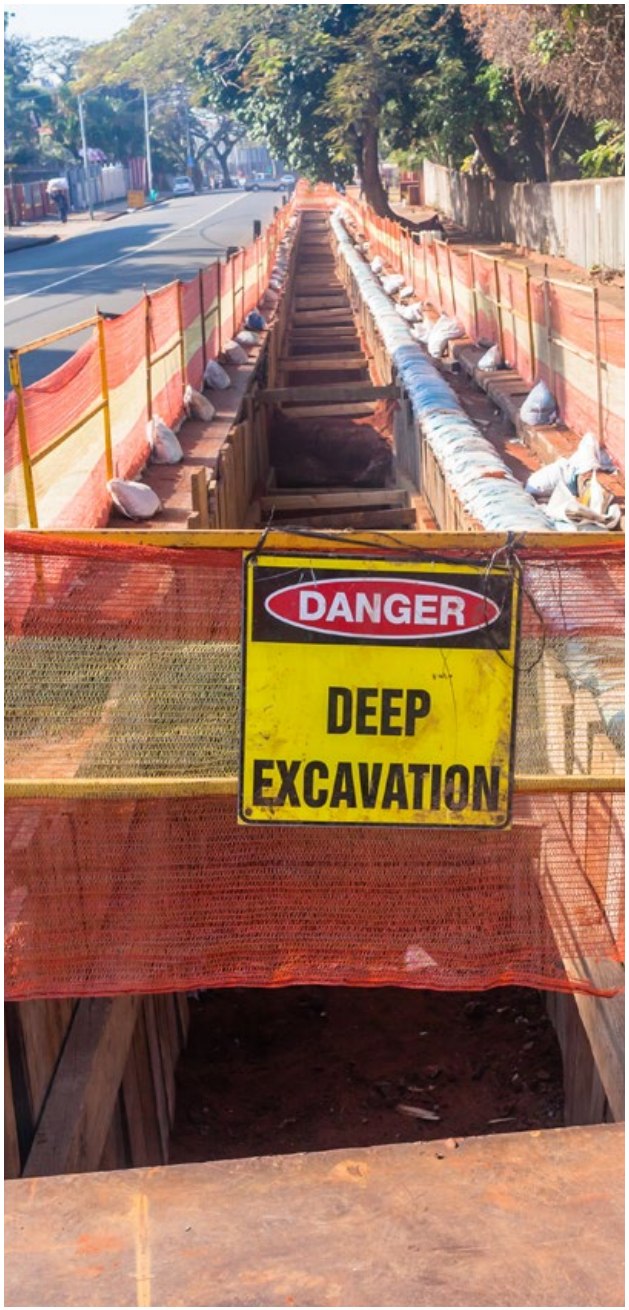
Several Oregon OSHA fall protection rules set a minimum height at which workers must be protected from falling – commonly known as a "trigger height." If you work in the construction industry, you probably know that six feet is the trigger height for many construction-related activities – but it's not the only one. Ten feet is the trigger height for work on scaffolds and cranes, for example.

Oregon OSHA's general industry rules also have trigger heights; a four-foot trigger height generally applies when employees work above a lower level, but there are also some exceptions. Working on a supported scaffold above 10 feet requires fall protection, just as it does for construction work.

Oregon OSHA's agriculture rules require all employees to be protected from falls when they work on unguarded surfaces more than 10 feet above a lower level and the work is of short duration and limited exposure. Examples include work on haystacks, stacked silage, and Christmas trees stacked outdoors.

Oregon OSHA offers two factsheets to help you identify all the trigger heights that apply to construction and general industry workplaces:

- Fall protection trigger heights for construction activities
- Fall protection trigger heights for general industry



Excavations and trenches: Protective systems

If you work in an excavation that is five feet deep (or deeper), you must be protected from a cave-in unless the excavation is made entirely in stable rock. Protective systems include sloping, benching, shoring, and shielding. The Oregon OSHA guide Excavations – Safe practices for business owners and contractors has more information about this requirement.

Heat illness prevention: Heat index

The heat index is a number that takes both the outdoor temperature and the humidity into account; the higher the number, the hotter the temperature feels. The heat index is critical in determining a person's risk of developing heat illness.

Oregon OSHA's rules that protect workers from heat illness – OAR 437-002-0156 and OAR 437-004-1131 (agriculture) – have requirements that are triggered when the heat index equals or exceeds 80 degrees and 90 degrees Fahrenheit. Most of the requirements kick in when the heat index equals or exceeds 80 degrees F. More protective requirements take effect when the heat index equals or exceeds 90 degrees F.

See Oregon OSHA's fact sheet Key requirements: Oregon OSHA's permanent rules for heat illness prevention for more information about these rules.

Protection from wildfire smoke: Air Quality Index

The Air Quality Index (AQI) determines which Oregon OSHA requirements are triggered to protect employees from unhealthy levels of

wildfire smoke. The AQI is calculated from air pollutant concentrations on a 0-500 scale. An AQI above 101 is considered unhealthy for sensitive groups, above 151 is unhealthy for all people, above 201 is very unhealthy, and levels above 301 are hazardous.

Oregon OSHA's rules to protect employees from unhealthy levels of wildfire smoke – OAR 437-002-1081 and OAR 437-004-9791 (agriculture), use the AQI to set the following requirements:

- Employers must make filtering facepiece respirators – approved by the National Institute for Occupational Safety & Health (NIOSH), such as N95s – available to all exposed employees for voluntary use when the AQI reaches 101.
- When the AQI is at or above 251, employers must ensure that employees wear NIOSH-approved filtering facepiece respirators and follow Appendix A in the rules.
- When the AQI equals or exceeds 501, employers must ensure that employees wear NIOSH-approved respirators and implement a complete respiratory protection program, that complies with 29 CFR 1910.134 (for general industry, construction, and forest activities employers) or OAR 437-004-1041 (for agricultural employers).

See Oregon OSHA's fact sheet Key requirements: Oregon OSHA's permanent rules for protection from wildfire smoke for more information about these requirements.

Toilets: Construction projects with an estimated cost of $1 million or more

It's not what you might think. Oregon OSHA does not have a $1 million trigger requirement for toilets. But Oregon OSHA does have a construction industry rule affecting construction projects with an estimated cost of $1 million or more. That rule – OAR 437-003-0020(1) – says, "At the site of every project with an estimated cost of $1,000,000 or more, the employer ... shall provide flush toilet facilities ... and washing facilities which include wash basins, warm water and soap."

Oregon OSHA can exempt some construction projects from these requirements of when compliance is impractical or impossible, however. See Oregon OSHA Program Directive A-97 (Toilet Facilities: Reasonable Accessibility) for more information. Also, 437-003-0020(1) does not apply to highway construction or maintenance projects or to an electricity transmission facility, water transmission facility, sewer transmission facility, or gas transmission facility construction or maintenance projects.

Occupational noise exposure: Hearing conservation program

Oregon OSHA's hearing protection rule, 29 CFR 1910.95, Occupational noise exposure, says that your workplace must have a hearing conservation program when employees are exposed to noise levels that are equal to or greater than 85 dBA (a decibel scale that emphasizes frequencies closer to human hearing) averaged over eight hours. The basic elements of a hearing conservation program include:

- Exposure monitoring
- Audiometric testing
- Hearing protection
- Employee training
- Recordkeeping
- Access to information

Additionally, if your workplace has noise levels that equal or exceed 90 dBA averaged over eight hours, engineering controls or administrative controls are required to lower their exposure. Engineering controls or administrative controls are also required for shorter exposure times, depending on the noise intensity. See Oregon OSHA's Quick guide to protecting your hearing for more information about these requirements.

Air contaminants: PELs, TWAs, Action levels, and more

Air contaminants are particles, liquids, and gases that can be harmful to your health if you breathe them, swallow them, or get them on your skin.

A well-known OSHA trigger requirement for air contaminants is the permissible exposure limit (PEL). Oregon OSHA has PELs for more than 500 air contaminants, listed in three "Z tables" in Oregon Rules for Air Contaminants (OAR 437-002-0382). There are similar tables in Oregon OSHA's construction rules and agriculture rules.

Most PELs in Oregon OSHA's Z tables are expressed in parts per million (ppm) or in milligrams per cubic meter (mg/m3); workers must not be exposed above these limits. Oregon OSHA also has rules that include trigger requirements for specific hazardous substances such as lead, asbestos, and silica. You will find them in Subdivision Z in general industry, construction, and agriculture.

Other common terms associated with trigger requirements in Oregon OSHA rules include:

- Action level: An airborne level in many of Oregon OSHA's substance-specific rules, calculated as an eight-hour time-weighted average, that triggers other requirements such as exposure monitoring and medical surveillance.
- Ceiling value or limit: A number (usually expressed in parts per million or milligrams per cubic meter) that a worker's exposure must never exceed.
- Short-Term Exposure Limit (STEL): The time-weighted average concentration of a contaminant over 15 minutes, considered not harmful; there can be no more than four such exposures, each separated by 60 minutes, over eight hours.
- Time-Weighted Average (TWA): The average exposure to a contaminant over a given period of time, typically eight hours.
- Excursion limit: An excursion is a deviation from a PEL-TWA. Excursions in worker exposure levels must not exceed three times a PEL-TWA for more than 30 minutes during a work day.
- Trigger tasks: Tasks involving silica, manganese, and lead that produce high exposure levels to these contaminants. An exposure assessment is usually required to determine workers' exposure levels before they begin such tasks. Table 1 in Oregon OSHA's silica rule and Table Q-2 in Oregon OSHA's manganese rule provide options for protecting workers without an initial exposure assessment.

Ask OSHA

Oregon OSHA

Department of Consumer and Business Services

Is my employer allowed to charge me for personal protective equipment (PPE) that I use at work?

Employers must provide most PPE items to their employees at no cost. Employers may develop their own means of providing PPE to employees and may issue vouchers or purchase orders, keep their own stock and issue the equipment, provide a cash allowance, or use any other method as long as the employee does not have to pay for items that are the employer's responsibility. This applies to the initial issue of PPE and replacement PPE. There are some PPE items, however, that employers do not have to pay for. These include:

- Nonspecialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and nonspecialty prescription safety eyewear if the employer permits these items to be worn off the job site
- Shoes or boots with built-in metatarsal protection if the employer provides metatarsal guards
- Logging boots required by OAR 437-007-0330, Foot Protection, in Oregon OSHA's Forest Activities rules
- Everyday clothing, such as long-sleeve shirts, long pants, street shoes, and normal work boots
- Items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen
- PPE that the employee loses or intentionally damages

For more information see Oregon OSHA's fact sheet, Personal Protective Equipment — Who Pays?

Short take

Oregon Farm Bureau Health and Safety Committee, Oregon OSHA to provide in-person pesticide training Dec. 6

By Aaron Corvin

The Oregon Farm Bureau (OFB) Health and Safety Committee and Oregon OSHA are providing an in-person training workshop for four core credits that are required by the Oregon Department of Agriculture as part of the pesticide licensing process.

The workshop is intended to help employers in the farming and ranching industries achieve compliance with certain requirements.

The workshop will be held 8 a.m. to noon, Tuesday, Dec. 6, at the 2022 OFB annual meeting in the Columbia Room at the Best Western Plus Hood River Inn, 1108 E. Marina Way in Hood River.

The workshop provides four core credit hours, which are recertification credits that pesticide handlers and applicators are required to earn to maintain their licenses.

For OFB members, the cost of the workshop is $40. The cost for non-members is $100. To register, send an email to victoria@oregonfb.org, including your name, farm name, email address, and phone number. Registrants are limited to two per farm or ranch.

Those who have a private pesticide applicator license or a pesticide apprentice license must take the recertification core credit hours to maintain their license. Those who have a commercial or public pesticide applicator license, or a pesticide consultant license, are welcome to attend the workshop. They are eligible to earn four other recertification credits.

More information is available online:

Oregon OSHA – Worker Protection Standard (a rule to reduce the risk of pesticide poisoning among farmworkers and pesticide handlers) – A-to-Z topic page about pesticides

Oregon Department of Agriculture – pesticide and fertilizer programs – pesticide licensing

Oregon Farm Bureau Health and Safety Committee

Short take

Oregon OSHA announces Workers' Memorial Scholarship awards to boost student achievement

By Aaron Corvin

Three Oregon high school graduates are recipients of the 2022 Workers' Memorial Scholarship awards. The awards program helps finance higher education for family members of Oregon workers who have been fatally injured or permanently disabled on the job.

"In the face of serious challenges, these students have shown a lot of heart and a lot of determination in staying focused on their educational pursuits," said Renee Stapleton, acting administrator for Oregon OSHA. "These awards represent an opportunity for us to help them continue to grow as they move forward on each of their unique paths."

Learn more about the Workers' Memorial Scholarship, including how to apply and how to support it, by visiting online. It is open to any high school graduate, graduating high school senior, GED recipient, or current college undergraduate or graduate student who is a dependent or spouse of an Oregon worker who has been fatally injured or permanently disabled while on the job.

This year's recipients are:

McKenzie Dodge, Mill City

A graduate of Santiam High School, Dodge will become a sophomore at Linn-Benton Community College this fall. She is focused on pursuing a degree that will enable her to become an elementary school teacher.

"I have always had a love of working with young children ever since I was a young kid myself," she said. "Having three younger sisters and pretty much helping raise them has also played a huge role in my decision."

Dodge's father, a millwright, died in a lumber mill accident in 2014. She is receiving a $1,000 award.

McKenzie Dodge
Mill City

Ginger Ewing
Bandon

Ginger Ewing, Bandon

Ewing, a graduate of Bandon High School, will be a senior at Linfield University this fall. Her degree plans include coursework in public health, with a goal of becoming a registered nurse.

"My inspiration to achieve my goals comes from wanting to help others, as well as being able to care for my mother, as she has cared for me my whole life," she said.

Ewing's father, a cattle ranch worker, was fatally kicked in the head by a horse. She is receiving a $1,000 award.

Saul Cruz Moreno, Salem

Cruz Moreno, a graduate of North Salem High School, will be a freshman at Western Oregon University this fall. His degree plans include coursework in entrepreneurship, with a goal of launching his own clothing brand.

"For a long time, I've admired how fashion and streetwear brands have come up with each of their clothing lines," he said. "I hope for one day to become as big as some of those brands, or even bigger."

Cruz Moreno's father died in a dust explosion at a seed cleaning facility. He is receiving a $1,000 award.

Award recommendations are made by Oregon OSHA's Safe Employment Education and Training Advisory Committee, an advisory group with members from business, organized labor, and government. Oregon OSHA presents the awards annually to help in the postsecondary education of spouses or children of permanently and totally disabled or fatally injured workers.

The 1991 Legislature established the Workers' Memorial Scholarship at the request of the Oregon AFL-CIO, with support from Associated Oregon Industries.

Short take

Roy Kroker Award of Excellence

By Aaron Corvin

The National Association of Occupational Safety and Health Consultation Programs (OSHCON) has posthumously bestowed an award of excellence to Roy Kroker, who led Oregon OSHA's Consultation and Public Education program for 14 years.

The award is named after Kroker, who died on Sept. 3, 2021. He was 57.

The memorial "Roy Kroker Award of Excellence" will be awarded to workplace health and safety professionals to recognize exemplary work. It will be awarded on an as-appropriate basis.

"Roy was family to us," said Renee Stapleton, acting administrator for Oregon OSHA. "We miss him so much. He and his family are in our hearts. We won't forget him. This award is part of our larger and ongoing remembrance of the lives he helped, both professionally and personally."

OSHCON is a professional resource for OSHA Consultation programs.

Kroker led Oregon OSHA's Consultation and Public Education program during a period of innovative changes, forward-thinking projects, and standout accomplishments in improving workplace health and safety.

Through his exemplary professional work and guidance, he touched the lives of countless workplace health and safety professionals.

He wasn't just about work: He loved fishing, hunting, and blacksmithing, and, for many years, was involved in Boy Scouts as a leader and scout master.

Oregon OSHA will present the award to his family.

Incident Alert!

Company ....A provider of crane, rigging, and heavy-hauling services.
Hazard.....Energized overhead power lines
Employee ...Company owner and equipment operator.

A lumber company hired the crane service provider to remove a decommissioned shaver (a machine used for sawing lumber into wood shavings) from its mill. The lumber company employees had opened a section of the roof on the building where the decommissioned shaver was located so that the crane service provider could remove it. The job was described as a "service pick" that would take one day to complete.

How the incident happened

In the morning, the company's 46-year-old owner and equipment operator met with the lumber company's general manager and the maintenance supervisor to determine the route the crane would take to do the service pick and where the crane's counterweights should be placed before they were loaded onto the crane. The owner noticed a set of power lines that crossed over the route. He also noticed two lumber company pickup trucks that were parked alongside the mill and partially blocking the route.

At 3:45 p.m., the owner and his employee (the co-worker) returned to the mill to do the service pick. The owner was driving a Demag AC 335 165-ton mobile crane pulling an equipment trailer carrying the crane's counterweights. The co-worker followed in a half-ton Dodge pickup truck.

The owner parked the crane and the equipment trailer where he and his co-worker planned to load the counterweights – about 325 yards from the service pick location. He suggested that they first walk the route the crane would travel and look at the service pick location. As they walked the route, he told the co-worker the two pickup trucks would have to be moved to clear the route.

At 5:10 p.m., after locking the crane's boom in an upright position, the owner moved the equipment trailer, then came back and started the crane. He told the co-worker to follow him in the pickup, although the two lumber company trucks were still parked next to the mill.

At first, the co-worker thought that the owner started the crane to warm it up and that they would ride together in the Dodge pickup and move

The Demag AC 335 165-ton mobile crane.

the two lumber company trucks. But the owner began driving the crane toward the pick location. As he approached the two trucks, he tried to maneuver the crane around them; the back of the crane swung wide and the boom, which was upright but fully retracted, contacted the two 19,900-volt overhead power lines.

The owner immediately realized that the boom struck the power lines and drove forward about 50 yards to ensure the crane was clear of the energized lines. He stopped the crane, then got out and looked for damage, but the lines were intact and there was still power to the mill. Several lumber company employees joined him to assess the area for damage. The lumber company employees then went to shut down the power to the mill and the owner returned to the crane to turn off the engine.

However, the owner was unaware that the crane's brief contact with the power lines sent 34,500 volts down the boom and through the steel-belts in the crane's tires, which became extremely hot. The heat dramatically increased the air pressure in the tires and caused the chemical bonds in the tires' rubber compounds to break down (a condition called pyrolysis).

The route the crane traveled to the service pick location (powerlines, upper left).

The ruptured rear tire that injured the owner.

The co-worker was standing about 15 feet behind the crane when a rear tire suddenly exploded, knocking him to the ground. But the owner was standing only three feet from the tire and the explosion hurtled him 34 feet away.

Dust and smoke from the first explosion made it difficult for the co-worker to see. He called out to the owner, then saw him lying face down near an old conveyor. The lumber company's general manager was nearby and ran to check on him, along with the co-worker. The owner was conscious, but the blast from the exploding tire had shredded his clothing. He was covered with soot and had burns from the red-hot rubber. Then, the front tire on the passenger side of the crane exploded.

The general manager and the co-worker moved him to a safe spot behind a concrete wall about 20 feet away, then the general manager instructed the maintenance supervisor to call 911. They placed a blanket over him and waited for the emergency responders, who arrived 10 minutes later and took him in an ambulance to a hospital where he was treated for a dislocated elbow and shoulder, contusions, and burns on his face and arms.

Other findings

- The owner said during an accident investigation interview that he did not know why he failed to follow his original plan (to move the two pickups) before doing the service pick. He said he had been operating cranes for 25 years and had never made that type of error before.
- The owner said he should have marked the location of the power lines on the ground and used a spotter.
- The owner said that after he realized the boom had contacted the overhead lines, he continued traveling forward to make sure the boom had cleared the lines and to ensure there were no ground fires under the crane. His concern was that the crane's hydraulics could potentially catch fire if bark dust had ignited and caught fire.

Violations

- 29 CFR 1926.1411(b)(1), Powerline safety: The employer did not ensure that the mobile crane's boom was lowered enough to ensure that at least six feet of clearance was maintained between any part of the crane's boom and the 19,900-volt powerlines.
- 29 CFR 1926.1411(b)(4), Powerline safety: The employer did not ensure that a dedicated spotter was in position and used before the crane moved closer than 20 feet to the 19,900-volt powerlines.

Going the Distance

Cardinal Glass Industries Inc.

Cardinal IG – Hood River

Plant manager: Dave Windsor | **Safety manager:** Liwana Ottis

Employees: 367

Operations/facilities/workforce

The Hood River plant manufactures sealed insulating glass units of varying sizes and shapes for the residential window industry. All production and support services are housed in a 404,000-square-foot facility. The plant employs 367 people.

On-the-job safety and health accomplishments:

In April of this year, the company's site in Hood River achieved Star status as part of Oregon OSHA's Voluntary Protection Program, which encourages companies to effectively protect workers by going well beyond minimum safety requirements. The site's Days Away from Work, Restricted Activity or Job Transfer (DART) rate was 0.62 in 2019 – 76 percent below the national average for the industry.

Resource recently touched bases with Dave Windsor, plant manager, and Liwana Ottis, safety manager, who discussed the company's focus on safety and its VPP journey.

Interview

Question:

Becoming a VPP company is no small feat. Why did your company seek to join VPP?

Answer:

Dave: Cardinal IG is a glass fabricator. At the Hood River site we handle 18,000 to 20,000 individual lites of glass multiple times every 24 hours as such we refer to ourselves as a "safety sensitive environment." The Hood River site is one of 13

Dave Windsor, Plant Manager

Liwana Ottis, Safety Manager

The Hood River plant manufactures sealed insulating glass units of varying sizes and shapes for the residential window industry.

Cardinal IG facilities in the United States. In 2016, the plant managers made it a strategic priority for all Cardinal IG sites to become VPP Star certified. At the time, very few of us understood what it would take to achieve this goal. However, we knew it was the right direction for us to lead our operations in creating the very best work environments for our employees.

Question:

What is the most important thing you learned from your VPP journey?

Answer:

Liwana: Don't give up! We had numerous setbacks, and each time the "Why are we doing this?" question would get asked. I welcomed it as it gave me the opportunity to remind our team how important this mission is to our ongoing success. Another thought: Historically, I had not looked at Oregon OSHA as being such a powerful resource for employers to improve their safety experience. OR OSHA has numerous programs and trainings available that are a huge benefit.

Question:

What words of wisdom would you share with other employers – VPP or not – on why it is important to safeguard workers against hazards?

Answer:

Liwana: The most important thing I found was getting everyone involved in focusing on safety. How do you do that? We started with daily safety audits on each shift. These are performed by team leaders and production technicians and we encouraged them to focus on whatever safety-related topic they wished. With time and training, these topics become more focused. Invest in safety training. A tremendous benefit for us was getting one-third of all of our employees OSHA 10 certified. This class raised everyone's safety awareness where we started looking at our own practices in a more focused light.

Question:

What is something that you always remind employees about on-the-job safety and health, and how do you deliver that reminder?

Answer:

Dave: My most important role is honoring and protecting our site's values and culture. Our culture is everything. It defines how we work and all the behaviors that go into what we do every day. Safety is one of our site's core values. Safety starts with me and my leadership team. My message to everyone I speak with is "Everyone is a leader." No words need be spoken. You are a safety leader through your own actions and behaviors - wearing PPE properly, looking out for each other, and following established best safety practices reinforces our safety culture and influences those around us to work safely. When it's part of your culture, it's how you do things.

A billboard advertisement, encouraging prospective job candidates to apply, includes the company's status as an Oregon OSHA Star Site.