

Resource

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Oregon OSHA Administrator

Training is important, but it is rarely the complete solution

by Michael Wood

lsewhere in this issue you can find a good deal of information about workplace health and safety training and how to do it most effectively. That's good, because so many of the solutions we find to address workplace hazards require at least some level of training in order to be implemented effectively. But I would also like to offer a cautionary note.

I've worked as a manager for more than three decades now, and I have occasionally had the opportunity to make use of organizational consultants. The best such consultants, of course, can make a real difference and are a resource that we could probably use even better than we do. But, occasionally, I've run into a consultant with a standard solution for every situation. With some of them, the need "to improve organizational communication" is identified before the first interview. With others, it's the need "to address the lack of consistency" in the program's processes. Still others have already written the first recommendations about the need "to address the lack of clear and effective training." And the list goes on and on. Of course, many organizational problems do involve these issues - and frequently a thoughtful analysis will identify two or more of them in combination. But no organization's challenges are likely to be solved by a single approach.

The same is true of workplace health and safety, of course. And we face the same challenge when it comes to identifying real causes and real solutions, rather than simply scratching the surface. Too often, over the years, I have heard workplace health and safety professionals jump to identify the problem as "a training issue." Sometimes, it probably is. But, I am convinced, it often isn't – and it is almost never the entire story.

When I think of the accident and incident investigations I've reviewed over the years, it is much more common that the training is sufficient, but the implementation of that training has broken down – and not because the training was incomplete or was not clear, but because having employees actually do things the way they have been trained was simply not a priority. All the training in the world can't overcome the reminders of "but that's not how we really do it" unless someone in authority is prepared to challenge "reality" and to change that reality for the better.

Of course, that's not the only limitation on training's effectiveness. The higher we are up the hierarchy of controls, the less reliant we will be on training to make our hazard reduction efforts successful. A fully implemented engineering control may mean that most users require little, if any,



training – although those responsible for maintaining and trouble-shooting the controls will need to be even better trained than before.

Training is important much of the time. Because we do not have completely risk-free solutions, it's a true necessary most of the time. But "necessary" does not mean "sufficient." And if we rely upon training alone, especially in the face of existing challenges, we will almost certainly fail.





Don't miss... 1-1-1-1-1-1-1

Education:

October-December workshops

Tuesday, Oct. 23, 2018 • Salem

8 a.m. Worker Protection Standard

1 p.m. Hazard Communication – Aligned With GHS

Thursday, Oct. 25, 2018 • Medford

8 a.m. Worker Protection Standard

1 p.m. Hazard Communication – **Aligned With GHS**

Tuesday, Dec. 4, 2018 • Wilsonville

8 a.m. Worker Protection Standard

1 p.m. Hazard Communication – **Aligned With GHS**

Wednesday, Dec. 12, 2018 • Bend

8 a.m. Worker Protection Standard

1 p.m. Hazard Communication – **Aligned With GHS**

For more information: osha.oregon.gov/edu

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



October 16-18, 2018 Ashland Hills Hotel • Ashland

Exhibits • Awards • Workshops

Professional Development and Keynote Speaker Bob Edwards, The H.O.P. Coach - Founder

> October 16: Human and Organizational Performance Fundamentals

> > Technical safety topics

Industrial hygiene

Human resources

Sessions on:

- Safety and health regulations
- Safety Committees
- > Ergonomics
- - Total Worker Health
- › Organizational culture

Register online at safetyseries.cvent.com/southern18

www.soassp.org • osha.oregon.gov/conferences



Partners in Safety – Steering Toward the Future

November 27–30, 2018

Red Lion Hotel on the River - Jantzen Beach Portland, Oregon

The 28th annual safety and health conference is specially designed for the pulp, paper, and forest products industry. An excellent workplace safety and health training resource!

Register online at safetyseries.cvent.com/wppfp18

Exhibits • Awards • Industry networking

To receive registration materials, exhibitor information, or sponsorship information for the 2018 events, contact the Conference Section: oregon.conferences@oregon.gov | 503-947-7411

Did you know?

If you are an employer, you must train your employees in the safety and health aspects of their jobs.

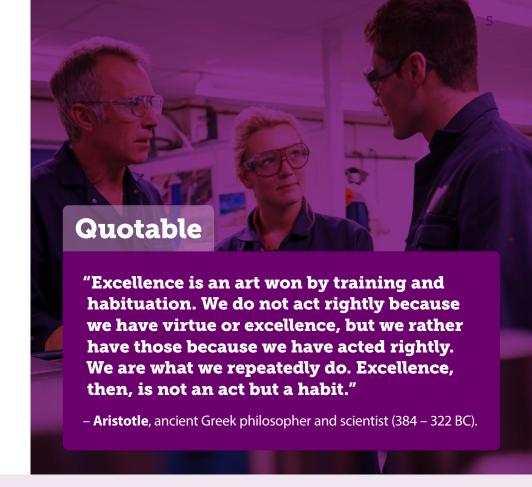
You can decide who will train your employees. However, trainers must have appropriate technical knowledge, skill, and ability in the subjects they teach.

They need to be able to communicate effectively, motivate their students, and apply learning objectives that meet their students' needs.

Oregon OSHA maintains rules that have requirements for employee training. To understand the rules that have such requirements, please take a look at "Oregon OSHA's guide to rules that have special requirements."

The guide walks you through the rules that have requirements for everything from employee training and recordkeeping to respiratory protection.

For more information, check out Oregon OSHA's A-Z topic page on training.



Top 10 Oregon OSHA standards cited so far (2018)

Dank	Standard Violated	Cubinet	Total Violations	Savious	Donast	Willful	Othor	Total Initial Penalties	Sorious	Donost	Willful	Othor
Rank	Standard Violated	Subject	violations	Serious	Repeat	Wilitui	Other	Penaities	Serious	Repeat	Wiliful	Other
1	OAR 437-003-1501(1)	Fall protection	331	247	83	1	0	\$652,215	\$211,250	\$362,840	\$78,125	\$0
2	29 CFR 1910.1200(e)	Written hazard communication program	279	126	0	0	153	\$22,125	\$22,125	\$0	\$0	\$0
3	OAR 437-001-0765(1)	Rules about safety committees or safety meetings	221	46	3	0	172	\$11,910	\$10,650	\$640	\$0	\$620
4	OAR 437-001-0765(13)	Documentation of safety committee meetings	132	1	7	0	124	\$1,500	\$100	\$1,400	\$0	\$0
5	29 CFR 1910.1200(g)	Material safety data sheets	111	18	0	0	93	\$4,500	\$4,500	\$0	\$0	\$0
6	29 CFR 1926.1053(b)	Requirements for use of ladders	106	96	8	0	2	\$83,235	\$72,495	\$10,740	\$0	\$0
7	29 CFR 1910.178(I)	Training for operators of powered industrial trucks	99	29	1	0	69	\$5,735	\$5,535	\$200	\$0	\$0
8	29 CFR 1910.1200(h)	Employee information and training	83	37	0	0	46	\$8,060	\$8,060	\$0	\$0	\$0
9	OAR 437-003-0503(2)	Certification of fall-protection training	68	0	4	0	64	\$800	\$0	\$800	\$0	\$0
10	29 CFR 1910.134(c)	Respiratory protection program	58	32	0	0	26	\$6,625	\$6,625	\$0	\$0	\$0

Note: "Standards violated have been summarized to the rule or first paragraph level and may therefore not reflect the complete standard cited by Oregon OSHA."



Train your employees to work safely: It's important. <u>It's required</u>.

By Ellis Brasch

Training employees about the safety and health aspects of their jobs is one of the most important things you can do to keep your workplace injury free. Training is also an important component of your safety and health program.

In fact, all Oregon employers are responsible for instructing and supervising their employees in the "safe operation of any machinery, tools, equipment, process, or practice that they are authorized to use or apply." This requirement (Rules for all workplaces), one of Oregon OSHA's Division 1, General Administrative Rules, reinforces the importance of safety and health training in all businesses that have employees – from mom and pop shops to Oregon's largest businesses.

Safety and health training benefits all employees, providing them with:

- The knowledge and skills they need to do their work safely.
- An awareness of workplace hazards and how to identify and report them.
- Knowledge of any unique hazards associated with their jobs.

What training requirements do you need to know?

Oregon OSHA has nearly 200 rules to ensure that employees across all industries work safely, but only a small proportion of these rules apply to a particular workplace. (See Page 9).

As an employer, you are responsible for ensuring that your employees know the Oregon OSHA rules that apply to their jobs, their safety responsibilities, the hazards they could be exposed to, and how to control their risk of exposure.

- New employees must be trained to safely do their jobs before they begin work for the first time. They
 should have orientation training that covers your safety policy, workplace safety rules, hazards, and
 procedures for responding to emergencies. And they must receive the training in a language and at a
 literacy level that they understand.
- Managers must understand the importance of leadership in maintaining a safe workplace, the Oregon OSHA rules that apply, and how to comply with them.

- Supervisors must know the hazards, the hazard-control methods, emergency procedures, and the applicable Oregon OSHA rules.
- Safety committee members must be trained in hazard identification and accident investigation principles.
- Health care employers must provide assault-prevention training to new employees within 90 days of the employees' initial hiring date and to all other employees on an ongoing basis.



Do employees need to be retrained?

Employees must be retrained whenever there are changes in the workplace that create new hazards, when it is necessary to maintain their skills, and when they do not follow safety rules.

In addition, periodic training is required for employees who are exposed to certain health hazards. For example, annual training is required for employees exposed to noise at or above an eighthour time-weighted average of 85 decibels, and for employees exposed to lead at or above the action level. And employees who use respirators must have quarterly training.

Who can train your employees?

You can decide who will train your employees and how they will be trained. However, trainers must have the appropriate technical knowledge and skill in the subjects they teach. They need to be able to communicate effectively, motivate their students, and apply learning objectives that meet their students' needs.

Training employees in a formal classroom setting may be helpful in some situations, but it's not required. Peer-to-peer training, hands-on training, and demonstration training can also be effective in conveying safety concepts. Don't forget that managers and supervisors need training, too.

Employee training and your safety and health program

Employee training is also an important part of your safety and health program. Employees need to be trained to ensure they understand:

- How to report hazards, injuries, illnesses, and near-miss incidents
- What to do in an emergency
- Their rights under the Occupational Safety and Health Act

Managers and supervisors may need training to ensure that they understand their roles in providing leadership and direction for the program. And employees who are assigned specific roles in the program – doing workplace inspections or investigating accidents, for example – may need additional training to ensure they can do those tasks successfully.

Keep records of your employees' training

Not all of Oregon OSHA's training-related rules require that you keep training records for individual employees, but it's still a good idea. Generally, a record that includes the name of the employee trained, the type of training the employee received, the training date, and the trainer's name is sufficient.

Training employees who do not speak English

You must train your employees in a language and at a literacy level that they understand. That's because there may be cultural differences among the employees – even among those who share similar ethnic backgrounds. Training needs to take those differences into account. So, it's essential that instructors and curriculum developers are bilingual, understand the cultural differences, and are familiar with all aspects of the employees' new jobs.

Don't forget that all employees must be trained before they begin their jobs for the first time and whenever there are any changes in the jobs that create new hazards or require them to learn new skills.

"Effective training is all about learning and doing," says Oregon OSHA consultant and trainer Tomas Schwabe, who developed the popular PESO program that helps English-speaking employers talk about workplace safety and health topics with their Spanish-speaking employees.

Schwabe emphasizes that effective training requires employees to demonstrate their new job skills, but in a way that is not intimidating or threatening. He follows a simple four-step model that requires the trainer and the student to work together:

- 1. I (the trainer) do the task, you (the student) watch.
- 2. I do the task, you help.
- 3. You do the task, I help.
- 4. You do the task, I watch.

This hands-on instruction should be reinforced with printed examples that workers can use on the job. That's where the PESO program comes into play. PESO covers critical safety and health topics in Spanish and English that employers can print and use for toolbox talks or for short safety meetings.

Schwabe also points out that because actions often speak louder than words, the more experienced employees must set a good example for new-hires and follow safety rules, too. "Language has no barriers when they 'walk the talk' about safety," he says. "It's one of the most effecting training tools available."



Eleven commonly violated Oregon OSHA training rules and the industries that violate them

Employers' responsibilities

437-001-0760(1): Employees must be properly instructed and supervised in the safe operation of any machinery, tools, equipment, process, or practice that they are authorized to use or apply.

Fall protection

437-003-0503(1): The employer must provide a training program for employees exposed to fall hazards; employees must be trained by a competent person.

437-003-0503(2): The employer must keep a written record of each employee who has received fall protection training.

First-aid

437-007-0220(3): All personnel employed in forest activities must be trained in first aid and CPR.

Hazard communication

1910.1200(h) and 437-004-9800(7): Employers must provide employees with information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new chemical hazard is introduced into their work area.

Ladders

1926.1060(a): Employers must provide a training program for employees who use ladders.

Pesticide safety

170.401(a): Workers must be trained before performing tasks in a pesticide treated area in effect within the last 30 days.

170.501(a): Handlers must be trained before performing any handler activity.

Powered industrial trucks

1910.178(I) and 437-004-1700(8): Each powered industrial truck operator must be competent to operate a powered industrial truck safely as demonstrated through successful completion of a training and evaluation program.

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	Employers' responsibilities			×	/	×		×	×	
	Fall protection			×						
	First-aid				×					
Rule	Hazard communication	×	×	×		×	×	×	×	
	Ladders			×						
	Pesticide safety	×								
	Powered industrial trucks	×		×		×	×	×	×	

Employers, workers encouraged to use online training courses

By Aaron Corvin

Your commitment to sharpening your workplace safety and health skills doesn't have to suffer because of a lack of time or an out-of-the-way training location.

Oregon OSHA encourages employers and workers to take advantage of its free, convenient online training courses.

The courses cover everything from bloodborne pathogens and confined spaces to recordkeeping and reporting, and safety committees and meetings.

To the right are just some of them. A complete list is available on our "Online courses" page.

If a brick-and-mortar location still works for you, by all means check out our classroom workshops. And take a look at PESO, a bilingual program that helps English-speaking employers train and talk about workplace safety and health issues with Spanish-speaking workers.

Oregon OSHA also offers conferences, grant programs, and the Resource Center library and videos.

It's all just a few clicks away.

View Oregon OSHA's online course catalog

Accident investigation – teaches you the fundamentals of conducting a workplace accident investigation

ATV safety – covers all areas of ATV use for agricultural work, including best practices

Bloodborne pathogens – covers the essential elements of a compliant exposure control plan, and preventing and mitigating exposures

Confined spaces – presents steps to take to protect workers from the hazards posed by confined spaces

Ergonomics for everyone – includes information about preventing musculoskeletal disorders in the workplace by identifying and controlling risk factors

Fall protection – encompasses rules for fall protection in the construction industry, and illustrates specific tools for building a proactive safety program

Hazard identification – delves into identifying hazards, conducting a safety and health inspection, and analyzing and controlling hazards

Portable ladder safety – covers the various types of portable ladders, and safety-related work practices for their use

Recordkeeping and reporting – teaches you about the types of workplace incidents that must be reported, recorded, or both, and how to meet those requirements in a timely manner

Safety and health management – walks you through the elements of an effective safety and health management program, best practices, and overcoming obstacles

Safety committees and meetings – includes details about what to do as a safety committee member or a meeting attendee, and how many committee members there should be and how often meetings should occur

Violence prevention program – provides information about how to recognize, evaluate, and respond to risk factors related to workplace violence

Whistleblower rights – explains whistleblower rights under the Oregon Safe Employment Act



What are a health care employer's responsibilities after an employee has been exposed to a patient's blood?

Ask Technical

Oregon OSHA's Bloodborne Pathogens rule describes the employer's responsibilities for everything that has to happen after an exposure incident including who must pay for it. [See 1910.1030 (f), Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.]

The Bloodborne Pathogens rule defines an *exposure incident* as "a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties." *Parenteral* means piercing mucous membranes or the skin through events such as needlesticks, human bites, cuts, and abrasions.

The employer must also make available the hepatitis B vaccine and vaccination series to any employee who has occupational exposure, as well as a health care professional's post-exposure evaluation and follow-up.

The post-exposure evaluation must include informing the employee about the results of the medical evaluation and any medical conditions resulting from the exposure that requires further evaluation or treatment. [See 1910.1030 (1), General.]

All medical evaluations and procedures including the hepatitis B vaccine, vaccination series, and post-exposure evaluation and follow-up, including prophylaxis, must be:

- Made available at no cost to the employee
- Made available to the employee at a reasonable time and place
- Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional
- Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place (the Bloodborne Pathogens rule includes some exceptions).

All laboratory tests must be conducted by an accredited laboratory, also at no cost to the employee.

Short take

Scholarship awards boost student achievement

Nine Oregon high school graduates are recipients of the 2018 Workers' Memorial Scholarship awards, Oregon OSHA announced. The awards program helps finance higher education for family members of Oregon workers who have been fatally injured or permanently disabled on the job.

Oregon OSHA honored the recipients during a public ceremony in August at the Labor and Industries Building in Salem.

The recipients are:

Salma Anguiano, Hermiston

Anguiano is a 2018 graduate of Hermiston High School. She will attend Whitman College in the fall and pursue a degree in politics.

A vehicle accident left her stepfather, who worked at a dairy farm, a quadriple-gic. Anguiano is receiving a \$1,500 award.

Alyssa Bergold, Roseburg

A graduate of Douglas High School in Winston, Bergold will attend Umpqua Community College in the fall. As she moves forward with her studies, which include earning a certificate this year from the college's dental assisting program, Bergold is considering becoming a veterinarian technician.

Bergold's stepfather died in an accident at a lumber mill. She is receiving a \$1,000 award.

Cheyenne Datan, North Bend

Datan is a 2018 graduate of North Bend Senior High School. She plans to study criminal justice at Pacific University.

Datan's father, a deputy sheriff, died in an on-duty ATV accident. She is receiving a \$1,500 award.

Each of the nine Oregon high school graduates who received 2018 Workers' Memorial Scholarship awards has different career aspirations. All of them have experienced the personal and financial hardships that result when a parent is lost to a workplace death or permanently disabled while on the job.



Samantha Hull, Portland

Hull is a 2018 graduate of Portland Christian High School. She plans to study elementary education and teaching at Corban University.

Hull's father died in a forklift accident before she was born. She is receiving a \$500 award.

Eric Johnson, Gresham

With his GED completed, Johnson will continue his studies at Mt. Hood Community College. He plans to transfer to Oregon State University, where he wants to pursue a degree in marine science. Johnson is receiving a \$1,000 award.

Grace Milner, Silverton

Milner graduated from Silverton High School this year. She plans to study pediatric nursing at Linfield College.

Her stepfather died in a car accident while traveling for work. Milner is receiving a \$1,500 award.

Marissa Parr, Jefferson

A graduate of Jefferson High School, Parr earned a bachelor's degree at Willamette University. She plans to pursue a master's degree in criminal justice – with a concentration in behavioral analysis – at Saint Joseph's University in Pennsylvania.

Before Parr was born, her father, a long-haul truck driver, was disabled during a loading operation. Parr is receiving a \$500 award.

Jessica Ross, Coquille

Ross is a 2018 graduate of Coquille High School. In the fall, she will begin studies at Southwestern Oregon Community College. She plans to complete her school work at Oregon Institute of Technology, with a goal of becoming an ultrasound technician.

A work-related accident involving a fall from a scaffold left her father a quadriplegic. Ross is receiving a \$1,000 award.

Sydney Sampson, Springfield

Sampson, who was dually enrolled at Henry D. Sheldon High School and Lane Community College, will attend the University of Oregon this fall. She plans to double-major in political science and international studies. Sampson aspires to become the first black woman Secretary-General of the United Nations.

Sampson's stepfather, a police officer, was shot to death in the line of duty. She is receiving a \$500 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. The 1991 Legislature established the Workers' Memorial Scholarship at the request of the Oregon AFL-CIO, with support from Associated Oregon Industries.



Sydney Sampson, who plans to double-major in political science and international studies at University of Oregon, attended a ceremony in August honoring her and eight other recipients of the 2018 Workers' Memorial Scholarship awards.

Short take

Coca-Cola syrup plant in Portland maintains VPP Star status

Coca-Cola North America's syrup plant in Portland has achieved recertification as a Star site in Oregon OSHA's Voluntary Protection Program (VPP).

The facility recently completed its fourth VPP evaluation, which found managers and employees working together to sustain excellence in all areas of the facility's safety and health management system.

Specifically, the VPP evaluation team noted "collaboration between management and employees to design and develop a machine for washing hoses that addressed an ergonomic and safety issue." What's more, the team noted that "employee involvement continues to drive the company's safety and health culture which is ingrained in how people at this site think, work, and act." In fact, the facility emerged from the evaluation with no 90-day items.

VPP encourages companies to effectively protect workers by going well beyond minimum safety requirements. To be considered for VPP recognition, a company's safety and health management system must excel in all areas, including management leadership, employee involvement, worksite analysis, hazard prevention and control, and safety and health training. Ultimately, at a VPP facility, management and employees work together to provide ongoing, systematic protection from workplace hazards.

For more information, contact Mark Hurliman, Oregon OSHA VPP/SHARP program manager, at 541-776-6016 or mark.e.hurliman@oregon.gov.



Coca-Cola North America's syrup plant in Portland recently achieved recertification as a VPP Star Site. Pictured are members of the facility's safety committee with the VPP flag.

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Average pure premium rate changes:

2019: 9.7 percent decrease

2018: 14.0 percent decrease

2017: 6.6 percent decrease

2016: 5.3 percent decrease

2015: 5.3 percent decrease

Short take

Workers' compensation costs to drop for sixth-straight year

Oregon employers next year, on average, will pay \$1.12 per \$100 of payroll for workers' compensation insurance, down from \$1.23 in 2018, the Oregon Department of Consumer and Business Services (DCBS) announced. That figure covers workers' compensation claims costs, assessments, and insurer profit and expenses.

This will mark the sixth year in a row that businesses will experience an average decrease in their workers' compensation costs. Those costs have steadily declined over the years, even as workers continue to receive strong benefits.

Part of Oregon's success stems from efforts by the Workers' Compensation Division. Those efforts include enforcing requirements that employers carry insurance for their workers, keeping medical costs under control, and helping injured workers return to work sooner and earn their pre-injury wages. Another part is Oregon OSHA's focus on preventing on-the-job injuries by enforcing workplace safety and health rules, and advising employers about how to improve worker safety and health.

Employers' cost for workers' compensation insurance covers the pure premium and insurer profit and expenses, plus the premium assessment. Employers also pay the Workers' Benefit Fund assessment, which is a cents-per-hour-worked rate.

The pure premium rate – filed by a national rate-setting organization and approved by DCBS – is the base rate insurers use to determine how much employers must pay for medical claims and lost wages. The pure premium would drop by an average 9.7 percent.

Pure premium is the key factor behind annual cost changes. Driving the average decrease in the pure premium are lower medical care costs and less severe claims. Underpinning the steady decline in pure premium are the successful efforts of the Workers' Compensation Division, Oregon OSHA, and related programs.

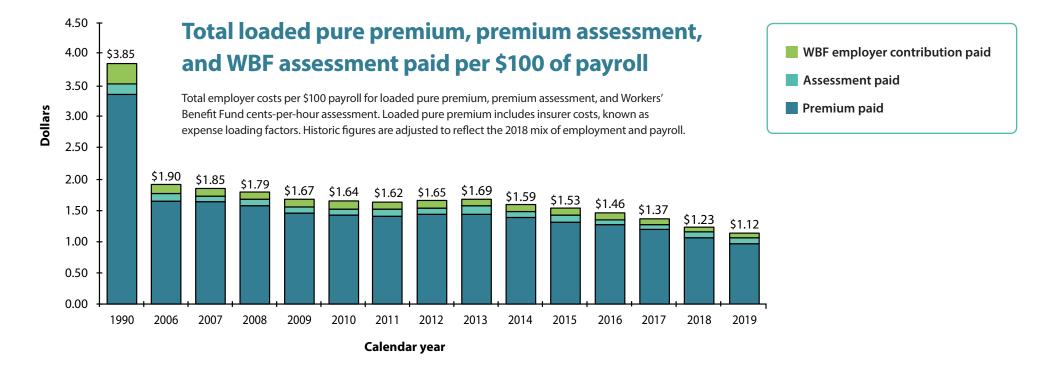
Those programs are funded by the premium assessment.

The premium assessment is a percentage of the workers' compensation insurance premium employers pay. It is added to the premium. It would increase from 7.4 percent this year to 7.8 percent in 2019. The increase is needed to partially offset the decline in pure premium and to keep pace with a growing economy.

The Workers' Benefit Fund assessment provides benefit increases to permanently disabled workers and to families of workers who died from a workplace injury or disease. It also supports Oregon's efforts to help injured workers return to work sooner and earn their pre-injury wages.

The fund's revenue comes from a cents-per-hour-worked assessment. It would decrease from 2.8 cents per hour worked in 2018 to 2.4 cents per hour worked in 2019. The fund is healthy, made so by a growing economy, which allows the rate to be reduced.

The decrease in the pure premium is effective Jan. 1, 2019, but employers will see the changes when they renew their policies in 2019. The assessment changes are effective Jan. 1, 2019.



Short take

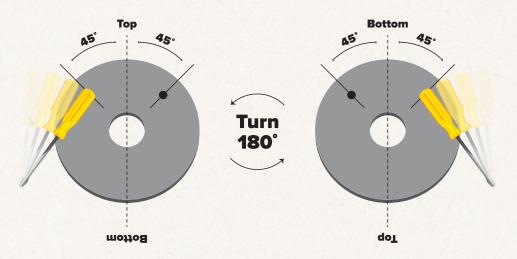
How to "ring test" a grinding wheel

Grinding wheels must be inspected and "ring-tested" before they are mounted to ensure that they are free from cracks or other defects. Wheels should be tapped gently with a light, nonmetallic instrument. A stable and undamaged wheel will give a clear metallic tone or "ring."

That distinctive ring comes from the hardness of the material in the wheel and its ability to transmit sound vibrations. If the wheel is cracked, the vibrations stop at the crack and there is no ring. However, a ring test may not detect all defects in a wheel, so a careful visual inspection is also necessary.

Before mounting the wheel, check the machine's spindle speed to ensure that it does not exceed the maximum operating speed marked on the wheel.

After mounting the wheel, stand to the side of the machine when powering it on in case a crack or defect was not detected.



Performing the ring test

Make sure the wheel is dry and free of sawdust or other material that could deaden the sound of the ring.

You will need a hard plastic or hard wood object, such as the handle of a screwdriver or other tool, to conduct the test. Use a wood mallet for heavier tools. Do not use metal objects.

- 1. Suspend the wheel on a pin or a shaft that fits through the hole so that it will be easy to turn, but do not mount the wheel on the grinder. If the wheel is too large to suspend, stand it on a clean, hard surface.
- 2. Imagine a vertical plumb line up the center of the wheel.
- 3. Tap the wheel about 45 degrees on each side of the vertical line, about one or two inches from the wheel's edge. (Large wheels may tapped on the edge rather than the side of the wheel.)
- 4. Turn the wheel 180 degrees so that the bottom of the wheel is now on top.
- 5. Tap the wheel about 45 degrees on each side of the vertical line again.
- 6. The wheel passes the test if it gives a clear metallic tone when tapped at all four points. If the wheel sounds dead at any of the four points, it is cracked. Do not use it.

Where can I find the requirement?

See 1926.303(c)(7), Abrasive wheels and tools. "All abrasive wheels shall be closely inspected and ring-tested before mounting to ensure that they are free from cracks or defects." [Division 3, Subdivision I.]

Reprinted from the Construction Depot, Jan. 21, 2015.



Safety Notes

Accident Report

Incident: Amputation

Industry: Cabinet manufacturing

Worker: Machine operator

What happened?

An employee was loading a "glue puck" (an adhesive cartridge shaped like a tall hockey puck) into the air-cylinder magazine of an edge banding machine; the cylinder activated while the employee's finger was in the magazine, resulting in an amputation.

How did it happen?

The employee was operating an edge banding machine. The machine glues a thin band of material to the exposed edge of plywood or particle board so that the finished product looks like solid wood. Hot glue is pushed through a hose by a pneumatic cylinder and applied to the edge; the band is attached by rollers from a spool, then trimmed and deposited on a table.

When the machine runs out of glue, a new "glue puck" must be loaded by hand into an air-cylinder magazine through a hopper positioned over the magazine. The operator must raise the interlocked enclosure and drop a glue puck into the hopper. Occasionally, when the hopper and the area around the hopper become built up with glue residue, the glue puck will get stuck and not drop down into the magazine. When this happens, the operator must first lock out the machine, raise the interlocked enclosure, remove the glue hopper, and then clean the glue from the area with a chisel.

However, the employee removed the hopper and began cleaning the glue residue with his fingers and did not lock out the machine. When he had finished cleaning, he tried to load a glue puck into the magazine by hand, but he didn't realize that the pneumatic cylinder was in the forward position and had not retracted.

With his fingers in the danger zone, he unintentionally touched a limit switch that activates an air valve and retracts the cylinder. When the cylinder retracted, it pinched his left index finger between the cylinder housing and the back edge of the cylinder head, amputating the finger just above the first knuckle.



Safety notes 19

Findings

- The company's machine operators are trained by a supervisor or a designated training provider. Training is one-on-one and includes reviewing of the company's written machine-specific job hazard analysis (JHA) and lockout/tagout procedures; observing the trainer operating the machine along with verbal instruction; and shadowing the new operator.
- After the trainee demonstrates the ability to safely operate the machine, the trainer certifies that the trainee is capable of operating the machine in accordance with the company's policies and procedures.
- The company has a written discipline policy for not following safety procedures or violating a safety rule. The company puts particular importance on rules called "Cardinal Rules." Violating a Cardinal Rule can result in immediate discharge. Cardinal Rules include requirements to use personal protective equipment and machine guards, and to follow JHAs and LO/TO procedures.
- The company has a safety committee whose members are trained in hazard identification and accident investigation. The safety committee conducts and documents quarterly workplace inspections to identify hazards and violations of their safety rules.
- Training is conducted on JHAs and LO/TO procedures annually and whenever there are revisions to the procedures.
- The employee explained that just before he was injured, he turned off the main power to the machine, but the compressed air that powered the pneumatic cylinder was on and the power sources were not locked out.
- The employee was placed on paid leave pending the outcome of the company's accident investigation.
- The company's accident investigation found that the glue hopper interlock was defective and worked properly nine out of 10 times when tested. However, if all the power sources had been locked out, the cylinder would not have moved despite the defective glue hopper interlock.
- The company dismissed the employee because he did not follow LO/TO procedures and violated the LO/TO Cardinal Rule.

ViolationsNo violations were issued.



Magazine where the glue is heated and pushed through a hose by the cylinder. The pen indicates where the employee's finger was pinched between the housing and the back edge of the cylinder head when the cylinder unexpectedly retracted.

Going the Distance



Company:

Klamath Energy LLC, owned by Avangrid Renewables



Managing director:

Dennis Winn



Environmental, health and safety engineer:

Jay Schindler

Operations/facilities/workforce:

Located just south of Klamath Falls, the Klamath Energy facility includes the Klamath Cogeneration Project and the Klamath Generation Peakers. With 22 employees on site, the facility uses a single fuel source – natural gas – to create electricity and process steam. Natural gas is burned using advanced combined-cycle combustion turbine technology. The facility provides power across the West, as well as process steam to a nearby wood products manufacturer.

Responsibilities/hazards addressed:

Dennis Winn: Managing Director

Responsible for all aspects of the Klamath Energy LLC facilities.

Jay Schindler: Environmental, Health and Safety (EHS) Engineer

Responsible for administering, reporting and collecting environmental, health, safety, and industrial hygiene data. Also administers EHS programs, including Process Safety Management (PSM), the Safety Committee and the Voluntary Protection Program (VPP) at Klamath Energy.

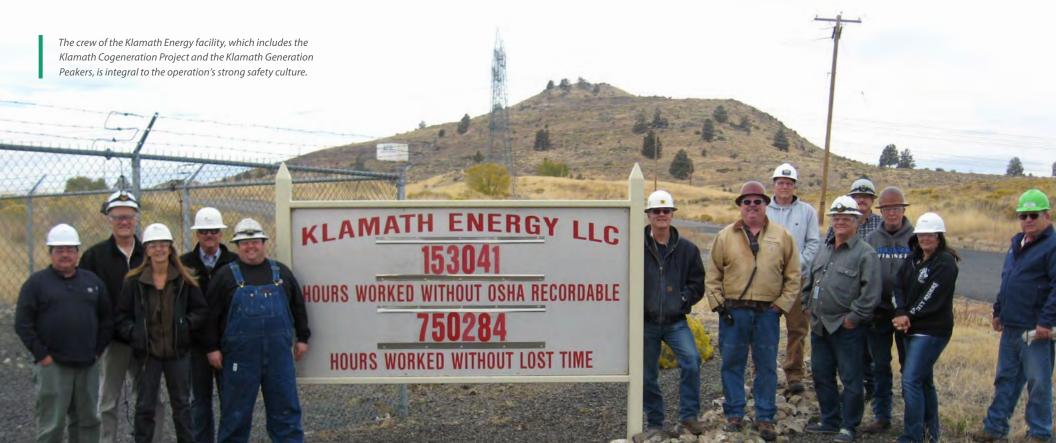
The Klamath Energy facility, shown above at nighttime, recently achieved recertification from Oregon OSHA as a Voluntary Protection Program Star site, putting it among an elite group of worksites recognized for safety excellence.

The Klamath Energy plant recently achieved recertification from Oregon OSHA as a Voluntary Protection Program Star site, putting it among an elite crop of worksites recognized for safety excellence. You originally obtained Star status in 2011. It would be an understatement to say VPP involves a rigorous process. Why did you pursue VPP?

Schindler: In 2011, I was in the operations crew at the time we graduated from the Safety and Health Achievement Recognition Program (SHARP). We saw value in SHARP, and since no one here would volunteer to be the next one hurt, we decided to carry on with a regimen of continuous improvement. VPP was a way to organize around that concept. The road to accidents is paved with complacency, so we never wanted to be satisfied.

Winn: After graduating from SHARP, all of the employees wanted to continue to improve in safety and decided that participating in VPP would be a vehicle for continuous improvement and help prevent complacency. We also recognized that we had benefitted significantly as a result of our relationship with Oregon OSHA Consultation Services and wanted to continue with that relationship. Finally, we didn't do this to get a flag, plaque, or extra recognition; it was so each employee could contribute to each other's safe return home.

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Going the distance

What's the most important thing you learned during the company's journey to becoming a VPP Star site?

Winn: First, we are always building a culture, and if we are not actively doing things to improve our culture, then we are harming it. Second, there is nothing more important than maximum employee involvement. We achieve that by hiring the right people who want to build and sustain this type of culture, and then continually empowering them to do just that.

Schindler: I have learned that talking to others about what we have done highlights things in my own mind. Each member of the Klamath Energy team is fearless when it comes to bringing up issues and discussing solutions. During these discussions, feedback is not taken personally as we are only searching for the best possible solution. When I try to explain this to other companies' safety officers, I realize that what we have is a special team. It is the value we place on all our team members and their input that makes it work.

As the May 2018 VPP on site report evaluating the Klamath Energy site states: "All aspects of the site safety and health management system continues to meet and exceed the VPP requirements, including management, leadership, and employee involvement, worksite analysis, hazard prevention and control, and safety and health training."

Clearly, no one earns the VPP crown on their own. What can you tell us about the key steps employees took during your VPP journey?

Schindler: Generating steam and 500,000 volts of electricity is a high-energy business, so it obviously comes with some hazardous processes. From the plant's inception in 2001, we wanted a strong safety culture. Back then, we hired based in large part on whether a potential employee shared our safety goals. Even with our inevitable turnover, our hiring continues to follow that idea, so building the safety culture to achieve VPP may not have been as difficult as it might have been in other more established businesses.

During that initial phase, we tasked our crew with writing the procedures for safety programs, system and equipment operation. We assigned people to become experts of plant systems. The expert would have to learn all the nuances of those particular systems or programs, write the procedures associated, and train the remainder of the crew. In concert with our maintenance crew, the expert would develop the associated preventative maintenance work orders.

So, the concept of an employee-driven culture was designed into the company.

That being said, when we decided to become VPP, we did have to make improvements to various programs, including PSM, a process that involved each member of the crew.

Winn: Employees have driven the process here at Klamath Energy since the beginning. While we all have different roles, our roles are the same when it comes to safety. One of our employees said, "VPP is not what defines us, it is a byproduct of the safety program we've built." Our employees are involved in all aspects of the VPP process, including self-assessments, annual reports, written program development, maintenance, and PSM. We also have a strong Safety Committee that manages and analyzes all things safety at Klamath Energy and is empowered to make decisions.

Going the distance

What are a few key examples of safety improvements that arose from the VPP process, and how do those improvements make your company better today?

Winn: Each year, we develop and implement solutions to a number of potential safety hazards. Each solution is developed by having discussions with all of the team members and then agreeing on the best solution, which includes input from the Safety Committee. None of the solutions happen in a vacuum; they happen in open and transparent discussions with all of the stakeholders. Additionally, many improvements at Klamath Energy have come from suggestions from contractors. By engaging contractors, we can help improve their safety culture as they are helping to improve ours.

Schindler: In our 2017 report, we noted nine engineering controls implemented to control hazards. One was when a 13,800-volt generator breaker closes there is quite a bit of energy going across contacts. Very rarely those breakers do fail, but if they do, they fail spectacularly. Through our hazard identification program, we installed an alarm and beacon that would warn of impending breaker operation. Now when someone is near this piece of equipment, they're warned and have enough time to move to a safer location.

Even though no injuries occurred due to these nine identified hazards, we have addressed those potential issues.

Not every employer can be a VPP site, but VPP employers may have best practices or advice or stories to share with other employers who want to step up their game when it comes to on-the-job safety and health. What words of wisdom do you have for others?

Schindler: Not every employer can necessarily be a VPP site, but they can try. They can institute cooperation and inclusiveness in their safety culture. They can listen to each other and realize that even the new, relatively inexperienced worker sweeping up can have a valuable insight. We all know that sometimes a

child's question can be the most revealing of truth. That goes for anyone else's question. If a question is discussed in the right environment, it may lead to the solution you are looking for. Each member of the team drives the culture at Klamath Energy, not just management. If everyone supports each other, you can achieve a lot.

Winn: Teach and empower each member of the crew to be the safety person at your facility, including contractors. Make it an expectation for each crewmember and contractor to call time out if they see something unsafe. Assign each crewmember an aspect of the safety program, whether it be the PSM, another written program, or the safety committee. Keep these folks involved in the various aspects of the safety program, and then mix it up once in a while. Ask for feedback from your employees (and contractors) regarding safety, and then listen to the feedback.



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