



Training program enhances safety culture

Duckwall Pooley enjoys safety dividends

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RESOURCE

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On the cover: Employees sort Bartlett pears at Duckwall Pooley in Odell, Ore.

Administrator's message: Playing games with statistics – and cell phones

By Michael Wood

There's an often-used quote that's been around for more than a century that suggests that there are three types of falsehood, "lies, damned lies, and statistics." It certainly was popularized by Mark Twain and attributed, although probably wrongly, to 19th century British Prime Minister Benjamin Disraeli. In any case, it is often used to justify tossing any statistical analysis out the window. That's not particularly useful – but it is a good reminder that distorted use of statistics can be a dangerous thing.

I actually prefer a line from writer and analyst Gregg Easterbrook: "Torture numbers, and they'll confess to anything." Author William W. Watt also suggested, "Do not put your faith in what statistics say until you have carefully considered what they do *not* say."

There is an interesting – and troubling – argument being used by some professionals in their continuing effort why they have no interest in limiting cell-phone use while driving a car. And it provides an illustration of how uncritical use of statistics can distort the underlying issues.

There is a growing body of research suggesting that cell-phone use while driving a motor vehicle (or performing any complex task where there is a risk of injury) requires too much attention to do so safely. And that research suggests that the primary issue is with cognitive distraction, rather than with the physical manipulation of the phone. That's why I avoid conversations on the cell phone when I drive, with or without a hands-free device.

But there are those who suggest, quite seriously, that the entire concern about cell phones is an overblown example of "junk science." Their thesis is quite simple: "If cell phones cause motor vehicle collisions, then the relatively rapid increase in cell-phone use should have resulted in an increase in motor vehicle collision rates. Since motor vehicle collision rates have actually decreased during the time that cell phones have become more prevalent, then that proves that cell phones do not increase the risk of accidents."

Some make the same analysis using motor vehicle fatality rates.

The problem with this "analysis" should be obvious: It assumes that everything else that might influence motor vehicle collision rates remained static during that time. Of course, during that same time (to name just one example) anti-lock braking systems came into near universal use on new cars. And the people who make the argument using fatality rates also fail to account for more and better airbags and the increased use of engineered "crumple zones," all of which make it "safer" to have a motor vehicle accident than it used to be.

The most obvious way to understand the flaw with their reasoning is that it would actually lead one to believe that cell-phone use while driving should be required, or at least encouraged, since it obviously has the effect of making drivers safer (after all, the accident rates went down, right?). That argument is just plain silly on its face.

In the early 1970s, one could have made the following argument: "Cigarette smoking increased throughout the country during a period of several decades. If smoking is dangerous, then as smoking rates increased, the death rate should have increased and the average American life span should have declined. But Americans live longer now than they did at the turn of the century when fewer people smoked. So that proves that smoking is not dangerous."

Lies, damned lies, and statistics? The lie is not in the numbers. It's in the argument, which was based on a false premise from start to finish.



Michael Wood, Administrator

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

OregonOSHA

Training program enhances safety culture

Duckwall Pooley enjoys safety dividends

By Melanie Mesaros

The bustling warehouse at Duckwall-Pooley in Odell has come to life again, now that thousands of pounds of Bartlett pears are coming in from surrounding orchards ready for packing. About 235 seasonal workers, nearly 90 percent who are Spanish speakers, join the company after taking months off from the work of sorting and packing the fruit.

On this morning, a group of about 30 seasonal employees is going through the company's annual orientation training. Duckwall's assistant director of human resources, Vicky Munoz, leads the class, which covers safety basics, such as what to do in the event of an ammonia leak, in both Spanish and English.

"Our philosophy is if the employees aren't 'whole and healthy,' they aren't going to do the job we need them to do," Munoz said.



Earlier in the summer, forklift drivers received their own specialized training, which included an emphasis on ammonia safety and emergency planning. The plant has more than 17,000 pounds of ammonia, and forklifts pose one of the biggest risks to the system. Duckwall has participated in mock drills with local fire departments in the event of a leak and line workers are trained on what it means to “shelter in place.”



Vicky Munoz (right) teaches an annual refresher class for seasonal Duckwall Pooley employees.

“I like to feel safe,” said Nathan Duckwall, grandson of the company’s namesake, who works as a refrigeration operator at the plant. “Whether it’s ammonia, electrical hazards, or forklifts, you just want to be safe.”

It’s clear most employees feel the same about the company’s attention to safety training. Mike Fifer, a line mechanic, has worked at Duckwall for 31 years.

“I’ve been a mechanic all my life and I still have all my fingers,” he said. “That says something.”

Fifer said employees take pride in having a safe environment and have respect for the plant’s hazards.

“No one ever gets yelled at for hitting an emergency stop button,” he said. “The philosophy is we can always restart it. You can’t replace a finger.”



Nathan Duckwall (left) and John Nagy are in charge of maintaining the company’s ammonia system.



Fresh picked pears are washed before packing.

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Training program enhances safety culture, *continued from page 5*

While most of the seasonal staff at Duckwall are returning workers, new employees are paired with a mentor and go through a specialized training to make sure they understand the job.

In addition to mandatory pre-shift exercises (employees are paid to participate), the company offers massages for sore muscles at the start of the busy season. Workers can move at a dizzying pace when packing the pears since they are paid by the piece.

“We don’t care if it is stress from home or repetitive motion from the job, we just offer it to them,” said Munoz.

Company President Fred Duckwall said he made a commitment to safety training and the value is paying off. Since 2009, the company has seen \$100,000 in savings through reduced insurance premiums.

“If you don’t live the program, it won’t work,” Duckwall said. “A company needs to realize its most important asset is its employees.”



Sprains and strains are a top concern at the plant, as workers move quickly to package the pears and load them on the assembly line.



Workers are paid by the piece to pack the pear shipments.



Top: Employees in quality control sort out pears that are less than perfect before packing.
Middle: A worker uses a machine to assemble cardboard boxes.
Bottom: Forklift training is done at the plant before the busy pear season begins.



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OregonOSHA

Are your construction crews properly trained?

By Ellis Brasch

It's time for a **pop quiz**. What do all of the following Oregon OSHA rules have in common?

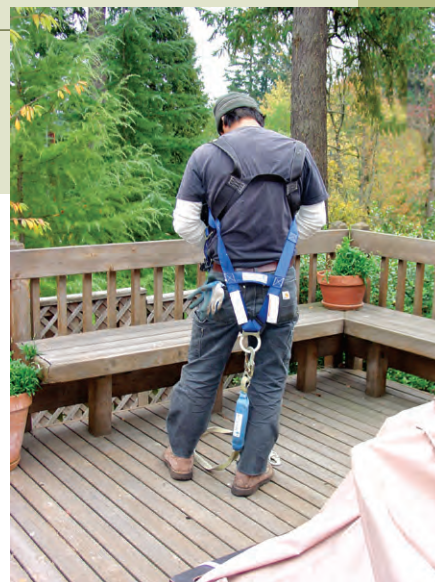
- Rules for all workplaces
- Fall protection
- Safety committees and meetings
- Lead
- Hazard communication

They're among Oregon OSHA's most-cited construction industry rules *and* they all include important worker training requirements. Let's take a closer look at the rules and the training requirements.

Rules for all workplaces – 437-001-0760 The requirements in this appropriately named rule apply to all Oregon employers and employees. Foremost among them is the training requirement, which says, "Employees must be properly instructed and supervised in the safe operation of machinery, tools, equipment, processes, or practices that they are authorized to use." This rule is often cited when an employer's failure to train employees contributes to an accident.

Fall protection, training – 437-003-0503 Oregon OSHA has a number of construction-related fall protection rules. This one, which covers fall protection training for employees, says that those who could be exposed to fall hazards must be trained to recognize them and know procedures to control them. A competent person who understands fall protection systems and methods must do the training. Training must be documented, including employees' names, their training dates, and the trainer's signature.

Rules for safety committees and safety meetings – 437-001-0765 This rule requires most Oregon employers to have safety committees or hold regular safety meetings. The rule's training component requires safety committee members to be trained in the principles of accident and incident investigation and hazard identification. If you're a small-business owner who does construction, you can hold safety meetings rather than convene a formal safety committee. Safety meetings are a good time for employees to discuss training needs.



Why is training important? This worker was wearing his personal fall arrest gear upside down. (Photo credit: Renee Stapleton, Oregon OSHA)

Lead – 1926.62 Pay attention to this rule if your employees do construction work where they could be exposed to lead. Many small-business construction contractors aren't even aware of the rule or its requirements. The core training requirement says that if your employees are exposed to lead at or above the action level, or to lead compounds that may cause skin or eye irritation, they must participate in annual lead-hazards training.

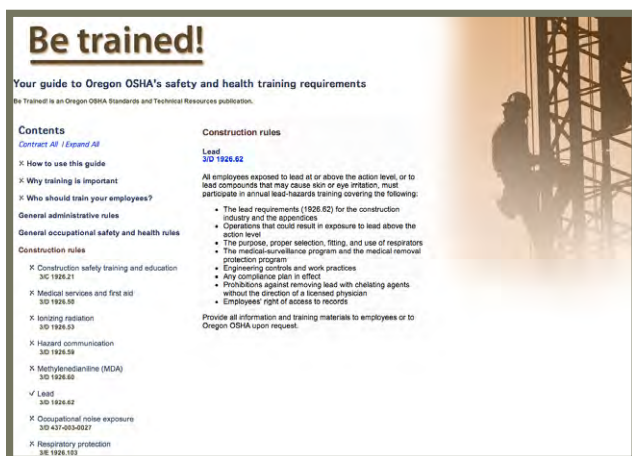
Hazard communication – 1926.59 Oregon OSHA's hazard communication rule for the construction industry ensures that workers who use hazardous chemicals know how the chemicals can harm them and how to use them safely. The training requirement says that employees must be provided with training and information on hazardous chemicals in their work areas at the time of their initial assignment and whenever there are new hazards.

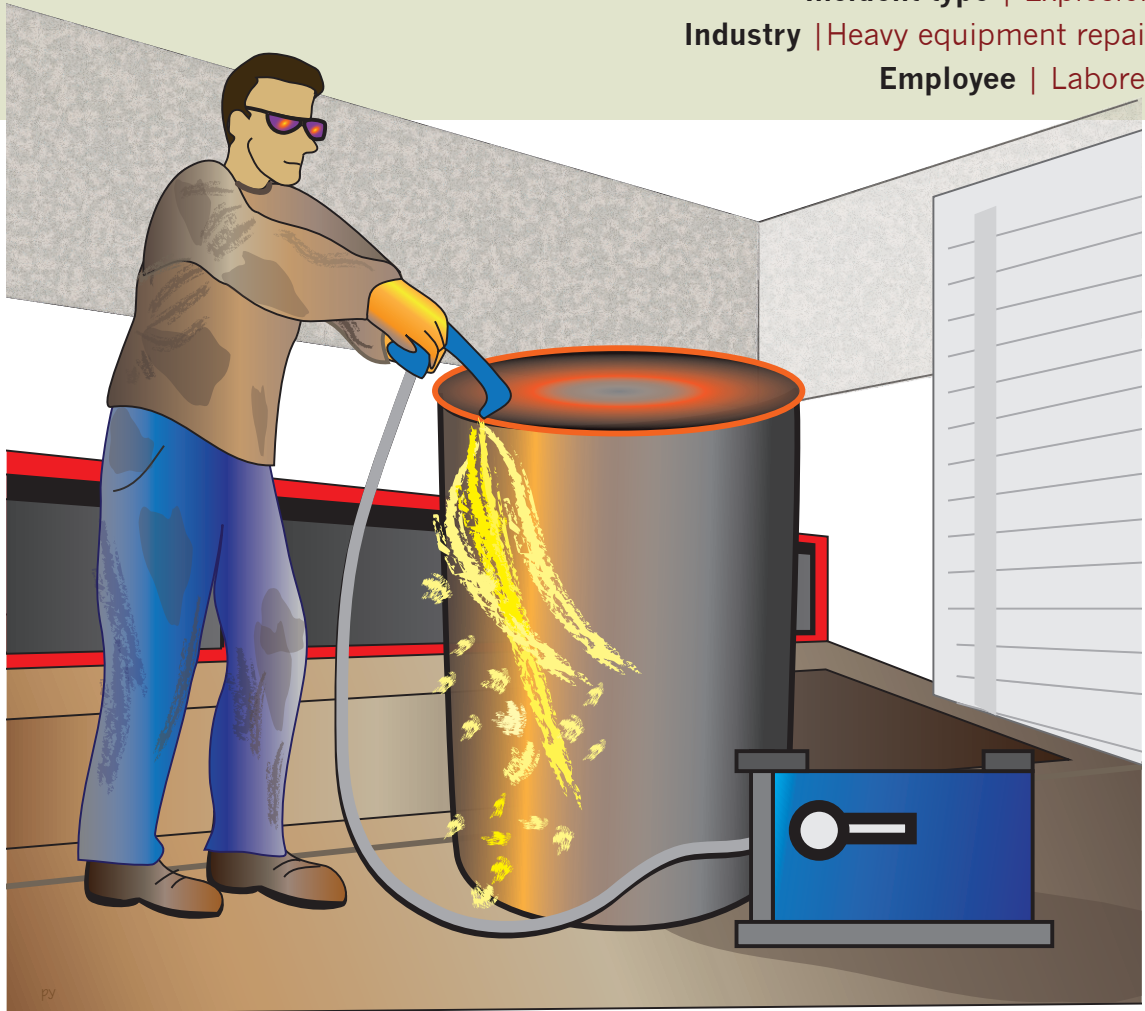
A recap: Why training is important

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

- New employees must be trained to do their jobs safely before they begin work for the first time. They should have orientation training that covers your business safety policy, workplace safety rules, hazards, and procedures for responding to emergencies.
- All employees must know the Oregon OSHA requirements that apply to their jobs, their safety responsibilities, what hazards they could be exposed to, and how to prevent exposures. They must be retrained whenever there are changes in the workplace that create new hazards.
- Supervisors must know the hazards, the hazard-control methods, emergency procedures, and applicable Oregon OSHA requirements that apply to the workplace.

Oregon OSHA's online guide, [Be Trained!](#) can help you determine the training your employees need to do their jobs safely.





A worker removing the bottom of a 55-gallon drum with a plasma cutter was severely burned when the drum exploded.

The shop owner and the victim began the day repairing a truck in the shop. They finished the job early and the victim, whose clothes were stained with diesel fuel, started working on housekeeping chores. He started to clean up the waste storage area, where some used 55-gallon metal drums needed to be recycled. He rolled two of the empty drums – which had contained 76 T5X Heavy Duty Motor Oil 10W – into the shop and began cutting off the bottom of one of them with a portable plasma cutter.

A few minutes into the cut, the drum exploded and the contents splashed on the victim, causing a flash fire. He ran from the building screaming for help, his clothes on fire. The owner heard the explosion, called emergency responders, and began helping the victim.

The local fire department arrived soon after the call and took control of the situation, tending to the victim and assessing the fire damage in the shop.

The victim was still conscious and alert when paramedics arrived. LifeFlight assistance was necessary and the victim was flown to the burn unit at Legacy Emanuel Hospital in Portland where he died two days later.



Clockwise:

Photo 1: Area in the shop where the victim began cutting the 55-gallon drum.

Photo 2: Where the drum landed after the explosion.

Photo 3: Close-up of the topside of the 55-gallon drum shows that both bung caps were still in place during cutting.

Primary factors causing the accident:

Lack of training in hazard communication. The victim did not recognize the hazard of opening the drum with a plasma cutter.

Lack of a procedure for recycling drums. There was no guidance on how the drums were to be disposed of properly.

Lack of PPE hazard assessment. The victim was not using a face shield for cutting and was wearing synthetic gloves, which melted during the explosion.

Citations

Welding or cutting containers: 437-002-0297(1) – not implementing precautions before welding, torching, or abrasive cutting on drums.

Personal protective equipment, general requirements: 1910.132(d)(1) – no workplace hazard assessment to determine necessary personal protective equipment.

Hazard communication: 1910.1200(e)(1) – no written hazard communication program.

Federal OSHA issues hazard alert on incorrectly rebuilt circuit breakers

The federal Occupational Safety and Health Administration (OSHA) has issued a [hazard alert](#), warning workers and employers of the dangers of using certain Eaton/Cutler-Hammer molded-case circuit breakers that were incorrectly rebuilt. The third-party rebuilder may have altered the circuit breakers – identified by model numbers E²K and E²KM – by using incorrect parts that can cause the breakers to malfunction.

Eaton/Cutler-Hammer originally manufactured the breakers as part of its E² mining series breakers. At this time, the number of incorrectly rebuilt E²K and E²KM breakers and their locations are not known. The circuit breakers may appear to be new or properly rebuilt, but the third-party rebuilder changed them from the manufacturer's original design. Since the potential for worker injury from breaker failure exists, employers must remove this equipment from service.

FDA issues warning letter to maker of Brazilian Blowout

Following an Oregon OSHA investigation into the presence of formaldehyde in hair smoothers, the U.S. Food and Drug Administration has directed the company that makes Brazilian Blowout to quit misleading customers and misbranding its product as “formaldehyde free.”

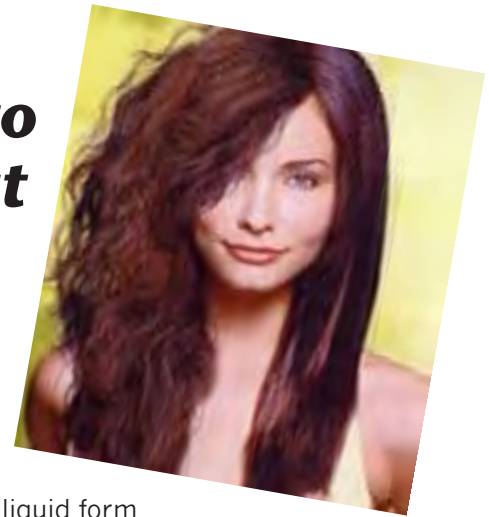
In a [warning letter](#) to Mike Brady, chief executive officer of GIB, the North Hollywood, Calif., company that sells Brazilian Blowout, the FDA says the product contains methylene glycol, the liquid form of formaldehyde, at levels that could be dangerous. The FDA's letter to Brady instructed him to take prompt action to correct the product's misbranding and mislabeling, with failure to do so potentially resulting in seizure of the product, an injunction, or other enforcement action.

FDA analysis found that Brazilian Blowout contained unacceptably high levels of methylene glycol, which ranged from 8.7 percent to 10.4 percent. Those levels are consistent with what Oregon OSHA found in tests based on more than 100 samples from 50 salons.

Federal OSHA has also cited two Florida manufacturers and two Florida-based distributors of hair products containing formaldehyde. M&M International Inc. in Delray Beach, a distributor of the straightening hair product “Marcia Teixeira,” and Copomon Enterprises in Boca Raton, a distributor of the keratin-based hair product “Keratin Complex Smoothing Therapy,” have been cited for three serious violations and fined \$12,600. The inspections were the result of referrals from Oregon OSHA.

In addition, Pro Skin Solutions Inc. in Orlando, a manufacturer of keratin-based products used for hair straightening, has been cited for five serious violations with penalties of \$15,000. Keratronics Inc. in Coral Springs, another manufacturer of hair straightening products, has been cited for three serious violations with penalties of \$9,000.

Oregon OSHA issued a [hazard alert](#) for salons and stylists last year that is available online.



Safety video contest opens to Oregon students

From realistic car wrecks to kitchen mishaps, students have used some creative movie making to promote young worker safety and health. High school students across Oregon are now invited to enter the 2012 “Save a Friend. Work Safe.” video contest. The top three entries will take home cash prizes ranging from \$300 to \$500 and students will earn a matching amount for their school.

“This contest allowed me to help spread a message that directly applies to my peers,” said Piers Dennis, the 2011 first-place winner from Lake Oswego. “I had a lot of fun making the video and feel like I am making a difference by drawing attention to workplace dangers.”

The Oregon Young Employee Safety Coalition (O[yes]), Oregon OSHA, SAIF Corporation, American Society of Safety Engineers, Liberty Northwest, the Greater Portland Construction Partnership, and the Center for Research on Occupational and Environmental Toxicology (CROET) are sponsoring the contest.

The contest is designed to increase awareness about safety on the job for young people. Students must create a 45-second public service announcement with the overall theme of “Save a Friend. Work Safe.” The deadline for submissions is Feb. 1, 2012.

Specific video guidelines are outlined in the contest rules, which can be found at www.orosha.org/psacontest/.



Fall protection update

The last issue of Resource (August 2011) highlighted federal OSHA's directive, *STD 03-11-002*, which changed the rules for construction contractors who used “alternative methods” of fall protection, such as slide guards for roofing work.

That directive doesn't apply in Oregon because it's based on a rule – 1926.501(b)(13) – that Oregon OSHA repealed in 2002. Oregon OSHA replaced that rule with 437-003-1501, *General Fall Protection*, which sets fall-protection requirements for workers who walk or work at heights of 10 feet or higher. That rule says that workers exposed to hazards that could cause them to fall 10 feet or more must be protected by one of the fall-protection systems described in 1926.502, *Fall-protection Systems Criteria and Practices*, which include:

Guardrail systems: 1926.502(b)

Safety net systems: 1926.502(c)

Personal fall arrest systems: 1926.502(d)

Positioning device systems: 1926.502(e)

Warning line systems for other construction trades: 1926.502(f)

Covers for holes: 1926.502(i)

In addition, the following fall-protection systems have their own Oregon-initiated rules:

Personal fall restraint systems: 437-003-0502

Warning line systems for roofing work: 437-003-1502

Safety monitoring systems for roofing work: 437-003-2502

Slide guard systems for roofing work: 437-003-3502

Central Oregon Conference keynote focuses on risk, accountability

Keynote speaker Gordon Graham told audiences at the Central Oregon Conference in Redmond, “Most of the things we do, we do right. When things go wrong, there is usually a reason why.”

Graham, a 33-year veteran of California law enforcement and a practicing attorney, shared his passion for continuous improvement as a key aspect of reducing risks in the workplace.

“You have a daily and ongoing responsibility to take a look at your sphere of influence and ask, ‘Do we have problems lying in wait?’” he said.

Graham, who used humor to share his message, also urged workers and supervisors to strive for greater accountability. “What’s the loss-time injury rate for your unit?” he asked the crowd. He said employers should test workers on critical tasks and conduct thorough risk assessments.



Gordon Graham addresses the audience at the Central Oregon Conference in Redmond.



The annual conference, held Sept. 21-22, offered a number of workshops for first responders on topics such as chemistry and exposure to MRSA.

Graham presented an afternoon session at the conference on controlling risk.



Exhibits at the conference featured equipment and a chance to talk with an Oregon OSHA Consultant (right).



Congratulations to the new SHARP company:

- Key Knife Inc., Tualatin

Ask Technical:

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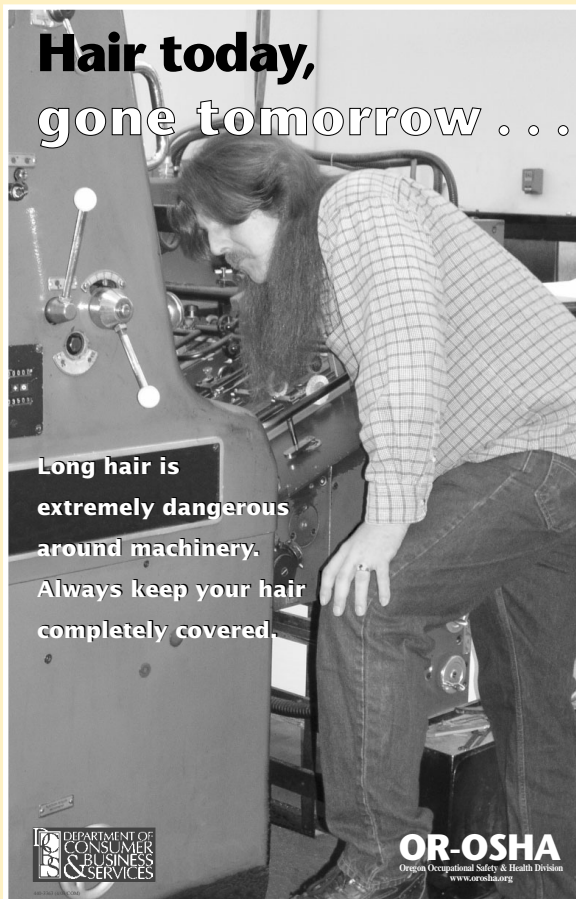
Is there an Oregon OSHA rule prohibiting me from operating machinery if I have long hair? I understand there have been several accidents in Oregon involving long hair being caught in equipment that has moving parts, such as saws, rotating shafts, and conveyers.

A:

Oregon OSHA has a rule that prohibits workers with long hair from operating power-driven machines unless they keep their hair covered. The rule, in Division 2, Subdivision I of our General Industry rules, says, “Employees who are exposed to power-driven machinery or to sources of ignition shall wear caps or other head coverings

which completely cover the hair.” See [Oregon Rules for Head Protection](#) – 437-002-0135.

There was a serious accident that happened nine years ago when a drama teacher and two assistants went into an upstairs loft to access stage lighting; the loft was in a passageway that contained HVAC units and fan intakes. As one of the employees walked in front of a fan intake, her waist-length hair swept into the vent. She was pulled into the high-speed rotating shaft and collar of the HVAC system. She survived, but experienced severe injuries. ■



**Hair today,
gone tomorrow . . .**

Long hair is extremely dangerous around machinery. Always keep your hair completely covered.

Oregon OSHA's "Hair today, gone tomorrow..." poster is available in the Resource Center.

Going the distance

Meet a leading Oregon health and safety professional



Company: Bend Research Inc.

Director of Environmental Health and Safety:
Ben Hasbrouck

Workforce: 225 across four sites

Common Hazards: Exposure to solvents, active pharmaceutical ingredients, corrosives, pressurized hot processes, hotwork/fabrication

What is your background and safety philosophy?

I began my career in Environment Health and Safety (EHS) at Purdue University, studying the effects of manganese exposure on foundry workers and the surrounding communities. After my graduate work was complete, I transitioned into the world of pharmaceutical manufacturing, where I have worked for leading drug development and pharmaceutical companies.

My primary focus entering the industry was to help implement engineering controls for processing highly potent pharmaceutical compounds. By understanding each unique process from conceptual design through use and maintenance, controls can be chosen that will provide the best protection and the highest degree of worker compliance.

continued on page 18

Going the Distance, *continued from page 17*

At Bend Research, our safety philosophy follows a three-tiered approach: (1) fire/life safety, ensuring that there is no immediate threat to persons or property, (2) regulatory compliance, and (3) best practices. This approach is followed whether we are commissioning a new piece of equipment or revising a program during its annual review. Consistently driving toward best practices ensures that we will never become complacent about status of our EHS systems.

What are some of the unique safety challenges you have tackled?

As a contract development and manufacturing organization, Bend Research is constantly evaluating new drugs for our clients. Before each drug is brought into the company, the EHS department is responsible for evaluating the drug and communicating its health effects and handling requirements to the scientists and operators. Working with an outsource toxicologist, we created a banding system that makes it possible to evaluate compounds even when little or no health and safety data is available. Each assessment of a drug is posted in a common Web-based program that allows anyone in the company to access information about the handling requirements and known health effects of that drug.

As we have transitioned from a single-client company into one that serves more than 60 biotechnology and pharmaceutical clients, the need has increased for a system that can easily track and produce documentation for all safety training. To accomplish this, we created a database that tracks employee training compliance



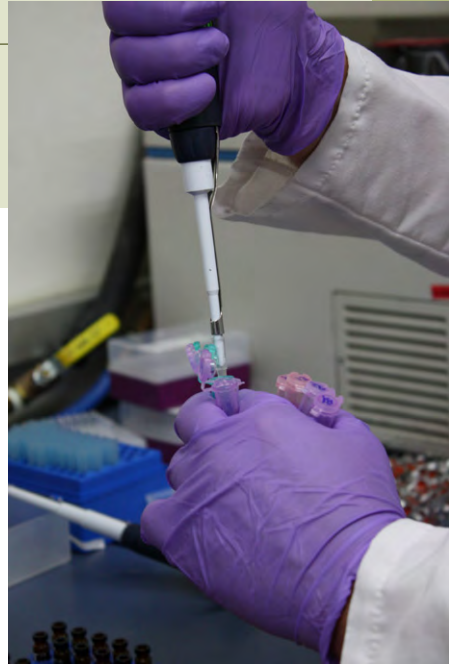
Josie Phillips transports a water bath for cleaning.



Labeling different chemicals is critical for safety in the lab as Ian McIntosh discusses with Hasbrouck.



Cassie Rowe prepares samples for analysis in a dry box.

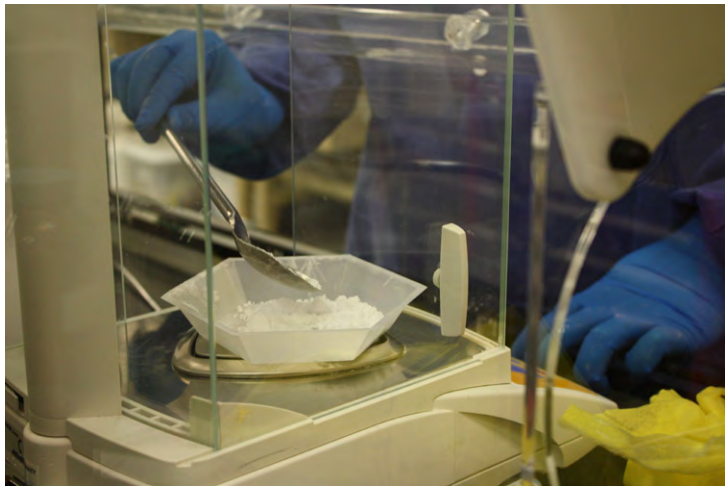


Fred Jordan removes a drug buffer solution from Microcentrifuge tubes for more analysis.

and records the specific information on which each employee was trained. Using this database, for instance, we can quickly pull up training signoff forms, as well as the standard operating procedure (SOP), PowerPoint presentation, or other training documentation on which a specific employee was trained.

What are some of the engineering controls that you have implemented recently?

One of the biggest hazards we face in the pharmaceutical industry is being exposed to the active pharmaceutical ingredients (API) in the drugs we make. Many of the APIs have exposure limits lower than that of highly toxic chemicals such as arsenic. In order to control exposures to these drugs, we spend a lot of time ensuring our processes are enclosed and that our manufacturing suites are cleanable. We've either purchased specialized containment technologies, such as split butterfly valves for powder transfers, or have designed our own containment for equipment that we built, such as modular isolators. Recently, we've completed several upgrades to our processing suites that include increasing our air flow above 20 air changes per hour, installing safe-change HEPA filters at all exhaust points, and ensuring that the surfaces are all designed to not hold API residue.



(Above) A worker measures a blend of drug intermediate that will be used in drug tablet formation. (Left) Nate Oler puts on PPE before entering a processing suite.

How do you keep staff engaged in health and safety issues? (Examples are always nice.)

Constant communication about the importance of safety is the key to keeping the staff involved. At our manufacturing site, the vice president has established the business unit's priorities as (1) safety, (2) quality, and (3) schedule — which constantly keep safety in the forefront of all employees' minds. To reflect these priorities, safety is always the first topic discussed at all staff meetings. In addition, we hold our safety committee meetings at an off-site location. This management-supported off-site meeting allows the group to completely focus on safety.

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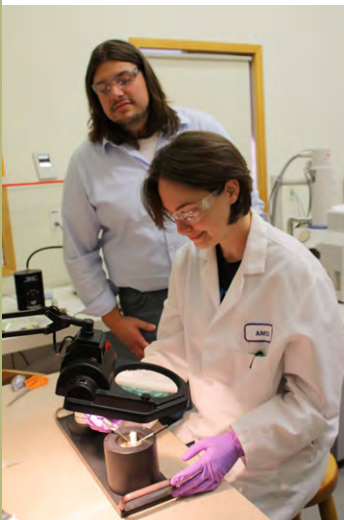
Going the Distance, *continued from page 19*



Josh Steele works in a manufacturing suite where tablets are made..

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

- 1. Listen to your employees.** The operator or scientist who has been working on a process line for many years will often have some of the best, easiest, and cheapest fixes to the safety problems you encounter. The same is true when designing a new process or engineering controls. If the end users can't easily use the tools you provide them, then they are not tools at all.
- 2. Align your goals with your management's goals.** As an EHS professional, you must build the business case for what you want. Whether this is additional personnel or improved engineering controls, aligning your strategic plan with that of the business will show your management (1) the positive impact you can have on the bottom line and (2) how you directly support the business units in your company.
- 3. Get involved early.** For construction projects, being involved from the beginning of the design process is essential to ensure employee safety. I have been lucky enough to be part of several multimillion-dollar construction projects during my career and I have learned that by becoming involved early and understanding the scope of the project, you can ensure that the proper safety measures are included in the design. In contrast, a remodel or retrofit is usually expensive and difficult.



Annie Muske-Dukes-Driggs loads a sample for the microscope.



Curtis Deer finishing the assembly of a bioreactor.



Kazden Ignam takes a drum of acetone to a waste disposal area.