

Looking SHARP

"Improving Safety & Health For SHARP Companies"



Volume 14, Issue 2

Summer 2014

Message from the Commissioner

Oklahomans are a hardy people. You do not have to reach back in the pages of distant history to find examples of strength, fortitude, and perseverance. You need only to look at our recent weather with its' associated tornados or the frequency of earthquakes in recent days for modern day examples. In this edition of Looking Sharp we will explore safety issues that are linked to earthquakes, mosquitoborne diseases, and the unintended consequences of safety.

The role of the Oklahoma Department of Labor in advocating and advancing safety is core to our mission. As I champion our no-cost, confidential, OSHA Safety Pays consultation services, I have full confidence businesses that avail themselves of this service will develop effective safety and health management system that are proven to reduce injuries and ensure compliance with OSHA regulations.

Where else in state government can a business



secure the services of a Safety Consultant and an Industrial Hygiene Consultant at no cost to the business and the relationship is held in a confidential manner? The Oklahoma Department of Labor OSHA consultation program provides technical assistance to requesting employers and does no enforcement for other state or federal agencies. It is a win-win situation for the employer and the employee.

Safety and health consultations from the Oklahoma Department of Labor have proven to increase profitability by reducing workplace injuries, lost time, and workers' compensation costs. The companies we have worked with in the past can attest to the benefits of our consultation program. After all, *Safety Pays*.

Mark Costello, Commissioner of Labor

Earthquake Risk Increased For One-Third of US

The US Geological Survey (USGS) recently updated its national seismic hazard maps for the first time since 2008, taking into account research from the devastating 2011 earthquake and tsunami off the Japanese coast and the surprise 2011 Virginia temblor.

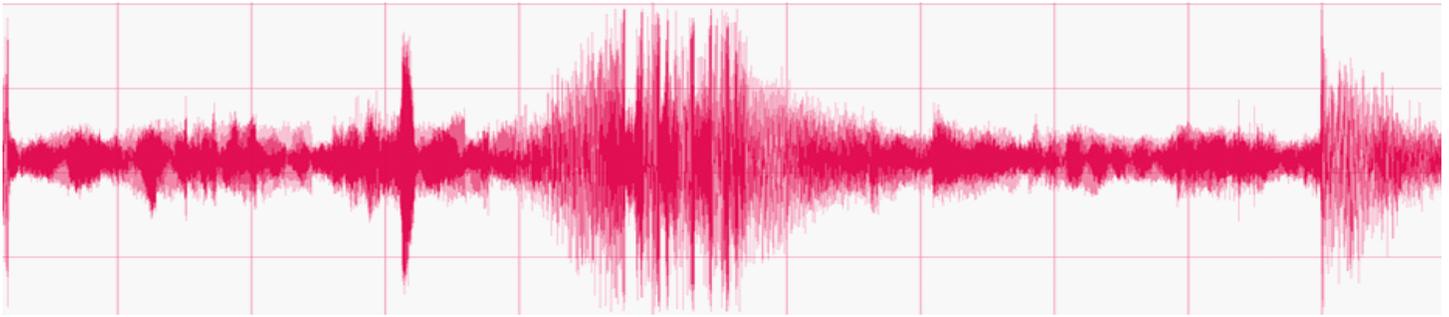
"The maps are refining our views of what the actual shaking is," project chief Mark Petersen said. "Almost any place in the United States can have an earthquake."

Parts of 16 states have the highest risk for earthquakes: Alaska, Hawaii, California, Oregon, Washington Nevada, Utah, Idaho, Montana, Wyoming, Missouri, Arkansas, Tennessee, Illinois, Kentucky and South Carolina. With the update, new high-risk areas were added to some of these states.

Also, Colorado and Oklahoma saw increased risks in some parts and moved up the second of seven hazard classifications, said Petersen. There are major faults along the entire west coast, with increased concern in the Cascadia region around Oregon.

According to Petersen, much of the research and cataloging was done by the nuclear industry in response to the quake and tsunami that crippled Japan's Fukushima reactor and researchers at the University of California Berkley came up with a better model to simulate shaking.

"I see it as a big improvement," said Cornell University seismologist Rowena Lohman. "They brought in more information."



The Recent History of Earthquakes in Oklahoma

The series of great earthquakes in the New Madrid, Missouri region in 1811 and 1812, and a strong quake centered in Arkansas (October 22, 1881) were probably felt in the area that is now Oklahoma. The first quake known to be centered in Oklahoma occurred in September 1918. A series of shocks at El Reno produced only minor effects. Objects were thrown from shelves. Aftershocks the following day also occurred.

On December 27, 1929, another tremor centered in the same area was felt in portions of central and western Oklahoma. Some plaster cracked and at least one chimney fell in El Reno. In addition, clocks stopped, objects moved and some reports indicated the walls and floors seemed to sway. In several cities, people rushed from their homes in alarm.

A magnitude 5.5 quake on April 9, 1952 also centered near El Reno affected most of Oklahoma and parts of Arkansas, Iowa, Kansas, Missouri, Nebraska and Texas. Damage from the 10:30 am earthquake was not extensive, but many people in the epicentral area were alarmed, some near to panic. Portions of chimneys fell, bricks loosed from a building wall and tile facing of commercial buildings in Oklahoma City bulged. Also, plate glass windows were shattered in the business district of El Reno. After shocks followed for over a week, leaving nerves rattled and resulted in several thousands of dollars in damage.

More quakes were reported across the state that year, from the October 7th quake near Holdenville and We-

woka, to reports from Kingfisher, Oklahoma City, Tulsa and Union City.

On February 16, 1956, a trembler in Edmond broke windows and cracked plaster, and was felt as far away as Pawnee. Southeastern Oklahoma was disturbed by a quake in April of that year, and another quake occurred in October in the northeastern part of the state..

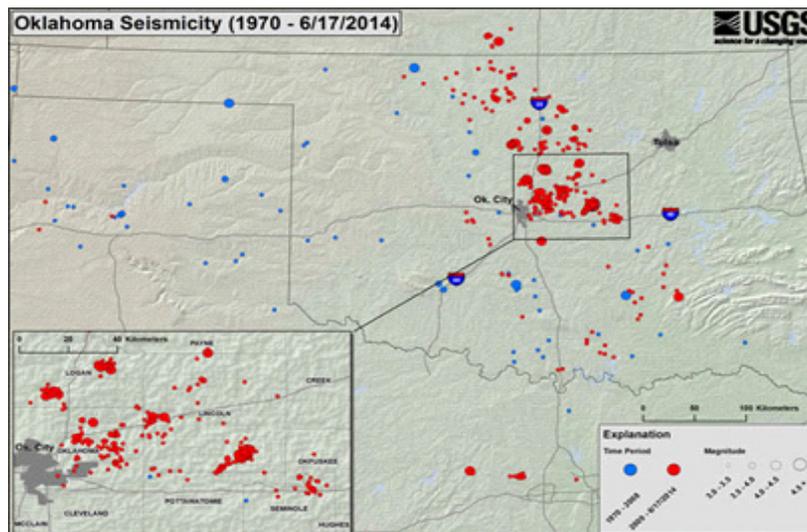
A broad area of southwestern Oklahoma and Texas was affected by an early morning quake in June of 1959 and there was slight damage to pavement, house foundations, and plaster walls. More quakes were reported in Ada where dishes were broken and a trembling motion was observed.

Quakes followed in 1961 in Latimer and Pittsburgh counties. Thunderous earth sounds were heard in many places. Another occurred later that year near Antlers, and was felt all around the southeastern part of the

state.

An October 14, 1968 earthquake caused minor damage in Durant. Walls cracked and glass in two structures broke. The press reported that a 5 foot tall advertising stand fell over, and canned goods fell from a rack in a supermarket. Slight foreshocks were felt in Durant a few days before. Aftershocks were also felt in Caddo.

A 4.6 in Wewoka back in 1969 caused some crack plaster and was felt over an area approximately 33,800 square kilometers in eastern Oklahoma.





Emergency Preparedness for Earthquakes

The rate of earthquakes in Oklahoma has increased remarkably since October 2013, according to the USGS, by about 50%. This significantly increases the risk for a damaging magnitude 5.5 or greater quake in central Oklahoma.

A new USGS and Oklahoma Geological Survey (OGS) analysis found 145 quakes of magnitude 3.0 or greater occurred in Oklahoma from January 2014 through May. The previous annual record was set in 2013. 109 earthquakes were recorded that year. Oklahoma's

heightened earthquake activity since 2009 includes 20 magnitude 4.0 to 4.8 quakes, plus the largest earthquake in Oklahoma history, a magnitude 5.6 earthquake that struck near Prague, OK. That quake damaged homes, toppled over marble grave stones, and rattled nerves all over the State. "While it's been known for decades that Oklahoma is 'earthquake country', we

hope that this new advisory of increased hazards will become a crucial consideration in earthquake preparedness for residents, schools, and businesses in the area," said Dr. Bill Leith, Senior Science Advisor for Earthquakes and Geologic Hazards at USGS.

Employers all over the State have begun to ask the question, "Should we have an emergency action plan for earthquakes?" and the answer is a resounding "Yes. You should."

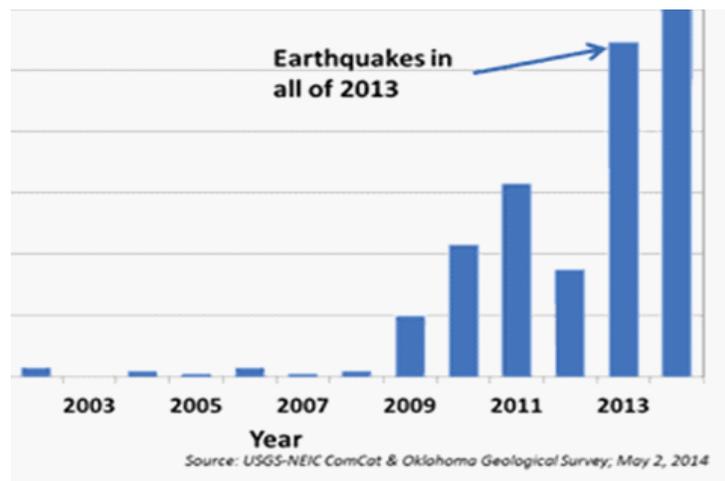
Earthquakes are destructive and frightening phenomena. They can't be predicted and they can't be stopped. But there are things that can be done to mitigate the potential hazards, and prepare for the next great Okla-

homa shake-out. Steps can be taken to minimize risks, such as: ensuring book cases and stored materials are secured; bracing overhead lighting fixtures and heavy objects; securing hot water heaters, refrigerators, furnaces and gas appliances by strapping them to the wall stud and bolting them to the floors; storing chemicals and flammable products securely, away from heat sources; and fastening heavy items, such as picture frames, mirrors securely to walls and away from beds and couches and anywhere people sit.

Having a plan in place for what to do when an earthquake occurs should be included as part of your written emergency action plan and employees should be trained on these procedures. Duck, cover, and hold protocols, recommended by www.Ready.gov, should be followed, and regular drills should be conducted. Annually, the Great American Shake Out is an event

to encourage employers, communities and citizens to practice their earthquake procedures. There's even a Great Central US Shakeout even. In 2013, there were 2.4 million participants in the US and over 39,000 just in Oklahoma alone.

For more information about the Great Central US Shake Out visit www.shakeout.org/centralus/oklahoma/. Also visit OSHA's earthquake page at www.osha.gov/dts/earthquakes/additionalresources.html and for more about emergency preparedness in Oklahoma visit www.ok.gov/oem/



MOSQUITO BORNE DISEASES



“New” Mosquitoborne Illness Identified in Oklahoma

A debilitating, mosquito-borne virus called chikungunya (pronounced *chik-en-gun-ye*) has made its way to Oklahoma and health officials say, there have been six reported cases of the virus since June of 2014.

Chikungunya is primarily found in Africa, East Asia and the Caribbean islands, but the Centers for Disease Control (CDC) has been watching the virus for some time, fearing that it could take hold in the US – much like West Nile Virus did more than a decade ago.

The virus — transmitted by mosquitoes — and has been on the US public health radar for some time. About 25-28 infected travelers bring it into the US each year, says the CDC’s Roger Nasci. But a major outbreak in the Caribbean has occurred, with more than 100,000 cases reported, and has experts concerned.

Other states have also reported cases of chikungunya. North Carolina and Tennessee have had cases reported to their State Health Department. Most were people who had traveled to the Caribbean.

Symptoms, including high fever, joint pain, headache, muscle pain, joint swelling and a rash, generally begin 3-7 days after being bitten by an infected mosquito. There is no treatment, and most people generally feel better within a week. Symptoms may improve with rest, drinking fluids and/or taking medication to relieve fever and pain. (Speak to your health care provider for specific recommendations if you become ill.) Some people may have joint pain for a longer period of time. People who are at higher risk for severe disease, include infants, older adults and people with chronic medical conditions.

The virus is not deadly, but it can be painful, with symptoms lasting for weeks. Those with weak immu-

nized systems, such as the elderly, are more likely to suffer from the virus’ side effects than those who are healthier.

The good news, said Dr. William Shaffner, an infectious disease expert with Vanderbilt University in Nashville, is that the United States is more sophisticated when it comes to controlling mosquitoes than many other nations. Shaffner and other health experts recommend people remember the mosquito-control basics:

- Keep windows closed and use air conditioning. Or, if open, use window/door screens.

- Use an insect repellent containing 15% DEET, 15% picaridin, 15% IR3535 or 30% oil of lemon eucalypts or wear permethrin-treated clothing if you are going out, especially in tropical or wooded areas near water. Always follow the product instructions.

- Get rid of standing water. Empty

plastic pools, flower pots, pet dishes and other containers where mosquitoes can breed.

- Dress appropriately, with long sleeves and pants.

There have been 57 total cases reported in the US and while Chikungunya cannot be transmitted directly from a sick person to healthy person, a sick person can be bitten by a mosquito who can then transfer the illness to others. Therefore, infected people are advised to avoid mosquitoes for at least a week after contracting the virus, along with avoiding the outdoors in general, to avoid contact with native mosquitoes.

For more information visit the Oklahoma Department of Health’s web site at: http://www.ok.gov/health/Disease_Prevention_Preparedness/Acute_Disease_Service/Disease_Information/Chikungunya.html





Pinched Electrical Cord Sparked Blaze That Killed NYC Firefighter

A high-rise blaze that killed a fire lieutenant in New York started in a pinched electrical cord in a cluttered apartment, fire officials said, adding that the fire had been ruled accidental.

An air-conditioner cord was pinned between a bed frame and a wall in the 19th-floor Brooklyn apartment, where Lt. Gordon Ambelas became trapped while looking for possible victims, Fire Commissioner Daniel Nigro said in a statement as investigators probed the conflagration responsible for the Fire Department of New York's first line-of-duty death in more than two years.

"Though the cause and origin of the fire has been determined, the Department's investigation remains ongoing," Nigro added in a statement. A pinched electrical cord can fray or otherwise become damaged enough to spark a fire if it's near combustible items, especially if heat builds up in a tight space.

The fire broke out around 9:30 p.m. Saturday, July 5, 2014, in the apartment, near the top of a 21-story building owned by the New York City Housing Authority. Flames spread to the 17th and 18th floors.

The apartment was crowded with belongings, making searches difficult, the Fire Department said.

"Ambelas went into the apartment to search for life and did not come out, and by the time his brother firefighters found him, it was too late for him," Nigro said earlier Sunday.

Fellow firefighters found Ambelas unconscious and carried him out of the building. They worked with emergency rescuers to try to revive him, but he died at a hospital, Mayor Bill de Blasio said.

In the days following the tragedy, firefighters solemnly hung flag bunting at the Brooklyn firehouse where Ambelas had worked for the last several months of his 14-year career as residents returned to the building where he had died.

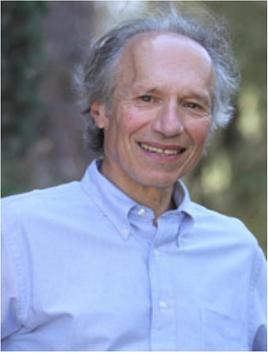
According to the Bureau of Labor Statistics (BLS), 144 workers deaths were attributed to fires and explosions in 2012. Most victims of fires die from smoke or toxic gases and not from burns.

Work-related burns are the leading cause of occupational injuries in the United States. An estimated 20 to 30 percent of all hospitalizations due to burn injuries result from workplace exposures. Burns are one of the most expensive types of injuries to treat, and often result in very high workers' comp costs. According to the *Burns Journal*, in one study, the average cost of medical treatment for an adult burn patient was \$73,532. Hospital stay, operative costs, dressings and staffing were found to be the most significant components of cost. Compared to the findings of the study, expenditures for prevention and education programs were found to be minimal. [*Burns Journal*, July 16, 2012, Chris S. Ahn, Peter K.M. Maitz]

The majority of burns on the job result in head and upper extremity injuries. Hands are particularly vulnerable to burns, and the majority of on-the-job burns are due to exposure to caustic substances and hot objects.

Employers are required to develop and implement a fire prevention program (29 CFR 1910.39) when an OSHA standard requires one. The plan must be kept in writing and must be made available to employees, though an employer with 10 or fewer employees may communicate the plan orally. The plan must include a list of fire hazards, proper handling procedures, potential ignition sources, the type of fire equipment necessary, and procedures to control the accumulation of flammable or combustible materials. The name or job title of employees responsible for maintaining equipment and fuel sources must also be included.

For more information on preventing and addressing fire in the workplace, visit OSHA's website at www.osha.gov/SLTC/etools/evacuation/index.html



Dr. Sam Peltzman, Professor Emeritus of Economics,
The University of Chicago Booth School of Business

Unintended Consequences of Safety: The Peltzman Effect by Betsey Kulakowski, CSHO

The law of unintended consequences, often cited but rarely defined, is that the actions of people always have effects that are unanticipated or unintended. In safety, unintended consequences may arise when an employer has made a good faith effort to implement controls to minimize the risk of injury or illness, such as installing a guard on a machine or requiring the use of protective equipment. Researchers suspect when such controls are in place, employees may feel like they don't have to follow the rules, or may take shortcuts that can cause an injury or illness thinking the guard will protect them, when in fact, their actions make it such that it won't.

This is called the *Peltzman Effect*. Named after Dr. Sam Peltzman, a renowned professor of economics from the University Of Chicago Booth School Of Business, it is a theory he has been espousing since 1975. Dr. Peltzman's early research dealt with regulatory laws and traffic safety. The main premise is that safety regulations may have unintended consequences that counteract the purpose of the rule. Even today, his research continues to attract attention.

When seat belt regulation was implemented, Dr. Peltzman discovered the rate of fatalities didn't decline significantly, as had been expected. In fact, there was an increase. What he came up with was a basic application of very simple economic logic. "What these devices did was reduce the "price" of having an accident. Seat belts didn't directly affect the likelihood of having an accident, but if you did have an accident, it was more likely you would survive," Dr. Peltzman said. "So the economics suggests when the "price" goes down people compensate by taking more risks." That means people drive faster and take greater risks behind the wheel.

The *Peltzman Effect* has been applied far and wide beyond safety, but even today, employers are victims of the *Peltzman Effect*, whether they know it or not. Here's an example that's been a bit of a "hot topic"

lately: incentive programs.

Many employers recognize that they have a high injury and illness rate, and they want to get employees involved in lowering that rate, so they'll implement an incentive program that provides a direct reward for not having work-related injuries. The unintended consequence isn't that the injuries stop happening, but rather employees stop reporting them. Thus, employers have a false sense of security that their safety and health program is effective, when in fact; it's gone completely off track.

"If you try to regulate human behavior, you change incentives and the general point that comes out of that is that incentives are change in a way that off-sets the regulations." Peltzman said.

The *Peltzman Effect* often results in a redistribution of consequences to risky behavior that are increasingly felt by innocent parties.

This is one of the reasons OSHA is taking a hard stand against incentive programs that reward employees for not getting hurt. Instead, incentive programs should motivate employees to do the things that make the workplace a safe and healthful work environment, such as: preventing hazards, reporting hazards when they do occur, participating in safety and health committees, making safety suggestions and having the courage to speak up when an unsafe act or condition isn't being addressed properly.

So, as a safety manager or business owner, how does the *Peltzman Effect* directly relate to you? Even rules you make in your facility are subject to the Effect.

Periodically, you need to evaluate your policies and procedures, as well as any rules you've implemented to see if there are any unintended consequences. Is that incentive plan really working for you? Are people following rules? If not, why aren't they? Are your supervisors enforcing them?

Once you know what's working and what's not, implement effective change and continue to monitor these changes. Companies who are able to make "mid-stream course-corrections" are often more successful in implementing an effective safety and health management system and more likely to avoid the *Peltzman Effect*.



Machine Guarding Excuses: Lots of Excuses, No Exceptions

“But the machine came that way...”; “No one would stick their [arm, hand, finger, head, etc.] in there...”; “I’ve been doing it this way for twenty years and no one’s gotten hurt, yet...”; “OSHA didn’t cite it when they were here last year...”; “But the guard gets in the way...it slows us down...”; “We built a guard...what do you mean it’s not good enough?”; “I didn’t know it had to be guarded...”

The list of reasons why companies don’t have their machines adequately guarded can be endless. Sadly, none of them are arguable defenses when the OSHA inspector comes back out or worse...when an employee loses a hand...or is killed because a machine wasn’t properly guarded.

“But the machine came that way...” Yes, it’s true. You can buy all kinds of machines without guards. Why is that? It’s not the manufacturer’s obligation to guard a machine. It’s the employer.

“No one would stick their [arm, hand, finger, head, etc.] in there...” You would think, but equipment operators do it all the time. They have to move the stock, make adjustments to the machine, or clear a jam. OSHA’s 29 CFR 1910.212(a)(1) says, “*One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by the point of operation, ingoing nip points, rotating parts, flying chips and sparks...*” But, it isn’t enough just to slap a guard on it and expect it to work 100% every time. Employees have to be trained on the machine guarding for their equipment, how it’s intended to protect them, how to work safely with it and what the limitations of the guard are.

“I’ve been doing it this way for twenty years and no one’s gotten hurt, yet...” That just means you’ve gotten lucky. Eventually, the laws of averages will catch up with you. Just because you’ve never had a problem, doesn’t make you exempt from the requirements of the standards.

“OSHA didn’t cite it when they were here last year...” There are many reasons why an OSHA Inspector doesn’t cite a particular hazard when they’re on site. If it’s a focused inspection, they may not be looking for machine guarding hazards, or the machine may have

been out of service when they came through. It’s the employer’s obligation to comply with the law, regardless of whether or not OSHA cited it or not.

“But the guard gets in the way...it slows us down...” Imagine how much a serious accident would slow you down? It’s not just ten or fifteen minutes of first aid waiting for the ambulance to arrive, it’s the hour of clean up, having to trouble shoot and fix a damaged or defective machine, retrain someone to take the employee’s place, conduct an accident investigation, deal with accident reports and OSHA 300 logs, deal with workers’ compensation, maybe even go through litigation, plus the time spent going through an OSHA inspection if they are required to be notified or an employee files a complaint. Taking off the guard is playing Russian roulette, taking a chance every time the employee interacts with the machine. It’s not worth it.

“We built a guard...what do you mean it’s not good enough?” Guards have to meet the machine guarding criteria established by OSHA. When a guard is not properly installed it may not provide adequate protection and when it’s not properly adjusted, it can interfere with operations and makes it more likely that the employees will just take it off and not use it. “Good enough” is a dangerous thing. Machines have to be guarded properly. Remember, the standards requires “one or more” methods of machine guarding, so you may need to provide several methods of guarding in order for it to be fully effective.

“I didn’t know it had to be guarded...” You’ve heard the saying, “Ignorance is no defense of the law,” right? It’s true. As a business owner, OSHA expects you to have an understanding of the rules that apply to your operations, and to comply with them. OSHA invests millions of dollars from its budget each year to provide training opportunities and to fund the OSHA Consultation Services to help businesses learn how the laws and regulations apply to them in their work environment. If you would like to learn more about machine guarding requirements, visit OSHA’s web site at www.osha.gov. If you would like to request an on-site consultation (either full service or just a limited visit) to evaluate your machine guarding, call us at (405) 521-6140.

Public Sector Workers: Protections Vary from State to State

Public sector employees are subject to a variety of hazards and public sector workers (including: teachers, fire fighters, city workers, state employees, county workers, police and sheriff's offices, to name a few) in particular experience work-related injury and illnesses nearly twice those of their private sector counterparts, according to the Bureau of Labor Statistics. However, not every state provides public sector employees with regulatory oversight.

In Oklahoma, the Oklahoma Department of Labor (ODOL) has authority under the Oklahoma Occupational Health & Safety Act to conduct on-site inspections of public employers' workplaces. The Public Employees' Occupational Safety & Health Division (PEOSH) is tasked with the mission of providing enforcement, outreach and education, along with rule-making for the public sector work forces across the state. PEOSH with a staff of three field inspectors and one statistician covers over 5,000 workplaces across the state.

"Oklahoma is the only state to collect statistical data on 100% of all Public Sector work forces," says Shelly Hurst, statistician for the PEOSH Division. "We're unique in that aspect."

In FY2014 the PEOSH Division conducted over 300 inspections in the public sector, identifying nearly 1,500 hazards. Employers may be inspected for a number of reasons. "Our first priority goes to inspecting fatalities and catastrophes," Betsey Kulakowski, Assistant Director of the PEOSH Division explains. "Public Sector employers are required to notify ODOL within 48 hours if a worker dies on the job or if there are five or more employees hospitalized for medical treatment." In addition, the ODOL

frequently inspects workplaces to address employee complaints. "The majority of our inspections, however, come from a site specific target list that is generated based on the annual Public Sector Survey," Kulakowski states. "Employers who fail to respond to the mandatory survey are inspected first. After that, employers whose injury and illness incident rates are above the state average are placed on the target inspection list."

This year, the response rate on the public sector survey was 99.7%, meaning there were only 18 of the 5,000+ public employers who failed to submit their injury and illness surveys on time. The annual target list is usually provided to the inspectors around the first of August, and inspectors immediately begin to work through their inspection lists. Such inspections are conducted without prior notice to the employer.

In addition to enforcement inspections, limited consultation services are provided to public sector employers who need help getting their safety and health management systems in order. Public sector employers can call with questions, or request a limited training and assistance visit to sit down and discuss program requirements, recordkeeping, or general hazard control concerns. "I spent 17 years in the OSHA Consultation Program before transferring to PEOSH," Kulakowski says. "I love working with employers who are willing to be pro-active in their efforts."

For more information on Public Sector enforcement activities in Oklahoma, visit our website at www.ok.gov/odol/Workforce_Protection/Public_Employee_Occupational_Safety_&_Health/index.html

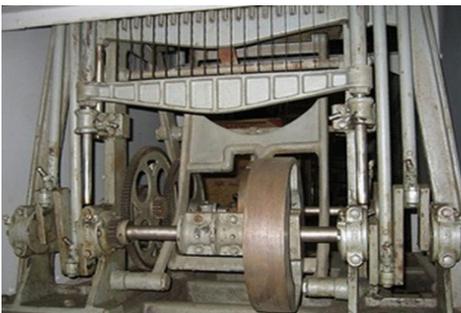
Looking SHARP is a quarterly publication by the Oklahoma Department of Labor, Safety Pays® OSHA Consultation Division. This publication is intended to assist employers pursuing SHARP Certification, as well as other employers, with improving safety and health conditions in their workplaces. If you have questions and/or suggestions for future issues, or if you would like to subscribe to our mailing list, contact the editor, Alex Putnam at alex.putnam@labor.ok.gov or call (405) 521-6145.

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Things That Make You Go 'Huh?'

"It's the greatest thing since sliced bread!" We've all heard that expression before, right?

Sliced bread, and its inventor, Otto Rohwedder were both born on July 7th. Rohwedder was born on July 7, 1880. Sliced bread came into being some years later, on July 7, 1928, but it still took another 10 years of work by Rohwedder to convince a bakery to try out his machine.



Bakers thought their customers wouldn't be impressed and wouldn't care for their bread if it were pre-sliced. Skeptics were also worried that pre-sliced bread would crumble and fall apart, and it would go stale faster.

Eventually, however, it did catch on and sliced bread became the benchmark by which all things great are compared.

Now, can we talk about some machine guarding?

Source: Livescience