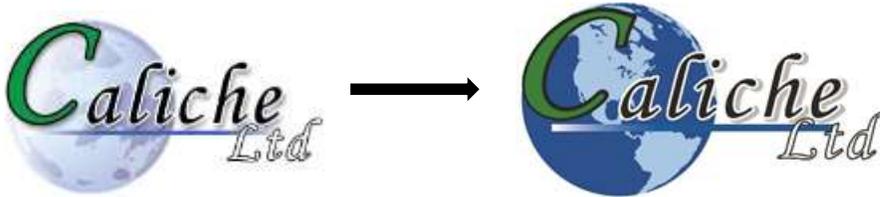




CONNECTION

“Solid Solutions Seeking Sustainability”

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We updated our logo!

Volume 10 – Issue 1

Caliche Connection

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Hazard Alert, Proper Use of Multi-gas Monitors in Oil and Gas Operations

“A new hazard alert developed through OSHA’s alliance with NIOSH and the National Service, Transmission, Exploration and Production Safety (STEPS) Network is intended to help workers in the oil and gas industry understand the proper use and capabilities of multi-gas monitors.”... “A properly calibrated multi-gas monitor can alert workers to unsafe conditions even if multiple atmospheric hazards occur at the same time, according to the alert. Workers must have the right monitor for the application, and they must respond to all alarms by evacuating the area immediately until the space is deemed safe to re-enter. The hazard alert notes that some monitors may need a sample pump to remotely sample potentially hazardous areas, including confined spaces, prior to entry or beginning hot work. Download a PDF of the hazard alert from the STEPS Network website at <http://bit.ly/multigasalert>.”

“Hazard Alert Stresses Proper Use of Multi-Gas Monitors in Oil and Gas Operations.” The Synergist, Mar. 2018, pp. 16.

Remembering the Hierarchy of Controls

-Bruce Packard, MD, MPH
Caliche Ltd., Occupational Health Physician

With the fast pace of business, it can be tempting to act first and deal with the consequences later. When it comes to safety, this sometimes means that the hierarchy of controls is not considered. Over 24 years of occupational medicine work, I have seen multiple examples where changes were made to the work environment that impacted the safety of their workers. Noise is a good example of workplace changes that can positively or negatively impact worker safety. And yet, when people think of hearing conservation programs, they think of hearing protection and often stop at this lowest level of control.

OSHA defines the hierarchy of controls with four levels of control. From most effective to least effective, they are: elimination/substitution, engineering controls, administrative controls including work practices and personal protective equipment. OSHA recognizes that safety issues can be equally controlled by each of these four levels. For example, if the job involves breaking up concrete, the highest hierarchy of control, elimination/substitution is probably not an option. On the other hand, it may be easy to default to the least effective control, personal protective equipment. Let us review each of these four control options.

Elimination/substitution is the most effective control. American Airlines is famous for reconsidering how they worked on jet engines. Instead of the routine way of making employees awkwardly work on a horizontal engine, they rotated the engine to be vertical. The result was that they could do their work faster, and there was less strain/injury for the employees. For obvious reasons, it is not always possible; however, the perfect opportunity to substitute equipment that produces lower noise levels comes when companies are replacing old equipment. When upgrading equipment, instruct procurement consider newer, safer options rather than replacing with the same equipment. A good example of a substitution could be to replace solvent based paint with water or powder based paint. These changes can have positive impacts on the bottom line by eliminating the need for ongoing prevention programs and workers' compensation claims.

Engineering controls are the next best step. This involves having mechanized methods or physical barriers to prevent injury. These can be guards or safety switches and can be very effective in preventing unintended injuries. For example, if both hands must be used to push buttons before a press can be activated, it becomes difficult to have a crush injury to the hand when the press is activated. The reason that this is not a perfect solution is that employees can be creative in defeating these devices. Since this is the employer's work location and the employees are being supervised by the company, it is the employer's responsibility to see that these controls are used. There are many examples of serious injury and death that have occurred due to employee's bypassing safety switches and significant fines for the employer.

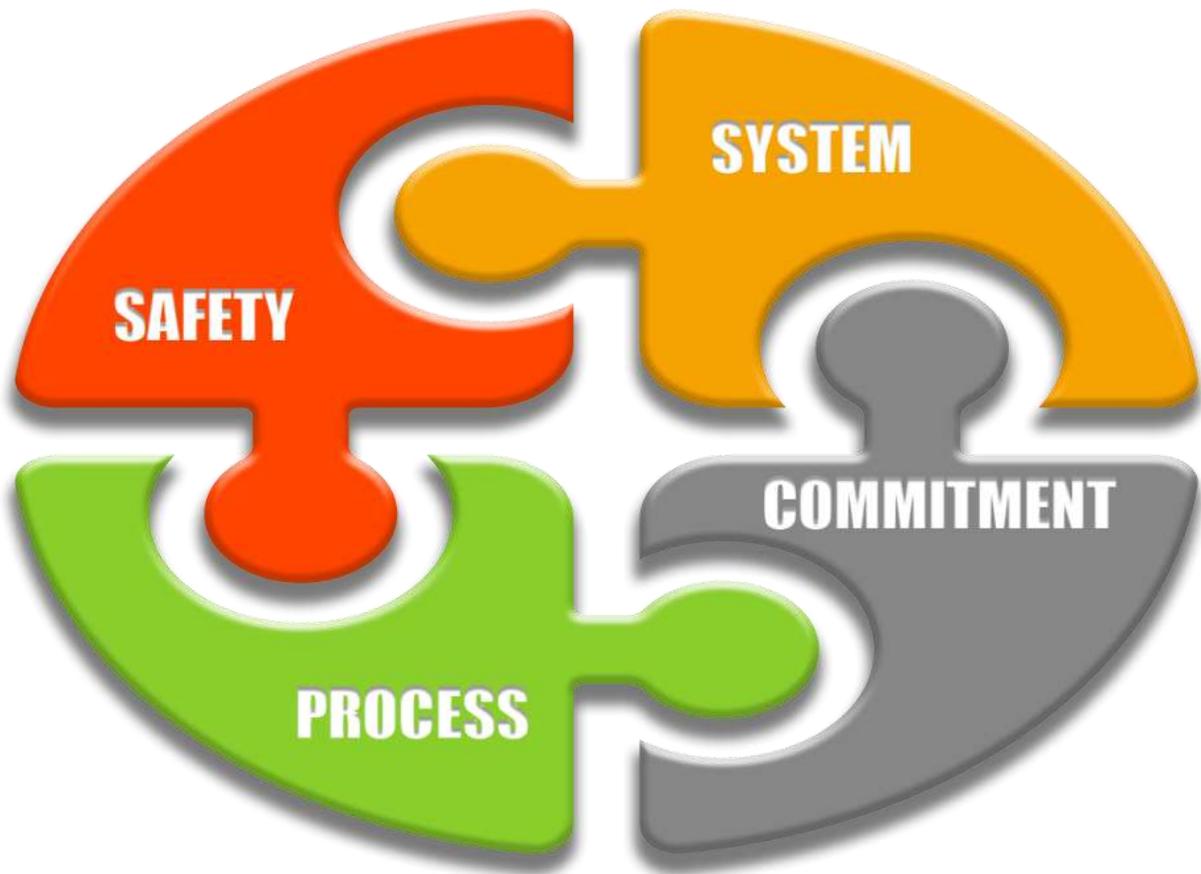
(https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=17775)

Administrative controls are not quite as good as engineering controls. Administrative controls involve the supervisor adjusting work tasks or schedules. These can be helpful but are limited by the supervisor understanding the reason for the administrative limitations and the employee's complying with the directives. These work most of the time, but when pressed, they can be ignored for a variety of reasons: time, budget, lack of knowledge (i.e. new employee or contractor), unusual work events or a feeling of "that can't happen to me." Considerable time, effort and training must be expended to keep this type control in place.

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Take noise exposure. Employees can use hearing protection, but they may not know how to effectively utilize hearing protection. One of the companies with which I worked implemented testing to see what the individual noise reduction was based on how the employee used the devices. The ear plugs would be rated for a 20-30 dB drop, but some individuals only got a 10 or 15 dB drop. Why? They may have been using the wrong device for their ear, or they may not know how to properly insert the device. Of course, such testing does not help if the employee forgets to use the PPE when they are working.

OSHA has an excellent resource on their website entitled Exposures & Controls. You can find it at <https://www.osha.gov/SLTC/noisehearingconservation/evaluation.html>. Obviously, not every safety issue can be solved with each of these steps every time, but I encourage you to challenge your safety teams to see how high up the Hierarchy of Controls they can go to protect the safety of your employees.



Take Care of Texas Tips to Decrease Ozone

Spring weather in Texas can be beautiful, with sunny skies and seemingly clear air. But what we don't always see is ozone forming in the atmosphere because of that bright sunshine.

Take Care of Texas has ways you can decrease the amount of ozone that forms in the atmosphere.

- Limit driving and idling: carpool, combine errands, use public transportation, ride a bike, or walk.
- Refuel your vehicle in the late afternoon or evening.
- Keep your vehicle maintained, including keeping tires properly inflated.
- Maintain your yard equipment, including changing the oil and replacing air filters regularly. Also consider using tools without motors. Hand tools such as shears, edgers, and push reel mowers are lightweight, quiet, and easy to use, and do not generate emissions.
- Don't burn yard waste.
- Use paint and cleaning products with fewer or no volatile organic compounds.

Ozone, often called smog, forms when the sunlight causes reactions between nitrogen oxides and volatile organic compounds. These NO_x and VOCs enter the air through vehicle exhaust, gasoline vapors, and emissions from industrial facilities and electric utilities.

It's important to reduce ozone because high levels can aggravate symptoms in people who have decreased lung function.

Take Care of Texas has more tips on how you can do your part to reduce ozone. You can also **check air quality conditions** and more monitoring data.