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Health and Safety News

As environmental consultants, it is our goal to provide the highest quality environmental services to our clients. In order to provide the best service, it is paramount to ensure the continuing health and safety of our employees and subcontractors. The health and safety success of our team assures the success of our projects. At Roux Associates, we are dedicated to promoting a positive safety culture in the field, within our offices, and throughout our personal lives. – Roux Associates

Cold Stress *Bryan Crowley, Massachusetts*



Whether you are working on a site in the field or enjoying some recreation outside of work, you will likely encounter cold stress this winter. When you're not properly prepared to work outdoors in the winter months the body is unable to warm itself, and serious cold-related illnesses and injuries like

permanent tissue damage and even death can result. Types of cold stress injury include frostbite, chilblain, trench foot, dehydration, and hypothermia.

How to Prevent Cold Stress

Cold stress can be prevented using a combination of the following mitigative approaches:

- Proper training
- Engineering controls
- Safe work practices
- Proper personal protective equipment (PPE)

Training

Workers should be trained on the signs and symptoms of cold stress, as well as the appropriate first aid measures that should be implemented. Workers should also be trained on proper engineering controls, safe work practices, and PPE to contest cold stress in the field, which will also apply to their everyday lives.

Engineering Controls

Use engineering controls such as outdoor radiant heaters to

provide some relief from cold temperatures. Because high winds exacerbate cold weather effects, use stationary vehicles or other objects as a wind shield whenever possible.

Safe Work Practices

Examples of safe work practices that should be implemented in cold weather include, but are not limited to: providing warm drinks to workers to combat dehydration and cold stress; scheduling outdoor work during the warmest part of the day; using the "buddy system" so that workers can monitor each other for signs of cold stress; and taking frequent breaks in designated warm-up areas. Cold weather safe work practices should be incorporated into site health and safety plans (HASPs) and reviewed during daily tailgate safety meetings.

PPE

The Occupational Safety and Health Administration's (OSHA) Cold Stress Guide provides the following recommendations for cold weather Personal Protective Equipment (PPE):

- Wear at least three layers of loose fitting clothing, the innermost of which is wool or synthetic to keep moisture away from the body.
- Wear a hat or hood to reduce the amount of heat escaping from your head.
- In moderate cold, use a knit mask to cover the face and mouth.
- Don insulated work gloves and waterproof boots.

With these simple prevention tips, together we can put the HEAT on cold stress!

Fieldwork Ergonomics

Jo'l Chapman – Long Beach, California

We're all pretty good at identifying hazards in the field that can lead to sudden catastrophe—overhead power lines, traffic, line-of-fire, pinch points, slips/trips/falls, etc. But what about the factors that we encounter throughout the workday that we might only consider “inconveniences” or “just part of the job”? Including:

- Repetitive motions
- Working in unnatural or stationary positions
- Lifting heavy or awkward items
- Using excessive force or quick motions to perform a task
- Working in extreme temperatures
- Frequent lifting, carrying, pushing, or pulling loads
- Working more than 8 hours per day

These factors create physical stress on our bodies which, even if not painful right now, can lead to eventual injuries over time. By practicing proper ergonomics during field activities, we can help prevent potential injuries from surfacing.

So, what is ergonomics? Ergonomics can be defined simply as the study of work. More specifically, it is the science of designing the job to fit the worker, rather than physically forcing the worker's body to fit the job.

Making simple modifications to our field tasks, tools, equipment, and work stations can help to reduce physical stress and eliminate many potentially serious, disabling work-related **musculoskeletal disorders** (MSDs). MSDs are **repetitive stress injuries** to the soft tissues (muscles, tendons, ligaments, joints, and cartilage) and nervous system which develop gradually over weeks, months, and even years. Common MSDs include:

- Carpal tunnel syndrome
- Tendinitis
- Sciatica
- Herniated discs and lower back pain

Work-related MSDs are among the most frequently reported causes of lost or restricted work time. According to the Bureau of Labor Statistics, in 2013, MSD cases accounted for 33% of all worker injury and illness cases. Often, workers lose time from work to recover, and some never regain full health.

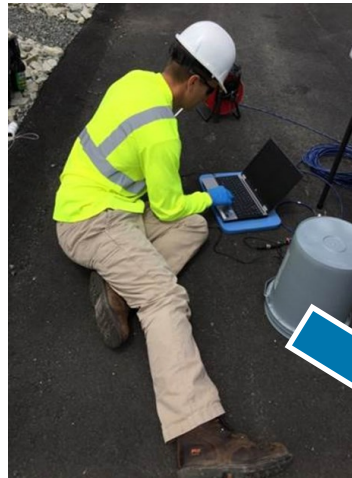
What can we do to recognize and mitigate the potential for developing MSDs on our jobs?

Most ergonomic solutions are simple, and can be addressed through administrative and engineering controls, safe work practices, and proper PPE. **Use of both Job Safety Analyses (JSAs) and field hazard assessments are utilized to aid in identifying and mitigating potential ergonomic hazards. Attention should be focused on tasks involving lifting, tool use, kneeling, and repetitive or sustained tasks.**

A few common mitigative actions you can easily implement in your field job may include:

- Plan and set up work areas for comfort and efficiency
 - * Avoid working bent over a table or on the ground – do paper work/use a laptop on a table with a chair as much as possible
 - * Store frequently used items within easy reach
- Stretch or warm up before strenuous activity
- Use proper lifting techniques
- Make multiple trips with lighter loads
- Know your limitations—ask for help when handling bulky or awkward loads
- Use the proper tools, equipment, and PPE
 - * Use a stool or knee pads when working close to the ground
 - * Use a cart to move loads whenever possible
 - * Use power industrial equipment to move heavy materials
 - * Use vibration dampening gloves if using a jackhammer or other vibrating equipment
- Take breaks during repetitive tasks
- Reduce carrying distance by parking support vehicles close to the work zone while unloading

It is critical that if you do feel pain on the job, you report it to your Site Supervisor and/or Project Manager immediately. Through immediate reporting, we can take the necessary steps to ensure the appropriate treatment is received to prevent the injury from getting worse, and share the learnings to prevent similar injuries from occurring at other jobsites.



ROUX

The Hazards of Night Shift Work

Matt Smith, New York

In today's busy world, projects can run throughout the week and at all times of the day. Some of Roux Associates' projects require field work to be completed during over-night hours. Not only does night work amplify the hazards that workers are already exposed to during the day, but new dangers are introduced. Low light conditions can hide slip, trip, and fall hazards. Reduced access to support staff and managers can allow dangerous situations to escalate. Temperatures are colder and weather conditions can become more extreme. Isolation from friends and family can increase stress and frustration while on the job.

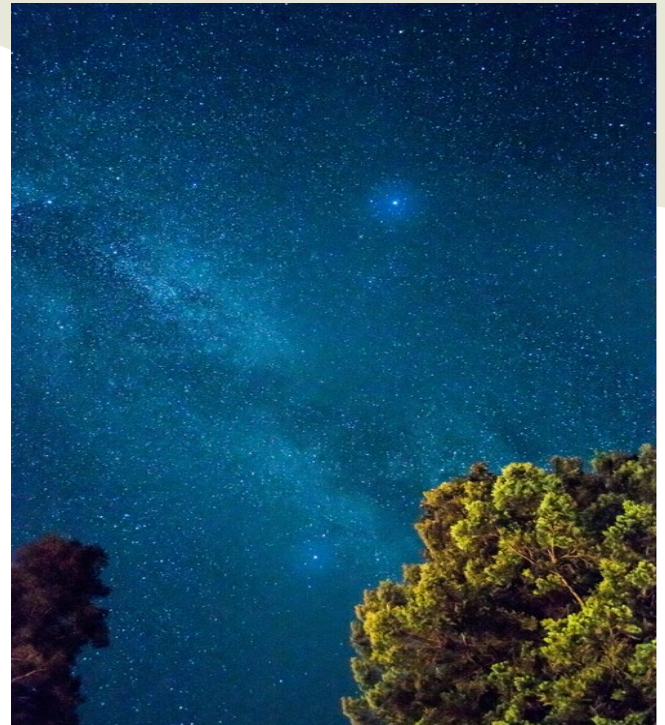
Of all the dangers associated with night work, fatigue leads to the most incidents and injuries. Some of the most significant human-caused disasters in recent years have been the result of worker fatigue. The investigations into the 2005 Texas City BP oil refinery explosion, the explosion of the space shuttle Challenger, and the nuclear accidents at Chernobyl and Three Mile Island all found that worker fatigue played a major role.

Generally, workers assigned to night work are not as well rested as their peers during the day. On average, nocturnal workers get fewer hours of sleep. The sleep that they do get tends to be lighter and less satisfying. Working at night and trying to sleep during the day interrupts a human's circadian rhythm and the dozens of bodily functions associated with this daily cycle.

Health effects from night work can be both acute and chronic. As the brain becomes fatigued its processing power is reduced, which can result in poor decision making and slower reaction time. Feeling groggy is a danger behind the wheel, as it is on the job site. The National Highway Traffic Safety Administration found that nearly 1,000 Americans are killed every year from drowsy driving related crashes. Fatigue can carry over from day to day and can accumulate to unsafe levels. Digestive problems, some cancers, and cardiovascular disorders, including increased likelihood of heart disease, have been linked to workers who spent their careers on the night shift.

Many of the suggestions for night shift workers to avoid fatigue can also be applied to living an overall healthy lifestyle:

- Keep a regular sleeping pattern
- Exercise frequently
- Eat balanced meals
- Take breaks during your shift



- Take naps
- Avoid alcohol and smoking before going to bed

Some additional tips to improve sleep and avoid fatigue when required to work at night include:

- Taking a long nap, between one and four hours, before the first night shift
- Eating your largest meal after your day time sleep
- If possible, doing the lightest/easiest tasks between 4-6am when your body is most tired and susceptible to making a mistake
- Implementing a rotating workers' schedule to minimize the stress on each person
- Having people work in teams to monitor each other can also help keep everyone onsite safe

The hazards associated with night work can be unique: whether it is because someone is fatigued from working a long shift, feels his or her attention waning while driving back home, or is working in low light conditions before sunrise or after sunset. As always, hazard identification and implementation of proper mitigative actions are the keys to preventing incidents which could injure yourself and possibly others.

Wildfire Preparedness *Sydney Ward – Oakland, California*

On the west coast, we are experiencing year-round devastating wildfires. Cal Fire, the California Department of Forestry and Fire Protection, has provided information on how to keep your homes safe:

Being ready for a wildfire starts with maintaining an adequate **defensible space** and by **hardening your home**. **Defensible space** is the buffer between a building on the property and the



Photo of the 2017 Thomas Fire in Ventura and Santa Barbara Counties

grass, trees, shrubs, or any wildland area that surrounds it. This buffer helps to keep fire away from your home.

Hardening your home entails using fire-resistant construction materials. For example, try re-roofing your home with composition,

metal, or tile, as opposed to wood or shingles. It takes the combination of defensible space and hardening your home to give your house the best chance of surviving a wildfire.

Maintain Defensible Space

“Defensible” space between your home and vegetation is needed to slow or stop the spread of wildfire. This space protects your home from catching fire from either direct flame contact or radiant heat. Defensible space also allows for firefighter protection if/when they defend your home.

The following steps provided by Cal Fire should be taken to keep your home safe:

- Remove all dead vegetation from your yard, roof, and rain gutters.

- Trim trees regularly to keep branches a minimum of 10 feet from other trees; remove branches that hang over your roof and keep dead branches 10 feet away from your chimney.
- Remove or prune flammable plants and shrubs near windows and remove vegetation and items that could catch fire from around and under decks. Be sure to separate trees, shrubs, and items that could catch fire such as patio furniture, wood piles, swing sets, etc.
- Cut or mow annual grass down to a maximum height of 4 inches; keep horizontal spacing between shrubs and trees.
- Create vertical spacing between grass, shrubs, and trees.
- Remove fallen leaves, needles, twigs, bark, cones, and small branches.

Plant and Tree Spacing

The spacing between grass, shrubs, and trees is the key to maintaining defensible space. Spacing is determined by the type and size of brush and trees on your property,



Defensible Space Zones, provided by Cal Fire

as well as the slope of the land. A property on a steep slope with larger vegetation requires greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

For more information, visit:

<http://www.readyforwildfire.org/>

4th Quarter H&S Message

Brian Hobbs, CIH, CSP, Senior Health and Safety Manager

As we close out 2017, we look back at Roux’s accomplishments across an extensive range of projects for our clients. One of the most important successes of this year is that our employees went home safely at the end of each day. For the last six years, we have completed all of our work without a single injury requiring medical treatment, worker restriction, or lost time. Safety within Roux remains a core value, as it will continue to be in the future. As with any core value of an organization, the most effective way to achieve and maintain success is to ensure the health and safety of our employees is a top priority by engaging and educating personnel of all levels. We look to harness our success and continually improve on our Health and Safety Program in 2018.

FOR MORE INFORMATION, Contact Safety Managers:

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