



Case Department of Occupational and Environmental Safety

July/
August
2007

**Inside this
issue:**

Office Eating Hab-
its Can Lead to
Absenteeism 2

Conserving Energy
in the Lab, Office,
and Classroom 2
(continued from
page 1)

Signs, Labels, and
Markings: A Few
Basic Reminders 3

Not so Fast...New
Equipment and
Processes Need to
be Analyzed for
Safety 4

Knowing the Signs
of Heat Exhaust-
ion 5

Barbeque Grill
Safety 6

"SAFETY COMES FIRST"

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Conserving Energy in the Lab, Office, and Classroom

While conserving energy has always been a goal for the university, the rising cost of fuels means faculty, staff, and students should consider the financial benefits of making sure the lights are off. Saved energy means there is more money for other university budgets. The following tips may be helpful in the office and your home to save money in lost energy costs.

Turn the lights off

Lights create the majority of wasted energy, since they're easy to leave on when leaving a room. It's a good idea to turn off the lights in unnecessary rooms to conserve energy. If you need help remembering, you can make "Turn It Off" signs to hang above light switches to remind yourself.

Turn your computer off, or sleep it

You can conserve energy by turning off or sleeping PCs, printers, and copiers during periods of inactivity. A computer left on can consume as much as \$100 a year while on standby, so use your computer's Sleep or Power Saver mode when you leave for the day. You can also turn off radios and other appliances when you leave for extended periods, such as lunch breaks or meetings.

Some equipment continues to draw power even while turned off to maintain its internal memory or by design, so you may also want to unplug unnecessary machines while they are not being used.

(continued on page 2)

Office Eating Habits Can Lead to Absenteeism

“The study found that 46 percent of respondents do not clean their desks or work surfaces prior to eating from them, while 54 percent said that they didn’t always wash their hands in an effective manner prior to eating.”

A national study disclosed that less than half of American office workers clean up before eating at their desks. This lack of rudimentary hygiene, especially during cold and flu season, can lead to increased worker illness and absenteeism. The study found that 46 percent of respondents do not clean their desks or work surfaces prior to eating from them, while 54 percent said that they didn’t always wash their hands in an effective manner prior to eating.

Employers can help by providing adequate personal cleaning supplies, posting signs and notices reminding employees to wash their hands, and always making sure that proper hand cleaning supplies are available.

Conserving Energy in the Lab, Office, and Classroom (continued from page 1)

Keep your light fixtures clean

Dirt can absorb as much as half of the light given off by fixtures, tubes and bulbs, requiring the use of additional sources of light. If you have a lamp or other light source, check it periodically to make sure it doesn't have dust on it.

Keep your thermostat cool

This is one of the most hidden forms of energy wasting. If you wonder why the air conditioning runs longer than you think it should, or cools more than you think is necessary, check the area immediately around the thermostat. Nearby computers and other appliances may be giving off heat, persuading the cooling system to work harder to cool what it thinks is a warmer room.

For more energy conservation tips, consult the US Department of Energy website at <http://www.energy.gov/energyefficiency/index.htm>

Sources:

The University of Houston <http://www.uh.edu/infotech/news/story.php_story_id=75>

US Department of Energy <www.energy.gov>

Signs, Labels, and Markings: A Few Basic Reminders

Ideally, the workplace would be hazard-free and safe from potential injuries and accidents. However, many operations by their nature involve a certain amount of risk that cannot be controlled through engineering measures. In these situations, safety signs, tags, barricades, signals, and other markings have been developed as one way of preventing work accidents.

OSHA has established rules throughout 29 CFR 1910 and 1926 regarding the design, application, and use of safety markings in the workplace to indicate hazardous conditions and prevent accidents. At the heart of these regulations, you will find:

- 29 CFR 1910.144, Safety Color Code for Marking Physical Hazards;
- 29 CFR 1910.145, Specifications for Accident Prevention Signs and Tags; and
- 29 CFR 1926.200 to .203, Signs, Signals, and Barricades.

In recent years, the top OSHA marking violations for general industry have included hazard communication labels, electrical labels and signs, load markings, exit signs, lockout/tagout application, permit-required confined space signs, OSHA 301 Form (annual summary) postings, forklift markings, and aisle markings. Other agencies, like EPA and DOT, also call for various markings. State and local agencies may require further marking. Plus, you may also find the following consensus standards helpful:

- ANSI Z535.1, American National Standard for Safety Color Code;
- ANSI Z535.2, Environmental and Facility Safety Signs;
- ANSI Z535.3, Criteria for Safety Symbols;
- ANSI Z535.4, American National Standard for Product Safety Signs and Labels;
- ANSI Z535.5, Safety Tags and Barricade Tapes (for Temporary Hazards);
- ANSI A13.1, Scheme for the Identification of Piping Systems; and
- Manual on Uniform Traffic Control Devices (MUTCD).

Be aware that some consensus standards are required because they are adopted by reference in federal and state regulations. Look around your facility. While government agencies require specific markings, in many cases common sense will tell you where to use markings to protect workers and visitors.

As always, please feel free to call DOES @ ext. 2907 with specific questions regarding signage, labels and markings. We are here to help.

“Be aware that some consensus standards are required because they are adopted by reference in federal and state regulations.”

Not so Fast...New Equipment and Processes Need to be Analyzed for Safety

Originally published in J.J. Keller on September 10, 2006

Have supervisors or managers in your workplace ever made changes to processes or brought in new equipment? Made “minor” modifications to a piece of equipment?

“Change analysis should be performed whenever a significant modification or addition is made to a process.”

In some cases, changing process or equipment can be beneficial. But, such changes should not be made until a proper change analysis (e.g., having the safety professional analyze the process, bringing in an engineer or manufacturer) has been conducted to determine any hazards the new process or equipment may introduce.

An organization or process is like a web of interconnections; a change in one area throws a different part off balance. Managing these ripple effects is challenging but necessary. Stress this to your managers and supervisors.

What is a change analysis?

A change analysis is a process of identifying hazards that could occur as a result of changing a process or equipment. Such an analysis will need to be conducted by a qualified person (usually a safety professional or engineer). For equipment alterations, the manufacturer will also likely be consulted.

When to perform change analysis

Change analysis should be performed whenever a significant modification or addition is made to a process. Examples include installing new equipment, using new materials, starting up new processes, or personnel changes.

An example of why change analysis is necessary

A worker died when a 500-gallon storage tank of waste oil and water he had started to empty exploded from its base, striking him in the head. He had vacuumed the waste oil and water into the tank from a trench on the other side of the plant and transported it with a lift truck to the underground waste storage area for disposal at a later time. He was pressurizing the contents of the tank with air from a compressed airline located just inside the plant to speed the evacuation of the waste oil and water into the waste storage area.

The tank was not approved for use as a pressurized vessel. Fittings on the tank had been adapted for the purpose of connecting them to the compressed airline.

(continued on page 4)

Not so Fast...New Equipment and Processes Need to be Analyzed for Safety (continued from page 4)

Communication

It is crucial that qualified personnel evaluate possible changes and make recommendations before major changes to processes or equipment are made. It is also critical that you instruct employees and supervisors not to alter equipment or change processes without getting the proper clearance. Qualified personnel should review proposed equipment changes. Lastly, it is a good idea to periodically inspect work areas to locate non-standard use of equipment, altered equipment, or process changes.

Knowing the Signs of Heat Exhaustion

Heat Exhaustion

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people, people with high blood pressure, and people working or exercising in a hot environment.

Recognizing Heat Exhaustion

Warning signs of heat exhaustion include the following symptoms:

- heavy sweating
- paleness
- muscle cramps
- tiredness
- weakness
- dizziness
- headache
- nausea or vomiting
- fainting

The skin may be cool and moist. The victim's pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is un-

treated, it may progress to heat stroke. Seek medical attention immediately if...

- symptoms are severe, or
- the victim has heart problems or high blood pressure.

Otherwise, help the victim to cool off, and seek medical attention if symptoms worsen or last longer than 1 hour.

What to Do

Cooling measures that may be effective include the following:

- cool, non-alcoholic beverages, as directed by your physician
- rest
- cool shower, bath, or sponge bath
- an air-conditioned environment
- wearing lightweight clothing

Source: CDC Prevention Guide for Emergencies and Disasters.

Barbeque Grill Safety

Gas and Propane Grill Safety Tips

Each year about 600 fires/explosions occur with gas grills, causing injuries. Many of the accidents happen the first time a grill is ignited for the season or after the grill's gas container is refilled and reattached.

Before you plan your next outdoor cookout, review these safety tips:

- Check grill hoses for cracking, brittleness, holes and leaks. Make sure there are no sharp bends in the hose or tubing.
- Make sure your grill's propane tank has three-prong gas valve handle. As of April 1, 2002, the three-prong design replaces a five-prong handle as the safety standard.
- Move gas hoses as far away as possible from hot surfaces and dripping hot grease.
- Always keep propane gas containers upright.
- Never store a spare gas container under or near the grill or indoors.
- Never store or use flammable liquids, like gasoline, near the grill.
- Never keep a filled container in a hot car or car trunk. Heat will cause the gas pressure to increase, which may open the relief valve and allow gas to escape.
- Make sure your spark igniter is consistently generating a spark to create a flame and burn the propane gas. If the flame is not visible, the heavier-than-air propane gas may be escaping and could cause an explosion.
- Never bring the propane tank into the house.
- When using barbecue grills on decks or patios, be sure to leave sufficient space from siding and eaves.
- Keep children and pets far away from grills.

Charcoal Grill Safety Tips

Keep in mind that charcoal, when burned in grills, produces carbon monoxide (CO). CO is a colorless, odorless gas that can accumulate to toxic levels in closed environments. Each year about 17 people die as a result of CO fumes from charcoal being burned indoors or in a poorly ventilated area. To reduce the risk of CO poisoning:

- Never burn charcoal inside of homes, vehicles, tents or campers.
- Charcoal should never be used indoors, even if ventilation is provided.
- Since charcoal produces CO fumes until the charcoal is completely extinguished, do not store the grill indoors with freshly used coals.

Source: U.S. Consumer Product Safety Commission

“Move gas hoses as far away as possible from hot surfaces and dripping hot grease.”

Upcoming Training Sessions*

*As always, consult our website (<http://does.case.edu>) for a full schedule of training sessions

New Radiation Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED* ! - Please call 368-2906

X-Ray Safety Training

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED* ! - Please call 368-4601 or email jxb153@case.edu

Laser Safety Training

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED* ! - Please call 368-4600

or email hwj@case.edu

The Laser Safety training schedule is now available online at the DOES website <does.case.edu> under Laser Training. Listed below are the training dates through October 2006:

New Bloodborne Pathogen Training

Please call 368-2907 to preregister for this class.

Class Objective: To go over the Bloodborne Pathogen Standard

Class Frequency and Time: The class is offered every Tuesday from 3:00 to 4:30 pm. Location: The class is held in the DOES conference room in the Service Building First Floor unless otherwise specified in the calendar.

Bloodborne Pathogen Training

Please call 368-2907 to preregister for this class.

There is an online version of this class. You do not have to attend the class if you take the online version.

Class Objective: Retrain workers annually for the Bloodborne Pathogen Standard

Class Frequency and Time: The class is typically offered twice a month. It is approximately 1 hour in duration.

Location: The class is held in the DOES conference room in the Service Building First Floor unless otherwise specified in the calendar.

Formaldehyde, Benzene, Methylene Chloride, and Vinyl Chloride Retraining

Please call 368-2907 to preregister for this class. There are online versions of Formaldehyde and Benzene retraining. If you take the online versions of Benzene or Formaldehyde you do not have to take the class.

Class Objective: Chemical specific training.

(continued on page 8)

Chemical Safety (OSHA Lab Standard Training)

Please call 368-2907 to preregister for this class.

Class Objective: To train all university personnel using hazardous chemicals in a laboratory setting in basic chemical safety principles and the requirements of the OSHA Laboratory Standard 1910.1450.

Class Frequency and Time: The class is offered every Tuesday from 1:00 to 3:00 pm. Also additional classes are available.

Location: The class is held in the DOES conference room in the Service Building First Floor unless otherwise specified in the calendar.

Hazard Communication Training (Right-to-Know)

See website <does.case.edu> for schedule.

Radiation Safety Retraining

Please retrain on the Internet @: <http://does.case.edu>

Annual Respirator Training

DOES conference room—Service Building 1st Floor.

PREREGISTRATION IS REQUIRED ! - Please call 368-2907

Note: *There is an online version of this class.* If you take the online version you do not have to take the class. But you still need to come in for a fit test.

(Again, for a complete listing, please consult the DOES website at <<http://does.case.edu/>>)

A full-color version of this newsletter can be found online @ <http://does.case.edu>

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