

The Hazard Clearance Certificate

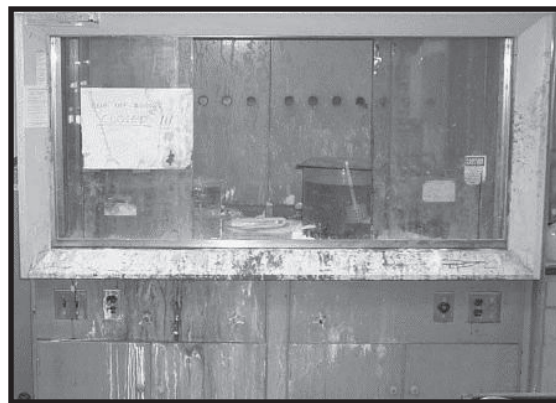
("Clean Sheet"...how to effectively communicate hazards to the people you want to work on your equipment or space)

By Linda Swihart

It used to be that a work crew from Physical Facilities Operations & Maintenance might receive a work order to **"remove hood and all ductwork from LSRB 615,"** and find something similar to the picture here when they showed up to do the job.

We've made significant improvements since then, and currently a hood slated for repair or removal must not contain chemicals or chemical contamination, cylinders of gas, or biological materials when the workers begin the task. Our goal is to ensure that all gross dirt and contamination has been removed, and

also to provide enough information that workers know what steps are necessary to protect themselves while they do the work.



Workers in O&M and the General Labor Crew are currently being trained to request that **the person requesting their work** provide them with a completed "Hazard Clearance Certificate." It's commonly called "the clean sheet" and it's available from this web site:

<http://www.purdue.edu/rem/home/forms/cleansheet.pdf>.

Be ready for this request next time you have a room to be gutted and remodeled, or a hood to be repaired, or an old

Story continued on back page

You, Electricity, Water, and Ground-Fault Circuit-Interrupters

By Don Campbell

Ground-Fault Circuit-Interrupters, or GFCIs for short, are electronic devices that minimize the chance for electrical shock and electrocution, particularly when you and electricity come near water.

How GFCIs Work

Electronic circuitry inside a GFCI compares the amount of current being applied to the supply side of a circuit to the amount of current in the returning side of the circuit. If the two values do not agree then current leakage is occurring. If that missing current is flowing through you instead, it can result

in mild or severe shock depending on the amount of leakage. GFCI circuitry detects the imbalanced amperage and disconnects the power to the circuit. This disconnect can occur in 1/40th of a second in a GFCI that detects leakage as slight as 4-6 milliamps (.004 - .006 Amps). Since a current as small as 0.010 Amps can be fatal if applied across the heart, a GFCI is a very important part of electrical safety here on the job or at home. Although an important part of your electrical safety system, fuses can not disconnect the circuitry at these low levels of leakage.



Where to put GFCIs

GFCIs are needed in areas that may be wet or damp such as kitchens, bathrooms, garages, outdoor outlets, pools, and hot tubs. GFCIs can be installed in panel boxes, receptacles, and power and extension cords.

Underwriters Laboratories, Inc. recommends that GFCIs be tested once per month.

How to Test GFCIs

To properly test GFCI receptacles in your home:

Story continued on page 3

Mercury Reduction Policy Update

By Brian McDonald

The Chemical Management Committee (CMC), made up of faculty and staff from the West Lafayette, Calumet, North Central and Fort Wayne campuses, unanimously passed a University policy in 2003 regarding the use of mercury, mercury compounds, and mercury containing devices on campus.

In cooperation with this policy, REM recommends exchanging mercury thermometers for non-mercury thermometers. Mercury thermometers break on a regular basis. The contaminated clean-up debris is considered hazardous waste and the expense of disposing of these materials is high. Also, mercury vapors, which are

odorless and colorless, can expose lab and clean-up personnel to hazardous levels of mercury.

Since the inception of the campus wide mercury reduction policy, REM has experienced a decrease in the percentage of spill responses involving mercury. In 2003 mercury represented 63% of all spill responses, while in 2004 the percentage dropped to 48%. In this same time period, REM has exchanged approximately 1300 mercury thermometers in 8 departments.

The Mercury Thermometer Exchange Program began with a Venture Grant from Physical Facilities in 2001. With the success of this program and an infusion of money from REM, the total number of mercury thermometers

removed from campus has surpassed the 6000 mark. Departments with a certified safety program under the Integrated Safety Program (ISP) or those departments in the process of certifying their program are eligible for a free, one time exchange of their mercury thermometers for non-mercury thermometers. A "Certification of Commitment to Eliminate Mercury" must also be signed by the department head



Story continued to back page

Working Alone and After Hours

By Bob Golden

University safety guidelines indicate that each department is responsible for making standard operating procedures (SOP) for the safety of individuals who work in their laboratories. This is especially important for lab staff or students who will be working alone or using hazardous materials and procedures. The principal investigator needs to explain what is written in the SOP, i.e., the hazard, detail how to avoid accidents, and provide the necessary personal protective equipment to lab staff.

Radiological & Environmental Management and Risk Management recommend that you require (in your SOP) that there will always be at least two people present during a hazardous procedure.

SOP Example:

These are recommendations based on safe lab and shop practices that can be

adopted by departments on campus where the academic environment requires flexible hours of operation, experiences high turnover of personnel, and has multiple projects occurring simultaneously.

1. Other lab staff must be present when dangerous or hazardous experiments are conducted.
2. A Hazard Assessment must be posted in the laboratory.
3. All appropriate safety guidelines must be reviewed prior to the hazardous experiment, i.e., Chemical Hygiene Plan, Biological Safety Manual, Laser Safety manual, etc.
4. Emergency eye wash/shower stations, aisles, and exits must not be obstructed or blocked.
5. Safety signs should be posted adjacent to power equipment cautioning students to "wear eye protection", "use guards/shields", "report defective wiring", etc.
6. Provide personal protective equipment where appropriate.
7. Provide immediate access to a telephone for emergency purposes.

8. Institute a training program for use of lab equipment, tools and power equipment.



The following procedural measures that can be taken to reduce or eliminate hazards associated with the use of hazardous materials are from the "Administrative Controls" section of the Purdue University Chemical Hygiene Plan (<http://www.purdue.edu/rem/home/booklets/CHP2003.htm>):

- Careful planning of experiments and procedures with safety in mind. Planning includes the development of written work procedures for safe performance of the work.
- Restricting access to areas in which hazardous materials are used.

Story continued to page 3

Indoor Air Quality for the Masses

By Stephanie Rainey

Every single day, our olfactory senses are bombarded with a variety of mysterious stimuli. In such cases, our control over the length or intensity of exposure will likely be limited. You may find yourself compelled to wander about your surroundings in an effort to uncover the source of the 'aroma'. If your attempts to locate the origin of the errant odor prove successful, you may be able to exercise some semblance of control over the situation and improve the air quality for yourself and those around you.

One person's 'scent' is another's 'stinky stuff'. Either way, these additives may be found in products for our bodies or may be used to clean surfaces and 'enhance' the air in our homes and cars. While some people may simply not find a fragrance to their liking, others may be a little less tolerant, in a physical sense, to them. Factors that may affect the level of tolerance include, but are not limited to: a person's ethnic background, current or previous illnesses, and/or medications they may have taken or may still be taking.

However, just because something smells unpleasant doesn't mean it's bad for you. In fact, when used as intended by the manufacturer, fragranced products are safe. Cosmetics and related items

are regulated by the FDA and the percentage of added fragrance to any item is so slight, whatever reactions might occur do not fall under the true definition of 'allergic'.

FAST STAT: Most scented products' composition is less than 1% of an added fragrance, whether real or synthetic.

As consumers, we have some choices about what we put in our environment and on our bodies. Madison Avenue can certainly take some of the credit for the proliferation of scented products in our lives; we are undeniably drawn to the pretty packaging and subtle promises of better lives if our home smells better than the one next door. Findings from a national study done in 2000, reported that projected expenditures on home fragrances would reach 1.8 billion dollars in 2001! In comparison, Purdue's system-wide, total operating budget for 2005 is projected at a little more than 1.5 billion dollars! That's a whole lot of stick-ups!

A parting thought: an individual's 'scent circle' is usually considered to be the area about an arm's length away all around them. When we consider the amount of time we spend with our co-workers, common courtesy might suggest we be respectful of our neighbors and consider our 'circle' when we prepare to go to work each day.

Working Alone

Story continued from page 2

- Using signs or placards to identify hazardous areas (designated areas).
- Use of labels on hazardous materials.
- Substitution of less toxic materials for toxic materials.
- Good housekeeping.
- Good hygiene (e.g., washing hands and other areas of possible chemical contact).
- Prohibiting the storage and preparation of food in areas where chemicals are used or stored.
- Prohibiting eating, drinking, and smoking where chemicals are used or stored, and providing break areas for this purpose.
- No mouth pipetting.
- Adding acid (or caustic) to water, never water to acid (or caustic).
- Ensuring that employees are provided adequate training for safe work with hazardous materials.

REM staff are available to review your specific safety SOPs.

GFCIs

Story continued from page 1

- Push the "Reset" button located on the GFCI receptacle, first to assure normal GFCI operation.
- Plug a nightlight (with an "ON/OFF" switch) or other product (such as a lamp) into the GFCI receptacle and turn the product "ON."
- Push the "Test" button located on the GFCI receptacle. The nightlight or other product should go "OFF."



- Push the "Reset" button, again. The light or other product should go "ON" again.

If the light or other product remains "ON" when the "Test" button is pushed, the GFCI is not working properly or has been incorrectly installed. If your GFCI is not working properly, call a qualified electrician who can assess the situation,

rewire the GFCI if necessary or replace the device. (Method above for testing GFCI is used with permission of UL)

Remember GFCIs can help keep you out of danger in case you're there when electricity and water mix at work or home.

Hazard Clearance _____

Story continued from page 1

autoclave for disposal. Be able to answer questions pertaining to whether the unit has been used for work with regulated biological or radioactive materials, and whether it has been thoroughly cleaned recently. All Departments are responsible for being able to provide this information for items to be worked on or disposed. Contact the REM main number (46113) and ask for someone in the Industrial Hygiene section if you would like assistance with any questions.

Mercury Reduction _____

Story continued from page 2

pledging to maintain a "Mercury Free" status as a condition of participation in the Mercury Thermometer Exchange Program.

Please continue doing your part in reaching CMC's goal of virtual elimination of mercury, mercury compounds, and mercury containing devices on campus by 2006.

Congratulations to Physical Facilities Buildings and Grounds!

By Jim Schweitzer

With the recent Integrated Safety Program (ISP) certification of the Electrical and Electronics Shop, the Building and Grounds area of Physical Facilities has achieved certification of all units. Each of these 24 units certified, meet the criteria of representation on a safety committee, communication of safety issues, and annual self-audits of their areas. The Buildings and Grounds area also provides 9 representatives to the Physical Facilities Safety Committee and employees of this group serve as chair and vice chair.

Key safety issues for these groups are training and recordkeeping under the Right to Know Program, Hazard Assessments and PPE selection, and keeping required OSHA and other training up to date. Operations and Maintenance and Building Services also participate in performance leadership initiatives that identify important safety issues and identify a solution to the issues identified. Thanks for your participation and keeping safety a priority in all you do!

REM NEWS

Purdue University

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