The Office of Campus Sustainability has been working hard to kick off a new Sustainable Workplace Certification Program with the goal of encouraging sustainable behavior across campus. Simple changes in staff behavior and department processes, such as enabling energy-saving settings on machines, shutting off equipment at the power strip, setting printers to default to double-sided printing, and eliminating single-use disposable items can significantly reduce energy use and waste across campus. This program allows the savings from such actions to be measured and tracked, making U-M the only university measuring the success of such a program quantitatively.

To date, more than 20 offices have started the process to become certified with 2-3 new offices applying a week. This strong interest and high level of participation is expected to continue as a number of University departments are exhibiting strong leadership and developing their own roll-out plan for their units.

To find out more about the program visit: http://www.ocs.umich.edu/sustainable-workplace.html
Abandoned Autoclave Waste

Critical Issue:
A team of OSEH staff were sent to investigate a reported ongoing problem with autoclave waste being left in hallways. Upon inspection multiple bags of waste were found sitting in hallways and common areas. The observations included open autoclave bags sitting on the floor, unlabeled autoclave bags, and one punctured bag due to a serological pipette (no secondary container) leaking onto the floor. People working in the area informed OSEH that bags are commonly left in the hallways for days at a time.

Pictures Taken At BSRB:

Take Action:
It is UNACCEPTABLE for researchers to leave waste in hallways or common areas near autoclaves for any reason. This practice creates multiple potential safety hazards, such as:
- Contamination to person/environment from potentially biohazardous materials inside the bag
- Trip hazard for those walking through the hallway

If the autoclave is unavailable, waste must be stored in the lab. Autoclave bags must be labeled with the name of the lab and contact information. Once waste is autoclaved, it should be removed promptly and immediately disposed of in appropriate containers (boxes, waste receptacles, etc.).

Training:
⭐ There is new autoclave training available in My LINC, Course BLS013w “Autoclave Safety"
Cylinder safety is a practice which many labs overlook. Recently, there was an incident on campus where an employee broke their leg when an empty, unrestrained cylinder fell.

A few safety reminders for handling compressed gas cylinders include:

- Remove the regulator when the cylinder is not in use for long periods of time
- Place the valve cap back on the cylinder when not in use
- Always restrain the cylinder towards the upper 1/3 of cylinder
- Never leave the cylinder free-standing when replacing it
- Turn off the cylinder when not in use
- Properly segregate oxidizers from flammable cylinders by 20 feet of distance or by a wall
- Never roll the cylinder to move its location—Use the proper cart for relocation

For more information, please contact your local OSEH representative or visit the OSEH website at [http://www.oseh.umich.edu/guidelines/cgu.shtml](http://www.oseh.umich.edu/guidelines/cgu.shtml) to review the guidelines and request posters for your lab.
While everyone has a responsibility for maintaining safety in the lab, graduate student instructors (GSIs) are in charge of creating and maintaining a safe learning environment for themselves and for their students.

To support this effort, OSEH provides basic lab safety training and is available to assist with identifying potential chemical, biological, and physical hazards involved in laboratory assignments for undergraduates. For information on the training courses offered by OSEH, visit us on the web at http://www.oseh.umich.edu/training/index.shtml.

When planning for safety during your teaching labs, here are a few things to keep in mind:

- Begin each lab session by explaining the necessary safety precautions and their importance. Ensure that students understand the hazards of the chemicals and equipment that they will be using.
- Remind students that subsequent classes will be using the laboratory so they need to properly clean and store equipment prior to leaving the lab.
- Be sure to know what to do in the event of an accident, building emergency, or evacuation. Instruct the students so they understand their role during such events.

It’s important to ensure that all necessary personal protective equipment (PPE) – i.e. safety glasses, gloves and lab coats – is available in the lab prior to the students beginning any work. Routinely check to see that all PPE is being worn and is in good condition. If you are unsure about which PPE is appropriate for the chemicals and equipment that will be used, contact your OSEH laboratory safety representative. Our contact information is available at http://www.oseh.umich.edu/staff.shtml.

Any hazardous materials generated during experiments must be properly packaged and labeled for pickup by OSEH Hazardous Materials Management (HMM). To order waste containers, labels, and manifests or to schedule a pickup of hazardous waste, contact HMM at 763-4568. More information on proper waste disposal is available at http://www.oseh.umich.edu/hazmats/index.shtml.

Be friendly but firm, fair, and consistent when enforcing the safety rules. If you set a good example by always following them yourself, you will help to instill safety as a value in your students. This is not only the ethical thing to do, but it also sets our students up for success in their future academic and professional careers. For assistance with specific issues or to schedule an individual consultation, contact your OSEH representative.
Fun Fume Hood Factoids

Your chemical exhaust hood (fume hood) is one of the best ways to reduce or eliminate your exposure to toxic chemicals in the laboratory. The fume hood works by exhausting air from the building to create a negative pressure containment area inside the hood. Proper use of this hood for airborne chemical hazards is critical to maintaining a happy and healthy career in research.

The following fume hood procedures will help you take full advantage of this equipment:

1. Always confirm the fume hood is operating before starting to work. Check the monitor—if it’s blinking red or in alarm, you should stop working, turn off the equipment, and close the sash. If highly toxic or volatile chemicals are being used, leave the area and notify your supervisor. Call Plant Operations Call Center at (647-2059) for fume hood repairs.
2. Place experimental materials and equipment toward the back of the fume hood and work at least 6 inches from the front opening. Avoid blocking rear baffle openings and place large objects on blocks that are 3 inches above the work surface.
3. Remove chemicals and equipment from the hood when not in use.
4. Schedule experiments in hoods while the lab is occupied.
5. Close the sash when the fume hood is not in use.
6. Train new personnel on the proper operation of the hood.
7. Always wear required personal protective equipment (gloves, goggles, lab coats, aprons, etc.).

Please contact OSEH at 763-6973 or visit our web site if you have any questions regarding fume hood use or operation.
Hazardous Gas Purchases

OSEH recently updated the hazardous gas purchasing program to improve safety in U-M research facilities. The updated program works with U-M Procurement Services to restrict hazardous gas purchases to safe levels in compliance with the building code, fire code, and OSEH Compressed Gas Guideline. The process requires written approval in order to purchase a relatively narrow range of hazardous gases (see list below). These gases are of particular concern due to high toxicity, flammability, or reactivity - particularly in quantities that could defeat normal precautions and emergency responses.

All of the hazardous gases listed below, in cylinder sizes larger than a lecture bottle (size LB), are included in this policy:

- Carbon Monoxide
- Hydrides (arsine, disilane, diborane, germane, phosphine, silane)
- Hydrogen
- Toxic (NFPA Health Rating of 3 or 4)
- Oxidizers (chlorine, fluorine)
- Oxygen (over 25% volume)

THE FOLLOWING ARE EXEMPT FROM THIS POLICY:
- Lecture bottles
- Hydrogen ≤ 5% with inert gas balance
- Oxygen cylinder < 30 ft³, no more than 330 ft³ in a single purchase request
- Lurie Nanofabrication Facility (LNF)*
- Plant Operations department*
- University of Michigan Health System and off-site clinics*
- School of Dentistry patient clinics*
- *These departments are already under restrictions and audits through separate programs.

In order to start the approval process, the purchaser completes the Restricted Hazardous Gases Authorization form and emails it to the Strategic Supplier Program at sspapproval@umich.edu. Upon receipt of the email, a Strategic Supplier Program staff member will reply to the requestor that OSEH approval is required and that he or she will be notified as soon as OSEH approves or denies the request. The SSP staff member will forward the request to OSEH and wait for OSEH’s reply. If OSEH approves the request, the SSP staff member will email the approved request form to the department and to the supplier’s order sales representative. If OSEH denies the request, the SSP staff member will forward the email to the purchaser and notify them to contact OSEH (763-6973) for more information.

The complete policy, procedure, and authorization form are posted on the U-M Procurement Services web page at the following links based on the supplier used: Cryogenic Gases, Airgas.
OSEH has updated the **Machine Shop Safety for Academic Departments** Guideline: ([http://www.oseh.umich.edu/guidelines/mssad.shtml](http://www.oseh.umich.edu/guidelines/mssad.shtml)).

The Machine Shop Safety Guideline applies to **all** University academic departments. Employees and non-employees who actively work in machine shops, laboratories, and other University facilities with machining tools and machining equipment are covered under this Guideline. While "professional" machine shops, i.e., those that are not accessible to or not used by students or others with limited training, certifications, and experience are not covered, it is expected that they will have many of this Guideline’s elements in place and actively utilize them.

In the academic research environment, machine shops pose a unique set of challenges in terms of risks to users and administrators. This updated Guideline will provide additional recommendations for training, access, maintenance, self-inspections, signage, and project review. In addition, all applicable people, e.g., Machine Shop Responsible Persons (“Responsible Persons”) and Machine Shop Monitors (“Monitors”), need to successfully complete the on-line **Machine Shop Responsible Person Training (IHS070w)** module. Go to OSEH’s [My LINC training website](http://www.oseh.umich.edu/mylinc/) and log-in in order to access this training module.

For more information, contact Rick Wasalaski at 763-3594 (rwasalas@umich.edu) or Will Dawson at 764-3078 (wbdawson@umich.edu).

**Related Information:**
- OSHA’s [Safeguarding Equipment and Protecting Employees from Amputations](http://www.osha.gov/pls/oshaweb/owadisp.show_document?mode=pdf&id=2074) publication (PDF)
- OSHA’s [Guide to Protecting Workers from Woodworking Hazards](http://www.osha.gov/pls/oshaweb/owadisp.show_document?mode=pdf&id=2073) webpage
- OSEH’s [Hazard Guidelines](http://www.oseh.umich.edu/guidelines/) webpage
Emergency Generators

Emergency generators are common combustion sources that collectively have a significant impact on air quality. The two common types located on campus— natural gas and diesel—are regulated by the Environmental Protection Agency (EPA) and the Michigan Department of Environmental Quality (MDEQ), therefore UM must ensure that these engines are maintained and managed properly.

The following lists some key points to consider when deciding to install an emergency generator, along with what needs to be done after the generator is installed:

Pre-Installation:
- Determine the size of the unit. Any engine greater than 10MMBtu/hr. will require a permit to install prior to installation. Contact OSEH at 647-9017 immediately. Permit lead time can range from 3 to 6 months.
- Ensure that the engine is certified to meet the EPA emissions standards and is provided by the manufacturer. If the engine is not certified by the manufacturer, the owner is responsible to ensure that the engine meets the EPA emissions standard.
- Determine the date of manufacture; this will determine which requirements will impact the engine.

Post-Installation:
- Contact OSEH at 647-9017 after close-out of project to ensure that the proper notifications are submitted.
- Ensure that all certification paperwork is received from the manufacturer and a copy is sent to OSEH – EP3.
- If engine is not certified and must be, it’s the responsibility of the owner to ensure that it meets the EPA emission standard by performing emissions testing after start-up.

Please contact OSEH EP3 at 647-9017 when an emergency generator is being proposed to ensure that it will meet the regulatory requirements.
OSEH Safety First Recognition Award Program

Do you know an individual or work group who has excelled in creating and maintaining a safe workplace at UM? Nominate them for the Safety First Recognition Award Program!

The Safety First Recognition Award is a new program through OSEH to acknowledge those individuals or work groups making a difference in the safety and health of their workplace.

Nominations will be reviewed and judged by a committee of OSEH personnel, who will also present the award.

Nominees must be University of Michigan employees and must satisfy at least 1 or more of the 5 criteria listed below:

1. Outstanding in-house safety program – For broad implementation of safety throughout the workplace.
2. Active role in safety – For being a strong advocate of health and safety.
3. Improvement – For demonstrating significant improvement over previous conditions.
4. Consistency – For maintaining an outstanding safety program over a number of years.
5. Product or process development and implementation – For special effort given to a specific aspect of safety at U-M.

Submit your nominations by April 12th!!!

- Online, http://www.oseh.umich.edu/safetyfirst/
- Via Email http://www.oseh.umich.edu/pdf/Safety_First_Nomination_Form.pdf
- In Person, pick up a paper copy of the nomination forms from OSEH’s front desk

Visit our webpage: http://www.oseh.umich.edu/safetyfirst/ to learn more about this new program!
Notes from the Director

The past several months have been a time of change for the OSEH department. As most of you are aware, Steve Benedict became quite ill last fall and passed away over the holiday break. This was a blow to all of us here in OSEH as well as many of you who worked closely with Steve. His ideas and drive will be missed.

The second impact on the department was the shift of the emergency planning functions over to the newly created Department of Public Safety & Security. Emergency response will go on as normal for OSEH, but any planning activity will now be part of the DPSS function.

As for the future, I have resumed the leadership role for the department with no immediate plans to replace Steve. The department is undergoing some restructuring to absorb the Office of Campus Sustainability and to place more emphasis on the safety side of the house. Danielle Sheen has been promoted to a new position as Associate Director of Research & Operations Safety and is in the process of strengthening her safety team to span across laboratory, biosafety, and operations needs; providing strong resources where they are needed most on campus depending on the situation. I believe this will increase our customer service and flexibility for the campus.

In the near term, we will be participating in the biannual Business & Finance customer satisfaction survey this spring. I hope you take the time to give us your feedback if asked.

And finally, I look forward to continuing the strong working relationship we’ve had since I first took on the department in 1999; the challenges will come but as partners we will be able to overcome them and continue to maintain a safe and healthy campus environment for all to enjoy.

Terry Alexander, PE, CIH

Executive Director
A Vital Link in the Enhancement of a Healthy and Safe University Environment!