

UC Monthly Safety Spotlight, February 2012

Shop, Tool and Electrical Safety

Do-it-Yourself Plumbing and Electricity in the Lab – the Hidden Costs

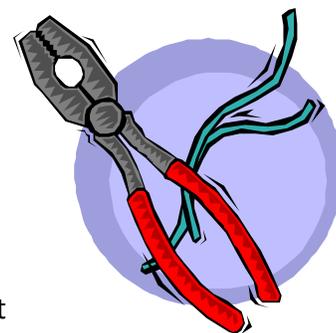
Everyone likes to save money, but when electricity or plumbing are involved, we should let the professionals do the work. Most of us would not try to fix the lab's refrigeration unit or the building ventilation system, yet some of us think nothing about running water lines, gas delivery lines or electrical cords through the lab.



John Tapia, the Plumbing Supervisor at UC Irvine, recommends that all flexible tubing water lines be replaced annually. Every year, the campus experiences dozens of lab floods caused by old flexible water lines oxidizing and failing, breaking at stress points, or slippage due to material sag. Some of these floods have cost the responsible labs thousands of dollars in damages and have additionally disrupted work and lost research time and data.

Faulty electrical wiring always has the potential to cause a fire. Equipment supplied with electricity which first has to travel through extension cords receives lower amperage. The longer the extension cord, the harder your equipment has to work to draw the current needed. Sub-optimal current can shorten the life of your lab equipment, a very costly alternative to having an electrician install the outlets you need and optimizing their locations.

Finally, DIY gas delivery systems can be dangerous and costly. Campus plumbers are often asked to troubleshoot DIY gas delivery systems because the gas cylinders empty too quickly. The result may only be a loss of product and money when an inert or innocuous gas is involved. However, more serious safety concerns must be considered. When dealing with toxic, flammable or reactive gases or when gases are being delivered through areas with low air exchange rates, a gas leak may go undetected due to high room air exchange rates (as required in labs) until the next ventilation shutdown, ventilation reduction for energy savings or if you experience power outage. Please re-evaluate your DIY plumbing and electrical systems in your lab and at a minimum, have them checked out by a licensed plumber or electrician at your campus or location.



Ask your Safety Engineer or EH&S staff to help you evaluate your plumbing or electrical needs, and contact your campus facilities management office to arrange for professional electrical and plumbing estimates.