CLOSE ENCOUNTERS OF THE LAB KIND

THE SANTAYANA REPORT

COLUMBIA UNIVERSITY
Environmental Health and Safety

George Santayana was a Spanish-American philosopher, essayist, poet, and novelist. In 1905, he penned the famous aphorism ***"those who cannot remember the past are condemned to repeat it."*** *More than a century later, the saying reverberates with professionals the world over. The following is a summary of a recent incident at Columbia University. The information presented is intended to provide awareness and help readers plan against the occurrence of a similar situation in their laboratory or work area.*

Clean Your Coils!

Freezers and refrigerators are one of the most common pieces of equipment found in laboratories and are, on the whole, so well designed and engineered that we might take their performance for granted. This, of course, is where the danger lies. A failure of such equipment for any amount of time could result in loss of critical research materials, property loss & damage, or the inadvertent release of a hazardous material.

Refrigerator coil lint build-up

We were reminded of this after a recent laboratory fire. The fire started as a result of a soiled refrigerator coil. The excess stress placed on the unit's electrical and refrigeration components from lint build-up on the coils resulted in overheating and ultimately fire.

Whether located at the University or in your home, refrigeration coils on all refrigerators and freezers must be regularly cleaned in accordance with manufacturer's instructions to ensure safe and efficient operation. A quick visual is typically the best indicator of coil health. Refrigerator and freezer coils and/or coil filters are located in the front-bottom, or on top of the equipment. Always consult manufacturer's specifications if coils are not readily viewable.

Lessons Learned

- Check freezers and refrigerators regularly.
- Obtain a service contract for critical laboratory equipment such as freezers and refrigerators. Maintaining a service contract is a proactive way of maximizing a unit's efficiency and lifespan.
- Ensure proper housekeeping. Contact Facilities to discuss cleaning refrigerator and freezer coils to remove lint build-up, or take a "do-it-yourself" approach.
- Maintain proper spacing. Manufacturers recommend keeping at least 8" of clear space on the top, and at a minimum of 5" of clear space in the rear and on both sides to allow heat to dissipate and maintain "proper" ventilation. Additionally, boxes and material stored on top of freezers may choke off rising heat and force it back into aisles and freezer intakes.
- Consider investing in monitoring and alarm systems. Several companies offer 24 hour monitoring services with text, e-mail, or phone call alerts.
- Keep emergency contact information posted and updated on all freezers, cold rooms, etc.
- Maintain sample inventories. Keeping detailed inventories of freezer contents and exact locations is valuable in the event of a failure.

For further information, or to view previous Santayana Reports, please visit our lessons learned website. For any other safety related matter, please contact the EH&S office.