Carnegie Mellon University
Environmental Health & Safety
FIRE | LAB | WORK

Laboratory Planned Closure Checklist

The purpose of this checklist is to assist in ensuring that CMU laboratories and assets remain secure and safe during planned campus closures/breaks and power outages. This reference guide should be adapted as needed for your specific requirements. Please contact safety@andrew.cmu.edu for assistance.

Planning
Before planned campus closures and breaks, Principal Investigator (PIs) and/or their designees should perform a thorough walkthrough of their space(s) and identify a list of equipment and materials that could be damaged by cold temperatures, pipes bursting, flooding, and/or loss of power. At a minimum, this evaluation should include:

- **Critical equipment (e.g., unique, non-replaceable, etc.) or high valued equipment (value/cost of replacement > $100k)**
- **Research materials (chemical, biological, or radioactive)**

Standard Operating Procedures (SOPs)
Once a complete list of equipment and materials has been created, a process for shutting down each of these pieces of equipment should be developed. Remember to identify and specify individuals who will be able to respond in the event of an emergency. Posting decals or signs on identified critical equipment with specific and visible instructions may prove as a good reminder. Consider using the following checklist items in the SOP development process.

Equipment Protection

- ☐ Verify lab windows are closed and thermostats are set to avoid frigid temperatures.
- ☐ Consider covering high-value equipment that may be vulnerable to pipe leaks/bursts.
- ☐ Consider shutting down covered equipment to avoid temperature increases, decreased airflow and other potential hazards.

- ☐ Shut down all experiments that need monitoring, are temperature or humidity-sensitive, or that could be affected by loss of electricity, water or other services.
- ☐ Close sashes on chemical fume hoods that are not used.
- ☐ Elevate equipment, supplies, electrical wires and chemicals off the floor to protect against flooding from broken pipes.
- ☐ Turn off and unplug all non-essential electrical devices, particularly heat-generating equipment such as hot plates, stir plates and ovens.
- ☐ Back up all data and turn off computers. Store lab notebooks and computers in areas where they will not be impacted by possible leaking/broken water pipes.
- ☐ Elevate or remove laptop computers and other small electronic devices.

Research and Materials Protection

- ☐ Ensure that water-reactive chemicals are in sealed containers and stored in areas unlikely to become wet.
- ☐ Confirm that air-reactive chemicals are properly stored (e.g., stored in glove boxes or inert environments, etc.).
- ☐ Verify all gas and vacuum valves are closed.
- ☐ Ensure all water is turned off, such as circulating water baths and water aspirators.
- ☐ Ensure that all gas tanks are secured. Close tanks and, if possible, remove regulators and place protective caps on tanks. NOTE: Leave inert gases flowing if used to blanket reactive chemicals.
- ☐ Secure all non-infectious material and toxins in appropriate storage units marked with a biohazard sign sticker. Disinfect all potentially contaminated surfaces and properly dispose of all biohazardous waste.
- ☐ Review storage of biological materials and other perishable items. Place valuable items in storage units that have backup systems or store items in duplicate locations. Review safety and other issues using alternate cooling methods (e.g., liquid nitrogen, dry ice, etc.).
- ☐ Turn off biological safety cabinets and UV lights.
- ☐ Ensure that critical freezers are plugged into emergency backup outlets, if available. Consider an alternate plan if not available.
- ☐ Verify that all refrigerator, freezer, and incubator doors are tightly closed.
- ☐ Close all doors, including cabinets, storage areas and offices. Lock all exterior lab doors.

Contact EHS at safety@andrew.cmu.edu if you have any safety or security concerns.