

***PROTECT YOUR LAB'S RESEARCH MATERIALS***

*Complete these actions:*

- ✓ Designate the lab's 24/7 emergency responders
- ✓ Get on the SoMAAlert List to receive utility outage notification
- ✓ Know what equipment is on emergency power (red plugs)
- ✓ Determine which materials are most valuable or irreplaceable
- ✓ Get supplies to ensure a safe response (flashlights, extension cords)
- ✓ When notified, come into the lab and check freezers, other critical equipment
- ✓ Report issues to Facilities Operations at 650-721-2146
- ✓ Report damages and losses to DFA
- ✓ Be familiar with the supporting documentation on the following pages



GENERAL INFORMATION

- All labs are required have an emergency plan in place. This document is designed to assist researcher during utility emergency response operations. It is intended to be used as an easy reference job aid and planning tool.
- It is not a policy document, but rather guidance for labs. More detailed information on Stanford School of Medicine response and recovery operations is available in the School of Medicine Emergency Plan and associated Department Emergency Plans, available from your Department's Director of Finance and Administration (DFA). Department emergency planning information can be found at <http://med.stanford.edu/somsafety/emereprep/eplanUpdate.html>.
- Your lab may have unique considerations not outlined in this document.
- Nothing in this document shall supersede the experience, initiative, and ingenuity of the lab responders in overcoming the complexities that exist under actual emergency conditions.
- Utilities at the SoM include electrical power, emergency power (red plugs serviced by building generators), domestic water, chilled water, steam, and HVAC. Each lab should determine the exact utility dependences for each piece of equipment.
- SoM Facilities Operations has responsibility for responding to utility outages. The priority of their operations is dependent on the situation and will focus on regional and building issues first. It may be several hours before they can address lab specific issues, so it is important that research personnel have addressed critical issues ahead of time.
- When planning for power outages, labs can reasonably assume that building generators can provide eight hours of electricity to red plugs. This assumes that generators and the electrical infrastructure are intact and operational. Please note that generators are tested monthly and automatic transfer switches are tested monthly.
- When planning for emergencies, labs should consider utility outages as a secondary event to other disaster such as earthquake. In the case of a major earthquake, all SoM buildings will need to be assessed for significant structural damage prior to allowing responders enter the building. Having all critical research materials in freezers connected to emergency outlets (red plugs) is required.
- During a catastrophic event like an earthquake, fuel for the building generators will be in short supply. This will result in the failure of emergency power. The only way to grantee safe long-term storage of critical materials is off site storage.
- If you should have any questions regarding Facility Operations, buildings, or equipment, please contact the **Facilities Operations Service Desk at 650-721-2146**.
- If you should have any questions regarding SoM emergency preparedness, health and safety, or research continuity planning, please contact the **Health and Safety Programs Office at 650-721-6269**.



BEFORE THE EMERGENCY

- List a minimum of two individuals as 24-hour emergency contacts in the lab's life safety box. Ensure information is current by reviewing at least quarterly. Post contacts on freezers, refrigerators, incubators, and other continuous use equipment. Please note this can be equipment that is not used all the time, such as shakers. Provide information to DFA and Emergency Coordinator.
- All lab 24-hour emergency contacts have signed up to receive utility outage notifications at [https://mailman.stanford.edu/mailman/listinfo/som\\_utility\\_outage\\_alert](https://mailman.stanford.edu/mailman/listinfo/som_utility_outage_alert).
- Inventory freezers, refrigerators, incubators and other equipment, noting those plugged into emergency power outlets. Note if equipment is dependent on other utilities (e.g., autoclaves dependent on steam, cold rooms dependent on chilled water, some freezers have liquid nitrogen feeds, incubators have CO<sub>2</sub>). If unsure, contact the **Facilities Operations Service Desk at 650-721-2146**.
- Determine criticality of research materials and supplies stored in equipment dependent on utilities. See example below. Estimate a conservative time frame in which materials and supplies can survive untouched during outage (e.g., materials in -80 freezers will remain intact for 4 hours assuming the door to the freezer remains closed from the time power was lost). Develop response priorities in accordance to criticality and response time. Ensure critical materials are kept in freezers and refrigerators on emergency power outlets.
  - Inexpensive, easy to obtain
  - Expensive, easy to obtain
  - Expensive, hard to obtain
  - Irreplaceable
- Appoint lab or department personnel to be able come to the lab on a 24-hour basis to implement lab specific response actions, accounting for vacations and being out of the area.
- Develop a line of succession if PI cannot be reached. Ensure that those able to make decisions on behalf of the PI are fully briefed in research priorities and actions.
- Have required supplies available to respond to outage including extension power cords and flashlights. Test equipment including flashlights on a frequent, regular basis.
- Provide, and document, training to all lab personnel on safely concluding hazardous materials procedures during an outage.
- List equipment that must be reset, restarted, reprogrammed, or recalibrated once the utility returns. Keep instructions close to equipment.
- Ensure that critical computer systems are backed up. Consider use of uninterruptible power supplies, but keep in mind that not all cooling systems are on emergency power and that temperatures in server rooms can rise to unacceptable levels if equipment is kept running without the benefit of a cooling source.
- Consider installing a remote notification system for critical equipment.
- Consider storing critical materials off-site with a colleague from another institution or with a commercial vendor.



DURING THE EMERGENCY

- Take necessary actions to protect life safety.
- If after hours, activate personnel to implement lab-specific response actions.
- If during business hours, work in the lab is prohibited if hazardous conditions exist (e.g., too dark to work safely).
- Shut down experiments that involve hazardous materials. Ensure experiments are stable and will not create uncontrolled hazards.
- Turn off and unplug all non-essential equipment especially computers, printers, and other devices with sensitive circuitry (including autoclaves and laminar flow hoods). This will reduce the risk of power surges or other unforeseen damage or injury that could result when the power returns. Pay particular attention to devices that act as both stirrers and as a heating source; make certain the latter is turned off.
- Check fume hoods and biosafety cabinets, closing sashes. Stop any operations that may be emitting hazardous vapors, fumes, or infectious agents. Cap any open containers.
- Check equipment on emergency power to ensure proper operation. Emergency power will take 20 to 30 seconds to activate, sometimes longer if the transfer switch needs to be activated manually.
  - Please note that Facilities Operations will prioritize troubleshooting and repairing regional and building issues before individual freezers and equipment.
  - **It is the responsibility of each lab or department to analyze and report the function of its equipment on emergency power during the outage.**
  - Call the **Facilities Operations Service Desk at 650-721-2146** to report equipment that has not turned on after emergency power has been activated. Facilities Operations will triage response calls based on the situation and criticality of materials contained within.
  - Due to the age and function of the infrastructure in the Alway, Edwards, Grant, and Lane Buildings, each emergency power outlet has been outfitted with an LED to show if the outlet is powered.
  - Do not use dry ice to supplement freezers unless absolutely necessary. Pressure from build up of carbon dioxide may void the freezer warranty. Do not use dry ice in small enclosed and occupiable areas because hazardous concentrations of carbon dioxide can accumulate.
- Take care to not overload power cords and emergency power outlets.
- Do not open freezers and refrigerators unless absolutely necessary.
- Turn off all spare gas cylinders at the tank valves. Exception: if a low flow of inert gas is being used to control a reactive compound or mixture, the decision may be made to keep the gas on.



AFTER THE EMERGENCY

- Check equipment. Reset, restart, reprogram, or recalibrate as appropriate. Check fume hoods and biosafety cabinets for air flow, allowing 5 minutes of continuous operation prior to opening sash.
  - Report any issues with building equipment including fume hoods to the **Facilities Operations Service Desk at 650-721-2146.**
  - If non-building equipment fails to restart or operate correctly, contact the manufacturer or service provider.
- If any hazardous conditions result, contact SUMC Security at 286 on campus) and by dialing them directly (650-723-7222) if off-campus
- Document and report any losses to the department DFA. DFA will report losses to Risk Management. Losses may or may not be reimbursed.
- Revise lab emergency plan to reflect any corrective actions that needed to be taken.