Laboratory Shutdown Checklist

Last updated 10 March, 2020.

The following is a checklist of items that Stanford researchers should review for help with preparations to potentially shut down laboratories. If you have questions, please send them to research_ops@lists.stanford.edu. This document will be updated by the Research Operations Continuity Team as needed.

Currently, PIs and researchers should review the full list below and consider how best to adapt it to the specific needs of their particular laboratory.

At this time, labs should implement the following:

- Stock up on critical supplies.
- Assess supply chain/vendor delivery of regular consumables, such as liquid nitrogen, that cannot be bulk purchased and stored ahead of time.
- Prepare equipment if there is routine upkeep required.
    - Consider any necessary steps to extend the time between required maintenance tasks.
- If certain tasks or equipment use can be deferred, consider implementing this process now, particularly if the shutdown process requires preparation and time.
- Implement use of VPN or remote access.
    - Ensure researchers have remote access to data and essential computer programs.
    - Back up computers and electronic notebooks.
- Check Life Safety Boxes and BioRAFT to make sure emergency contacts are up-to-date.
- If the lab has a PI-managed animal space, contact the VSC for any actions to take regarding husbandry and welfare checks.
- Review the full shutdown checklist for additional actions to consider starting now.

If Stanford requires that non-critical research be suspended, guidance will come from the Dean of Research (or designee) on when a shutdown must be implemented. At that time, the following shutdown checklist, with any lab-specific additions, should be implemented.

General

- Clean glassware and store appropriately, do not leave dirty equipment out.
- Turn off the lights.
- Turn off plumbed natural gas.
- Cancel deliveries, if possible.
- Lock all lab doors.

Animals

- Return all animals to proper housing areas to be cared for by VSC husbandry staff.
- If animals are housed in a PI-managed space, contact the VSC to ensure they are aware of your space and can provide husbandry items (cages, food, water) as needed.
    - If possible, return animals to standard housing.
    - Be sure your group has contingency plans in place over who will perform daily monitoring checks, and what to do if this person is unable to perform them regularly.

Biologicals

- Samples that can be stored at -80, -20 or 4 C should be frozen or stored as appropriate.
- For cultures that cannot be frozen down, ensure you have enough supplies to maintain cultures, and personnel to do the work.
- Dispose of all biological materials appropriately.
- Ensure the cryostorage units have enough liquid nitrogen.
- Turn BSCs off and close the sash.
- Disinfect and empty aspirator collection flasks by the biosafety cabinets and benchtops.
- Turn off UV light

Chemicals

- Be diligent in returning chemicals to their proper storage location immediately after use; don't leave cleanup for tomorrow.
- Move chemicals from laboratory benches and store in secondary containment with compatible chemicals.
- Label and securely cap every container.
- Move hazardous waste with completed waste tag to the proper waste storage area.
- Review the Lab Compliance Cheat Sheet.
- Close sashes on chemical fume hoods.
- Store compressed gas cylinders, not in use, with their valve caps tightly secured and double chained.

Radiation

- Close and secure (refrigerator with lock or lockbox) any radioactive vials in the lab. Turn off your Geiger counter, so that batteries do not run down. Remove batteries if the Geiger counter is inactive for your CRA.
- Dispose of radiation waste appropriately. Label with isotope, amount and date for P32 items undergoing decay.

Equipment

- Electrical equipment
    - Review proper shut down procedures to prevent surges.

    - Check that essential equipment is on red power supply for emergency power.
- Incubators
    - Consider the availability of CO2, and plan to consolidate and shut down unneeded incubators to conserve supplies.
- Fridges/Freezers/-80s
    - Check that essential equipment is on red power supply for emergency power.
- NMR/SQUID/other superconducting devices; MRI/other magnets requiring cryogens
    - Contact cryogen suppliers to make any special delivery arrangements/changes necessary.
    - If it is necessary to perform cryo fills during a shutdown, do not perform these alone. A reduction in building traffic means a reduction of odds of assistance in an emergency.
- Lasers
    - Turn off all lasers and remove the key from the power source.
- Shut down microscopes, hot plates, sterilizers, water baths, and all other equipment that is not being used. Unplug from energy source, if possible.
- Other equipment to assess for issues regarding turning off power, providing needed maintenance/supplies, or determining additional specific needs:
    - Gas Chromatography/MassSpec equipment
    - PET scanners
    - Electron microscopes, confocal microscopes
    - Irradiators
    - Cleanrooms
    - Glove Boxes
    - Solvent Purification Systems

General Building (for Building Managers)

- Post signage on building entry doors about shut down.
- Generators: keep fully fueled if possible.
- Autoclaves: close doors or shut down completely.
- Check laboratories for appropriate shutdown.
    - Check all gas spigots to be sure they are closed with no leakage.
    - Check that equipment is turned off.
- Shut down ARG developing machines and lock the doors.
- Shut down glass washing facilities.
- Check mechanical rooms.
- Check water distillation units.
- Check shared equipment and shared facilities (chemical storage/waste areas, gas storage areas).
- Shut off copy machines, printers, computers.
- Communicate with all delivery personnel and set a time for essential deliveries if needed.