

Checklists for Research Laboratory Practice Modifications due to COVID-19

The following is a checklist of items that WSU researchers should review for help with preparations to potentially shut down laboratories. Review the full shutdown checklist for additional actions to consider starting now. This document may need to be edited for each specific research activity.

If WSU requires that non-critical research be suspended, guidance will come from the Office of Research and Provost's Office. At that time, the following shutdown checklist, with any lab-specific additions, should be implemented.

At this time, labs should implement the following:

Initiatory Preparatory Checklist (to be completed in preparation for shutdown):

- 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
- If the lab has a PI-managed animal space, contact the OCV for any actions to take regarding husbandry and welfare checks
- Ensure another PI is prepared to act as your alternate, to include access to your laboratory and the lab personnel's emergency contact list.
- Ensure that emergency contact information listed on critical equipment is current (e.g., -80° freezers)

Shutdown Check List (to be reviewed but not completed until shutdown):

General

- Clean glassware and store appropriately, do not leave dirty equipment out.
- Clean up surfaces and areas. Properly decontaminate, as outlined in your Chemical Hygiene Plan and/or Biosafety Manual.
- Turn off plumbed natural gas.
- Cancel deliveries, if possible.
- Open blinds facing hallways, windows and doors.
- Secure and lock all windows.
- Lock all lab doors.
- Turn off the lights.
- Post signage on 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 and secured for storage.
 - 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, fuel containment areas, gas storage areas).
- Shut off copy machines, printers, computers.
- Communicate with all delivery personnel and set a time for essential deliveries if needed (as well as cancel non-essential deliveries).

Animals

- Track and maintain animal census relative to need and identify essential/irreplaceable animal populations
 - Cancel ongoing animal orders
 - Consider reduction/cessation of non-essential animal breeding
- Ensure continuity of animal care for remaining animals
 - For investigators within centralized vivaria
 - Communicate needs and share plans with your facility manager
 - If animals are housed in a PI-managed space(s)
 - Update the individual facility communication plan and phone tree and forward to or.ocv.alert@wsu.edu.
 - Review and update standard operating procedures for husbandry
 - Cross-train animal caretakers to cover all species/projects
 - Inventory husbandry, veterinary and occupational safety supplies, and identify alternative sources for essential items. Determine if larger volumes of feed and essential supplies can be acquired and stored to ensure continued adequate supply
 - Draft/revise a depopulation/relocation plan for your animals/area
 - OCV is the back-up for all animal housing facilities

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, according to your biosafety manual (e.g., autoclave, chemically inactivate, move to hazardous storage area).
- Ensure the cryostorage units have enough liquid nitrogen.
- Turn BSCs off and close the sash.

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.
- Arrange for [chemical waste pickup](#).
- 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, including potentially deactivating equipment.
 - Check that essential equipment is on power supply for emergency power.
 - Ensure all pumps are turned off (peristaltic, vacuum, etc.)
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- 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 power supply for emergency power.
 - Check that freezers are in good working order (defrost if needed to prevent ice buildup)
- NMR/SQUID/other superconducting devices; MRI/other magnets requiring cryogenes
 - 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/oil/solvent 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