

EHS Lab Ramp up Checklist for Laboratories

The following guide is provided to assist researchers in their lab-specific preparations for bringing their research laboratories back online from temporary shutdown. As you restart research, please keep safety in mind and contact Environmental Health & Safety (EHS) at 434-982-4911 with questions or for assistance with risk assessment, safeguards, or hazardous materials management. Visit the [EHS website](#) for additional guidelines and updates. For facility issues, contact Facilities Management (FM) at 434-924-1777 (Academic) or 434-924-2267 (HSPP).

Public Health Considerations (*key elements from general principles reiterated*)

- Face coverings must be worn at all times (see separate guidelines for how to wear your mask, types of masks, re-use of masks, etc.). When conducting procedures where a surgical mask would typically be used to protect the wearer from mucous membrane exposure to hazardous materials, cloth face coverings should not be used. Examples may include manipulation of biological agents outside of biosafety cabinet where sprays, splashes or spills are possible (e.g. stereotaxic administration).
 - See [CDC guidelines](#) for proper donning and doffing of face coverings, and laundering.
- Wash hands upon lab entry, and upon departure.
- Disinfect high touch areas between shifts, or more frequently as desired. Use disinfectant wipes on sensitive equipment.
- Develop a plan for physical distancing in the workplace. Consider the following:
 - Identify maximum personnel for workspace according to optimal density (250 Sq. ft. /occupant)
 - Post maximum occupancy of shared facilities, such as break rooms, kitchens, conference rooms, office suites, copy rooms.
 - Work in shifts, to include a period of time between shifts to eliminate overlap.
 - Maintain at least 9' distance when working in a lab and at least 6' distance when moving. Visual cues, such as tape, between individual workspaces may be a helpful reminder.
 - For open/shared suite laboratories, consider if unused spaces can be temporarily assigned.
 - Rearrange seating, or temporarily remove seating, to allow for physical distancing and maximum occupancies.
 - It may be prudent to avoid concurrent use of bench tops that face one-another.
 - Use a 'Google Doc', Microsoft Teams, or something similar, in order to maintain a visible schedule for staggered lab equipment sign-up and use.
 - Avoid working alone whenever possible, but especially when working with hazardous materials.
 - When your work does not require presence in the laboratory, plan to work remotely instead of your office. Plan experiments before coming to the lab.
 - Continue to conduct laboratory meetings using virtual platforms whenever possible.

First Day Back (Phase I & II activities)

- Prior to restarting any research, perform a complete and thorough walkthrough of all spaces you are responsible for to check nothing is obviously out of place, missing, damaged, leaking, etc. Address immediately.
- Ensure you have adequate personal protective equipment (PPE) available for near-term planned research.
- Ensure you have adequate hand-soap and towels for handwashing, and disinfectant appropriate for cleaning lab surfaces and equipment.
- Verify all emergency equipment is functional and accessible.
 - Flush all eyewashes in your labs for 1 to 2 minutes, given the eyewashes have a functional drain. Check that the temperature is tepid. Document you have checked the eyewash.
 - Verify that safety showers have been checked by FM in the last 6 months.
 - Check fire extinguisher pressure gauges to make sure the indicator is in operating range.
 - Verify emergency equipment, such as eyewashes, safety showers, sprinkler heads, fire extinguishers, and pull stations are visible and not obstructed.
- Check chemical containers for damage, leaks, pressure build up, etc. Request [waste pickup](#) from EHS, if needed, particularly for peroxide forming compounds or other chemicals that may have become unstable.
- Power up electrical equipment slowly and one at a time. Potential exists to overload electrical circuits.
- Verify that the chemical fume hood is currently certified by checking the sticker issued by EHS. Test the hood to ensure that the sash can be raised up with one hand to the mechanical stop or 18 inch vertical opening and that it does not go into alarm. If the hood does not have a flow monitoring device, check air flow by using a tissue or Kim Wipe to see if it is sufficiently drawn inward.
- Pour small amounts of water down dry traps/floor drains to mitigate sewer gas smells, which can be confused for natural gas leaks.
- As you begin starting active research again, keep plans flexible to accommodate changes. Documenting lab-specific actions taken can help future decisions.

General

- Avoid engaging in startup procedures alone. Try to have at least two people present in case any issue arises. Have a general planned schedule of when certain processes should be back up and running.
- Use the opportunity of bringing processes back online to cross-train other members of your laboratory.
- Take things cautiously slow as your research ramps back up. Accidents are more likely to occur if a lab rushes back into research.
- Reconsider beginning with certain experiments or research activity that rely on other facilities, are especially hazardous or long-term in nature.
- Note that shared facilities, such as stockrooms or core labs, may be on different ramp up

- schedules or in more demand than during normal operation.
- Be aware that many lab items may be in short supply or have longer lead times, including gases, chemicals, and PPE.
 - Schedule deliveries of research materials in smaller quantities and expect delays.
 - Avoid sharing PPE if possible.
 - Conduct a risk assessment to determine the appropriate level of PPE.
 - Provide individual PPE whenever possible.
 - Disinfection may be problematic or impractical for some PPE that is commonly shared (e.g. laser glasses, cryogloves). Tasks requiring special PPE may be best designated to select individuals in order to manage public health considerations.
 - If PPE can be disinfected, do so. Additionally, wash hands before and after use.
 - Consider if items worn for public health considerations (e.g. cloth face coverings) may hinder safe use of PPE used to mitigate exposure to hazardous materials.
 - Do not wear your lab gloves outside the labs. It will be common to see people in gloves outside labs, and it is best for it to be clear for everyone that anyone wearing gloves is doing so for sanitary reasons only.
 - Check that all utilities such as house vacuum and natural gas are operational for your needs.
 - Water connections: turn water back on slowly. Check connections for leaks. Do not leave the site right away as some connections may burst after a few minutes. Return to the equipment a short time later to confirm there are no leaks. Call the appropriate service desk to report any leaks immediately.

Animal Care

- Communicate with your vivarium manager prior to restarting animal research.
- Confirm inventory of controlled substances and proper documentation.

Biologicals

- Verify that biosafety cabinets have not gone out of certification over the shutdown period.
- Ensure you have CMC's and sharps containers available before beginning work.
- Ensure appropriate disinfectants for your biological work are available and not expired.
- Verify your CO2 supply before beginning use of incubators.

Chemicals

- Ensure you have hazardous waste containers available before beginning work.
- Maintain separation of non-compatibles as you get set up in the lab again (e.g. oxidizers and flammable gases, acids and bases or flammables).
- Ensure all compressed gas cylinders are chained/secured.
- Consider leak testing compressed gas piping systems before using.

Radioactive Materials

- Verify all survey equipment are operating normally. Contact Radiation Safety at 982-4919 for any survey equipment problems.

- Perform a survey of the lab before beginning work and contact Radiation Safety if contamination is found.
- Perform an inventory check and contact Radiation Safety if any material is not accounted for.

Equipment

- Freezers and refrigerators may have “died” during the shutdown. Check each by slowly opening door (items may have shifted). If not functioning, close and take appropriate action. Consult EHS if very moldy, a hazardous situation exists, or you need additional waste containers for cleaning out.
- Review manuals for any equipment’s start up procedures.
- Do not daisy chain or use extension cords in attempts to reach emergency power.
- Verify “Laser In Use” lights, door interlocks, or other safety related controls still operate.
- Verify cryogen supply. Do not fill units alone. Contact cryogen suppliers to make any special delivery arrangements/changes necessary.
- Verify heat sources do not have damaged cords before reconnecting to power (includes, but not limited: hot plates, ovens, heat blocks, sterilizers, water baths).

Department & Building Manager Considerations

- Keep an updated list of which labs are where in the restarting process. If labs have schedules to get back online, request copies.
- Walk through the building, verifying that corridor fire extinguishers, pull stations and emergency egress are not obstructed.
- It may be advised to have a delivery management plan, especially with respect to storage of delivered supplies. Labs in your area may overwhelm standard service plans.
- Centralized gas storage areas are a particularly important area to keep an eye on. All gases must be restrained immediately upon delivery.
- Consider developing a lab visitor policy for your department, to include an entry/exit log for future contact tracing, should that become necessary.
- Departments or laboratories that share common facilities, including break rooms and conference areas, should coordinate schedules and procedures to accommodate public health considerations.