**Laboratory Ramp Down Checklist – COVID-19**

This checklist is being provided to help advise laboratory personnel on considerations associated with ramp down of research laboratories. Each laboratory should develop a plan to protect laboratory equipment, materials, and research from loss and to prevent hazardous conditions. **This should be your top priority for the next day or two, and all ramp-down activities should be completed by Wednesday, March 25th.**

**The checklist of for your lab’s internal use. Do NOT return this to the Office of the Vice Chancellor for Research**

**For purposes of lab-based research, critical research activities are defined as either**

**(1.) activities that are directly related to COVID-19 or,**

**(2.) activities that, if paused, either (a.) would be impossible to restart, (b.) could not be restarted without a significant amount of time, (c.) would incur significant financial cost to be restarted, or (d.) would represent extremely time-sensitive and critical graduate student experiments required to ensure graduation during this calendar year.**

# Preparing

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Identify all noncritical activities that can be ramped down,  curtailed, suspended, delayed, or conducted remotely. |  |  |  |
| Identify personnel who are able to safely perform essential activities. |  |  |  |

**Communications**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Create a contact list, including all lab personnel, principal investigators, administrative lab managers, lab safety supervisors, and lab staff.  Include home and cell phone numbers. |  |  |  |
| Ensure the contact list is saved where it can be remotely accessed  by everyone in the lab. |  |  |  |
| Test your phone tree or email group to facilitate emergency communication among lab researchers and staff. |  |  |  |
| Update [laboratory door signage](https://ehs.cloudapps.unc.edu/EHS/?reqPage=LabSign) with current lab hazards and emergency contacts. |  |  |  |
| If your lab requires regular gas cylinder deliveries, include signage on lab doors for contact information in the event delivery drivers are unable to access require rooms. |  |  |  |
| Regularly monitor email inbox for messages from university leadership |  |  |  |
| Ensure laboratory staff have key contact information for the campus:   * Report emergencies to Campus Police (911 or  (919) 962-3951) * EHS (919) 962-5507 * DCM (919) 962-9471 |  |  |  |

**Shipping/Receiving**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Do not order any new research materials except for items needed to support minimal critical functions.  Cancel orders for nonessential research materials if they have not yet shipped. |  |  |  |
| For Programs that are ramping down, DCM will place a temporary halt on all new orders and will be cancelling existing animal orders. |  |  |  |

**Research Processes and Material**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Be prepared to terminate ongoing experiments. |  |  |  |
| Postpone starting any new experiments, including all involving animal subjects, and limit laboratory work to critical activities. |  |  |  |
| Freeze down any biological stock material for long-term storage.  Consolidate storage of valuable  perishable items within storage units that have backup systems whenever possible. |  |  |  |

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| Fill dewars and cryogen containers for sample storage and critical equipment.  Ensure that personnel will be available to receive deliveries. |  |  |  |
| Consult with DCM about current animal care recommendations, including coordination of **all** PI-managed daily care.  Cease breeding (separate breeders) for all commercially-available species/strains/stocks.  Indicate to DCM which rodent cages are critical and must be maintained by writing ‘PRIORITY’ in red ink on the cage cards. |  |  |  |
| if any animal activities are occurring in the laboratory, they should be completed by the end of the day with no live animals remaining in the laboratory overnight. Should it be necessary to maintain animals overnight, it is essential to notify DCM. |  |  |  |
| Properly secure all hazardous materials in long-term storage.  Contact EHS (919-962-5507) for assistance. |  |  |  |
| Secure infectious material and toxins in appropriate storage units that are marked with a biohazard sticker or sign. Disinfect any potentially contaminated surfaces and properly dispose of biohazard waste. |  |  |  |
| Ensure all flammables are stored in flammable storage cabinets. |  |  |  |
| Ensure that all items are labeled appropriately.  All working stocks of materials must be labeled with the full name of its contents and include hazards. |  |  |  |
| Remove all chemicals and glassware from benchtops and fume hoods, and store in cabinets or appropriate shelving. |  |  |  |
| Remove all items from biosafety cabinets.  Empty the aspirator flasks. Disconnect gas and/or vacuum connections. Shut off UV light and close sash. |  |  |  |
| Ensure appropriate storage for condition-sensitive materials. For example, store water-reactive materials so that they are unlikely to become wet in case of flooding or sprinkler activation. |  |  |  |
| Verify that any safety sensors (e.g. toxic gas alarms, low oxygen sensors, required security alarms) are operating within specifications. |  |  |  |
| Ensure that all water sources are turned off (e.g. circulating water baths, aspirators, etc.). |  |  |  |
| [Submit waste pickup forms for chemical and radioactive](https://ehs.cloudapps.unc.edu/HazMat_Pickup/) waste. |  |  |  |
| Confirm inventory of controlled substances and document in a logbook.  All controlled substances must be securely stored in a locked, substantially constructed safe, drawer, or cabinet. |  |  |  |

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| Secure physical hazards such as sharp objects (needles/syringes/razor blades/scalpels etc.) |  |  |  |
| Ensure all radioactive materials are locked/secured inside a refrigerator, freezer, or lockbox.  Contact EHS (919-962-5507) with any questions. |  |  |  |

**Physical Hazards**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Turn off heat-generating equipment (e.g., hot plates, stir plates, ovens, water baths, and computers) and nonessential electrical devices.  Unplug equipment if possible. |  |  |  |
| Ensure that gas tanks are secured in an upright position. Close valves and, if possible, remove regulators and place screw caps on tanks if tanks will no longer be in use. |  |  |  |

**Equipment**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Identify equipment that requires special procedures to restart.  Procedures for restarting this equipment should be readily available to the laboratory staff. |  |  |  |
| Check that refrigerator, freezer, and incubator doors are tightly closed. |  |  |  |
| Biosafety cabinets: surface decontaminate the inside work area. |  |  |  |
| Fume hoods: Clear the hood of all hazards and shut the sash. |  |  |  |
| Review proper shutdown procedures and measures to prevent surging. |  |  |  |
| Shut down and unplug sensitive electric equipment. |  |  |  |
| If necessary, elevate equipment, supplies, electrical wires, and chemicals off of the floor to protect against flooding from broken pipes. |  |  |  |
| Plug critical equipment into emergency power outlets. |  |  |  |

**Decontamination**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Decontaminate areas of the lab as you would do routinely at the end of the day.  Do not forget shared spaces. |  |  |  |
| Decontaminate and clean any reusable materials that may be contaminated with biological  material. |  |  |  |

**Waste Management**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| [Submit waste pickup forms for chemical and radioactive waste.](https://ehs.cloudapps.unc.edu/HazMat_Pickup/) |  |  |  |

**Security**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Close all doors, including cabinets, storage areas and offices. Lock all exterior lab doors. |  |  |  |
| Ensure key personnel who will support critical functions have appropriate access. |  |  |  |
| Back up data and turn off nonessential/noncritical computers. Consider saving digital copies in multiple locations.  Store lab notebooks and computers in areas that will not be impacted by possible broken water pipes. Secure laptops and other easy-to-remove electronic devices. |  |  |  |
| Ensure that any necessary VPN software is installed on remote computers and ensure that VPN connections can be made from those computers. |  |  |  |
| Ensure that any data requiring remote access are placed in One Drive or another accessible server or cloud storage system |  |  |  |

**General Area**

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| **Major Item** | **Local Lab Considerations** | **Completed?** | **Other Notes** |
| Remove all perishable and open  food items from lab break areas and other spaces. |  |  |  |

There may be other laboratory-specific actions that need to be taken. Please also consider any unique or specific aspects of your lab or research that need to be addressed in the ramp-down process.

Please contact EHS at 919-962-5507 with any questions about how to secure hazards or safely suspend research operations in your laboratory.