Checklist for Research Laboratory Practice Modifications

University officials are actively engaged in daily planning in an effort to inform and reduce the risk to students, faculty, staff, visitors and the Carleton community. In conjunction with university level planning efforts, individual research labs should begin planning for continuity of operations in anticipation of possible disruptions to normal campus activities. Due to the unique nature of research carried out by laboratories, it is important for each lab to plan for potential disruptions. Lab-specific plans should coincide with department level continuity plans such as identification of critical operations and essential personnel. Below are some general guidelines to assist in developing continuity plans.

Critical research activities are those that are necessary to retain critical research assets necessary to maintain laboratory viability, such as:

- Care for animals, plants and unique or expensive cell cultures or biological specimens
- Preservation of unique reagents and other unique or expensive materials, and
- Maintaining equipment (e.g. liquid nitrogen, shared computational clusters) that cannot be maintained remotely or shut down without significant cost or consequences to the research effort.

Please review the full checklist for actions to consider immediately.

This checklist may not address every consideration for your laboratory. And not all items listed will apply to your laboratory. Please contact the Office of Environmental Health and Safety or ehs@carleton.ca with questions about how to secure hazards and ensure critical research can continue safely.

Preparing

Item	Complete or N/A	Notes
Identify all non-critical activities that can be ramped down, curtailed, suspended or delayed.		
Identify primary and backup personnel able to safely perform essential activities.		
Avoid working alone, whenever possible, when handling hazardous materials. Ensure Principal Investigator knows who is working in the laboratory.		

Communications

Item	Complete or N/A	Notes
Create a contact list including the principal investigator, all lab personnel , and building operations manager.		
Ensure the contact list is saved where everyone in the lab can remotely access it. Include home and cell phone numbers.		
Test your phone tree or email group to facilitate emergency communication amongst lab personnel.		
Verify and update emergency contact information on file with the department/faculty and Campus Safety Services.		
Ensure computing resources required to work remotely (e.g. VPN).		
Back up and secure critical data.		

Shipping and Receiving

Item	Complete or N/A	Notes
Do not order any new research materials except those items needed to support critical functions.		
Cancel orders of non-essential research materials that have not yet been shipped.		
Contact stores/receiving/mail services to notify them of any expected incoming shipments.		

Research and Materials

Item	Complete or N/A	Notes
Terminate unattended research operations.		
Freeze down biological stock material for long-term storage.		

Consolidate storage of valuable perishable items within storage units that have backup systems.		
Fill dewars and cryogen containers for sample storage and critical equipment		
Consult with ACVS about current animal care recommendations.		
Secure all hazardous material in long-term storage. Label and securely cap every container.		
Test remote monitoring devices (where installed) and ensure personnel are identified to respond to notifications.		
Establish a plan to support maintenance of research materials (e.g. critical equipment, cell lines)		
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.		
Package and bring peroxide forming compounds or other chemicals that may become unstable to waste collection areas for disposal.		
Collect contents of any acid/base baths and bring to waste collection areas for disposal.		
Autoclave, disinfect or safely store infectious materials.		
Confirm inventory of controlled substances. Secure according to HC regulations.		
Secure physical hazards.		
Secure radioactive materials.		

Physical Hazards

Item	Complete or N/A	Notes
Close gas valves if possible.		
Turn off appliances, equipment and computers. Unplug if possible.		
Ensure gas cylinders are secure and stored in an upright position. Remove regulators and cap.		
Plan for management of non-essential cryogenically cooled equipment.		
Protect against flooding from broken pipes. Elevate materials (e.g. supplies, equipment, electrical wires) off of the floor.		
Ensure equipment requiring uninterrupted electrical power is connected to emergency power.		

Equipment

Item	Complete or N/A	Notes
Check that refrigerator, freezer and incubator doors are tightly closed.		
Surface decontaminate BSCs, close the sash and power down.		
Clear the fume hood of all hazards, allowing proper airflow and shut the sash.		
Shut down and unplug sensitive electric equipment.		
Review proper shut down procedures and measures to prevent surging.		
Turn off lasers. Remove and store the key appropriately.		

Decontamination

Item	Complete or N/A	Notes
Decontaminate areas of the lab as you would do routinely.		
Decontaminate/wash reusable materials.		

Document a contamination survey if you have a radioactive material permit.		

Waste Management

Item	Complete or N/A	Notes
Collect and label all hazardous chemical waste. Bring to hazardous waste storage areas. Segregate incompatible chemicals in secondary containers.		
Decontaminate and empty aspirator collection flasks.		
Collect solid biological waste in appropriate containers. Autoclave or request pickup as appropriate.		
Collect radioactive waste in appropriate containers. Contact the Radiation Safety Officer for disposal.		
Ensure all non-hazardous waste is removed from the laboratory and appropriately disposed.		

Security

Item	Complete or N/A	Notes
Lock all entrances to the lab. Ensure key personnel supporting critical functions have access.		
Ensure all openable windows are closed.		
Secure notebooks and data.		
Take laptops home.		
If controlled substances are needed during wind down, ensure that those performing essential tasks are authorized and know how to access.		