**How do I shut down my lab?**

All research must be shut down unless granted an exemption to continue from the Incident Management Team based on the University’s protocol for the approval of critical or time-sensitive research. An exception will be considered for critical COVID-19 research and time-sensitive critical projects. It is expected that only extraordinary requests for continuation will be approved, so the following measures will be required for the majority of research labs:

* Update the emergency contact list for lab spaces and for specific equipment/facilities that are in use
* The [**Equipment Maintenance Information**](https://research.utoronto.ca/media/459/download) and [**Equipment Specific Instructions**](https://research.utoronto.ca/media/458/download) documents should be completed and available for those who will maintain critical equipment and instruments that cannot be shut down (e.g. NMR magnet)
* Ensure appropriate lab clean-up, storage of materials and equipment operations after the orderly shutdown of experiments
* Identify equipment/facilities/reagents/cultures/other consumables that will require special attention (e.g. maintenance or shutdown, certification or calibration requirement) during a closure or a reduced personnel situation, and ensure Standard Operating Procedures are updated and available
* Ensure that high hazard materials (radioactive, biohazards, chemicals) are stored and secured appropriately
* Review the **Laboratory Shut Down Emergency Plan** (attached below)and shut down the lab in a safe and orderly fashion

Requests for permission to continue research operations should use this [form](https://research.utoronto.ca/media/465/download).

If an exemption is granted, then the following measures should be implemented to ensure the safe conduct of research:

* Adequate personnel must be available to safely conduct the research while respecting social distancing measures (e.g. maintaining at least 2m distance between personnel);
* In order to minimize hazards, ensure lab users are aware of the ongoing activities and that a communication system is in place.
* Identify all non-critical activities that can be ramped down, curtailed, suspended or delayed.
* If necessary, identify and train additional personnel in the operation of essential and critical equipment.
* Maintain a minimum designated personnel per lab for identified and approved research – designates alternates in case of illness. Depending on the lab’s requirements, individuals may gain access on alternate days; the alternates may be required should the designates become infected.

Date: \_\_\_\_\_\_\_\_\_\_

Laboratory Shut Down Emergency Plan

LABORATORY CONTACT LIST

1. Principal Investigator Information

|  |  |  |
| --- | --- | --- |
| Principal Investigator Name | Department | Room Number(s) |
|   |   |   |

1. Lab Contacts

|  |  |  |  |
| --- | --- | --- | --- |
|   | Name | Email | Phone (cell) |
| 1st Contact (PI) |   |   |   |
| 2nd Contact |   |   |   |
| 3rd Contact |   |   |   |

Communications

|  |  |  |
| --- | --- | --- |
| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Ensure up-to-date contact list including all lab personnel, principal investigator, research operations manager, and building manager.  |  |  |
| Ensure the contact lists above are saved where it can be remotely accessed by everyone in the lab. Include home and cell phone numbers as applicable.  |  |  |
| Ensure that emergency contacts listed on lab placards are up to date and posted as appropriate.  |  |  |
| Prepare for remote lab meetings (e.g. install Office 365 Skype for Business).  |  |  |

Identification and Preparation

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| --- | --- | --- |
| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Identify all non-essential activities that can be suspended or delayed.  |  |  |
| Identify what cannot be left without intervention and critical dates for interventions |  |  |
| Identify personnel able to safely perform essential activities and critical operations.  |  |  |
| Ensure that you have access to all data, notes and/or software that is needed for telecommuting work.  |  |  |
| Prepare a detailed list of essential research-related activities that would need to be taken care of and dates. |  |  |
| Prepare an in-depth account of: 1. ongoing activities at the time of shut down, and
2. a to-do list for research recovery.
 |  |  |
| Prepare a document describing the plan to do during an extended shut down (e.g. committee meeting report, literature review, manuscript, online course, etc).  |  |  |
| Review and update the following documents: 1. ***Equipment Maintenance Information***
2. ***Equipment Specific Instructions***
3. ***Laboratory Emergency Preparedness Checklist***

Refer to Forms & Downloads |  |  |

Shipping and Receiving

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| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Do not order any new research materials except those items needed to support minimal critical functions. |  |  |
| Cancel orders for non-essential research materials if they have not yet shipped. |  |  |
| Contact loading dock/mail services personnel to notify them of any expected incoming shipments. |  |  |

Research Materials

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| --- | --- | --- |
| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Freeze down any biological stock material for long term storage.  |  |  |
| Consolidate storage of valuable perishable items within storage units that are connected to monitoring systems if available.  |  |  |
| Confirm that RG1 and RG2 inventory is up-to-date.  |  |  |
| Remove infectious materials from biosafety cabinets, and sterilize, disinfect, or safely store them as appropriate.  |  |  |
| Secure physical hazards such as sharps. |  |  |
| Prepare and secure hazardous waste for pickups as appropriate.  |  |  |
| 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.  |  |  |
| Ensure all flammables are stored in flammable storage cabinets.  |  |  |
| Properly secure all hazardous materials in long-term storage.  |  |  |

Physical Hazards

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| --- | --- | --- |
| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Ensure all gas valves are closed.  |  |  |
| Check that all gas cylinders are secured and stored in an upright position. Remove regulators and use caps. |  |  |
| Elevate equipment, materials and supplies off of the floor as applicable. |  |  |
| Inspect all equipment requiring uninterrupted power for electricity supplied through an Uninterrupted Power Supply (UPS) and by emergency power if available.  |  |  |

Equipment

|  |  |  |
| --- | --- | --- |
| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Check that refrigerators, freezers, and incubator doors are tightly closed. |  |  |
| Biosafety cabinets: surface decontaminate the inside work area, close the sash and power down. Do NOT leave the UV light on. |  |  |
| Fume hoods: clear the hood of all hazards and shut the sash. |  |  |
| Turn off and unplug all non-essential equipment. |  |  |

Decontamination and Waste Management

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| **ACTION ITEM** | **DATE COMPLETED or N/A** | **NOTES** |
| Decontaminate areas of the lab as you would do routinely at the end of the day. |  |  |
| Decontaminate and clean any reusable materials that may be contaminated with biological material or chemicals. |  |  |
| Biological waste: disinfect and empty aspirator collection flasks. |  |  |
| Discard all solid biological waste, including bacterial cultures grown on LB plates, in appropriate containers.  |  |  |
| Dispose all unwanted chemicals as appropriate.  |  |  |
| Collect and properly label all hazardous chemical waste.  |  |  |
| Request chemical hazardous waste to be collected.  |  |  |
| Collect radioactive material into the appropriate waste containers and request a radioactive waste pick-up. |  |  |