# Laboratory Ramp-Down Guidance and Checklist

University officials continue to closely monitor COVID-19 and are actively engaged in daily planning in an effort to inform and reduce the risk to students, faculty, staff, visitors and the ASU community from the virus. 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:

## Administrative

**Leadership and succession:** A plan must be developed for each research lab and approved by the lab's administration. Identify a primary contact and a backup contact for each plan.

- Determine and document who is authorized to make decisions within the group.
- Delegate responsibilities as needed and determine primary and secondary responsible parties. Ensure all members understand their responsibilities and are provided with the knowledge and resources to make decisions.
- Provide cross-training to lab members for critical operations.

**Contact information**: Ensure all contact information for lab members is up-to-date and provided to all personnel. Post a call list in the order for personnel to be called for specialty equipment, such as temperature-controlled units (e.g., 4ºC -20ºC, -80ºC, ultra-cold/liquid nitrogen storage), in case of an emergency.

**Essential personnel**: If certain operations cannot be halted, designate personnel to attend to these operations during any potential disruption (e.g., liquid nitrogen tank filling, maintaining the stability of experimental materials, animal care).

- Essential work should be staggered to limit the amount of lab personnel present in the lab.
- Lab personnel should implement social distancing as much as possible.
- Visitors, volunteers and minors should not be allowed in the lab.
- Undergraduate students' projects should be carefully evaluated before allowing to continue. Ensure that department leadership is aware of these operations.
- Ensure essential personnel are aware of hazards and emergency procedures.
- Ensure a two-person rule or a buddy system is in place to work safely.
- Ensure working alone procedures are followed as outlined in EHS123 Working Alone with Hazardous, Materials, Process, or Equipment.

**Communications plan**: Establish protocols to communicate with members and essential personnel via email, text, phone, Zoom and other communication tools. Provide and ask for regular updates for lab personnel and provide a forum for free exchange of concerns and important information.

**Research evaluation**: There are many factors involved with the safe operation and potential ramp-down of research. Plan for potential interruptions in current and future research operations. No research may be conducted outside of an ASU approved facility or protocol. For example, ASU research is not allowed to take place at your personal residence.

- Recall and cancel all field studies, including IRB studies, IACUC studies and anthropology.
- Do not begin any additional animal experiments; postpone animal orders if possible.
- Release all wild animals temporarily housed and planned to be released to decrease the number of animals that need to be cared for daily.
- Establish plans for long- and short-term disruptions in lab operations.
- Establish start up plans for resuming activities.

**Security plan**: Ensure lab security by locking doors, freezers and storage cabinets. Have designated/essential personnel performed a security check of the lab when entering and leaving. Labs may implement a two-person rule for any essential operations during modified operations. Report any security concerns to the ASU Police Department other designated local security.

**Emergency planning:** Update emergency procedures for incidents such as power outages Designate essential personnel to respond to emergencies and ensure lab integrity. Label all freezers with PI name and an emergency call list in case of unit failure.

**Hibernation plan**: Establish protocols to hibernate the lab entirely in event of long-term disruption to include shut down of all instruments, storage of chemicals, halt of experiments, waste storage or removal, etc.

## Laboratory Ramp-Down Checklist

| TO BE COMPLETED BY THE PERSON CLEARING THE LABORATORY | | | |
|---|---|---|---|
| Printed name: | | Lab details—Building, rooms | |
| Office number: | | Mobile number: | |
| Department: | | Supervisor: | |
| Faculty name: | | Faculty contact #: | |

### Preparing

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Identify all non-critical activities that can be ramped down, curtailed, suspended or delayed. | | |
| Identify personnel able to safely perform essential activities. | | |

### Communications

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Create contact list including all lab personnel, principal investigator, lab administrative director, research operations manager, and building manager. | | |
| Ensure the contact list is saved where it can be remotely accessed by everyone in the lab. Include home and cell phone numbers. | | |
| Test your phone tree, email group or Zoom to facilitate emergency communication among lab researchers and staff. | | |
| Contact EHS at 480-965-1823 or email ASKEHS@asu.edu to ensure that emergency contacts listed on lab registration placards are up to date and posted on outside of lab doors. | | |

### Shipping/Receiving

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Do not order any new research materials except those items required to support minimal critical functions. | | |
| Cancel orders for non-essential research materials if they have not yet shipped. | | |
| Contact loading dock/mail services or localized chemical receiving personnel with notifications of any expected incoming shipments. | | |
| Do not place any packages potentially containing dry ice in a walk-in cold room or freezer | | |

**Research materials**

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Freeze down any 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. Ensure that safety relief valve cannot freeze over. Consider draining non-essential dewars. Determine the schedule for checking liquid nitrogen levels and refilling. | | |
| Consult with DACT about current animal care recommendations. | | |
| Properly secure all hazardous materials in long-term storage. Refer to Hazardous Material Storage Guide and check with your department to determine if there are additional requirements. | | |
| Ensure all organism are planned for (ending experiments, long term feeding, etc.) per your approved protocols. This includes all invertebrates. Update all census data and cage cards as needed. | | |
| Collect, decontaminate and store all field traps. All wild animals are released following your approved protocol. | | |
| Secure all research sites outside of main laboratory buildings. This includes greenhouses, outside plant and animal chambers and field sites able to be secured. | | |
| Ensure all chemical containers are stored properly. | | |
| Ensure that all items are labeled appropriately. All working stocks of materials must be labeled with the full name of its contents including hazards. | | |
| Remove all chemicals and glassware from benchtops, fume hoods and biological safety cabinets and store in cabinets or appropriate shelving. | | |
| Request waste pickups for peroxide forming compounds (more information on peroxide forming compounds can be found in the Hazardous Material Storage Guide) or other chemicals (i.e. piranha etch) that may become unstable over time. Also consider chemicals stored under inert gas. | | |
| Collect contents of any acid/base baths and request waste pickup. | | |
| Ensure all biological materials are safely stored and secured, including those outside the lab in bioreactors, greenhouses, algae ponds, etc. | | |

## Research materials (continued)

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Confirm inventory and security of controlled substances and document in logbook. | | |
| Consider additional measures to restrict access to controlled substances. | | |
| Secure physical hazards such as sharps. | | |
| Ensure all radioactive materials are locked/secured inside a refrigerator, freezer, or lockbox. First consult with the ASU Office of Radiation before transferring any RAM requires transfer to another location: radiationsafety@asu.edu. | | |

## General area

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Remove all perishable and open food items for the lab's break areas, lockers, desks and personal spaces. | | |

## Equipment

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Ensure refrigerator, freezer, and incubator doors are tightly closed and locked, if possible. Label the outside with updated inventory lists and emergency contact phone numbers. | | |
| Biosafety cabinets: Remove all work materials, surface decontaminate the inside of the work area and all interior sides and the inside of the sash. Close the sash completely and power down. **Do not** leave the UV light on. Refer to asu.edu/ehs/documents/asu-bsc-decontamination.pdf | | |
| Fume hoods: Clear the hood of all hazards (chemical and physical) and shut the sash. | | |
| Review proper shut down procedures and measures to prevent surging. | | |
| Shut down and unplug sensitive electric equipment. | | |
| Cover vulnerable equipment with plastic. | | |

## Decontamination

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Decontaminate areas of the lab as normally conducted at the end of the day. | | |
| Decontaminate and clean any reusable materials that may be contaminated with biological material. | | |

## Physical hazards

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Ensure all gas valves are closed and if available, shut off gas to the area. | | |
| Turn off appliances, computers, hot plates, ovens and other equipment. Unplug equipment not in use. | | |
| Check that all gas cylinders are secured and stored in an upright position. Remove regulators and secure safety caps. | | |
| If cylinders are in exhausted enclosures with controller and gas monitoring consider these steps: Remove from gas flow, isolate the cylinder and evacuate the lines/pull into a vacuum. | | |
| If planning to insert a line system connected to a gas cylinder for purging, ensure the cylinder for purging does not become depleted. | | |
| Ensure all gas monitoring/life safety monitoring systems remain active. | | |
| Elevate equipment, materials and supplies, including electrical wires and chemicals, off of the floor to protect against flooding from broken pipes or other water leaks. | | |
| Inspect all equipment requiring uninterrupted power for electricity supplied through an Uninterrupted Power Supply (UPS) and by emergency power via emergency generator. | | |

## Waste management

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Collect and properly label all hazardous chemical waste in satellite accumulation areas (SAAs). Segregate incompatible chemicals by means of a physical barrier (e.g., plastic secondary bins or trays). | | |
| Request pickups for chemical hazardous waste to be collected | | |
| Biological waste: Disinfect and empty aspirator collection flasks. | | |
| Collect all solid biological waste in appropriate containers. Request additional removals if needed. Review Biological waste procedures. | | |
| Collect radioactive material into the appropriate waste containers and contact the Office of Radiation Safety at radiationsafety@asu.edu to request a pickup. Please include the following information: how many containers and whether it is liquid/solid or both types. | | |

**Security**

| Item | Completed: Yes, No, N/A | Comments |
|---|---|---|
| Lock all entrances to the lab. Ensure key personnel who will support critical functions have appropriate access. | | |
| Ensure windows are closed and locked. | | |
| Secure lab notebooks, computers, other intellectual property and all data. | | |
| Take laptops, tablets and other portable electronics and chargers with you or store at home. | | |
| If DEA controlled substances are needed for wind-down experiments or animal emergencies, ensure that those performing the essential tasks have access. | | |

Please provide the names and telephone numbers of all individuals that will require access to the lab in the event of a building shutdown.

| **Printed first and last name** | **Emergency telephone number** |
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If you have any questions or concerns about how to secure hazards or safely suspend research operations in your laboratory, please contact 480-965-1823 or email ASKEHS@asu.edu.

Approval Signature: _____ Date: _____

Primary contact and emergency phone number for lab ramp-down plan:

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Back up contact and emergency phone number for lab ramp-down plan:

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