**Checklist for Resuming Research**

**After a Temporary Closure**

Research, Innovation and Impact (RII) has developed a [webpage for COVID-19](https://research.arizona.edu/) related guidance and resources for faculty, staff, visiting scholars, student workers and other personnel conducting research using University labs, vehicles, facilities, or other processes/procedures driven by research grants and contracts. The current situation is rapidly evolving and RII and Research Lab & Safety Services (RLSS) will regularly update the guidance as new information becomes available. Please check the webpage weekly for updates.

Following a temporary research facility closure (e.g. summer field work, PI or approval holder hiatus, etc.) or a University closure (e.g. severe weather, pandemic disease, etc.), labs must review their critical processes, operations and equipment, and ensure adequate planning for the health of their workers, prior to restarting research operations. Researchers should also stay conscious of the fact that circumstances are flexible, and they should remain postured and prepared to safely and securely ramp down operations in the future, as necessary.

**Principal investigators are ultimately responsible for:**

1. Ensuring that all lab operations have been accounted for, and that any hazardous materials / equipment are appropriately brought out of shiut-down or storage and introduced back into operations safely; and,
2. Identifying personnel able to safely perform any required opening procedure and any critical operation during the reopening period, and ensuring that all personnel are adequately trained.
3. Meeting specific requirements for social distancing and other protective measures in place during the SARS-CoV-2 pandemic.

**Principal Investigators or their designee (e.g., Lab Safety Manager) must complete this checklist.**

All laboratory personnel should be properly trained in their role in restarting equipment and experiments. Please contact [Research Laboratory & Safety Services (RLSS)](https://rgw.arizona.edu/compliance/RLSS) for assistance with developing your plan and for any questions/concerns.

# Resuming Laboratory Operations After a Temporary Closure

**Instructions:** Review the checklist and understand each requirement before restarting your research operation. **Checking “Y” certifies that you have performed the action; “N” certifies it has not been performed; “N/A” certifies the particular issue is not present in your lab or research environment.** Once all boxes are checked, submit the survey. Once submitted, your survey will be sent to your Department Head/Director and Associate Dean for Research, and they will forward it to RII. You may enter and exit this survey as needed, and your answers remain saved. **Do not begin research before receiving confirmation that your completed checklist has been received by the appropriate parties (RII and RLSS; email confirmation will be provided) and your activities are approved.**

**CAUTION**

If you discover a condition that poses a threat to you or to others, such as a fire or a hazardous material release, isolate the hazard (e.g., close the door to the lab), notify occupants in the area, activate the fire alarm, exit the building, and call UAPD (dial 911).

Do not use laboratory equipment that is alarming or not functioning appropriately (chemical fume hood, biological safety cabinet, etc.). Call Facilities Management for service (520-621-3000).

Use of facemasks or other face covering is currently [being recommended by the CDC](https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html) to prevent COVID-19. These masks/coverings are intended only to protect others from being exposed by you, not to protect you from exposure to others. Respirators are typically intended to protect users from other occupational exposures; unless selected as part of a hazard assessment for this purpose, respirators should not be used to protect against the spread of SARS-CoV-2. Facemasks and respirators [serve different purposes](https://ehrs.upenn.edu/covid-19/cloth-face-coverings-masks-and-respirators-compared) and are not interchangeable.

**Principal Investigator:**Click or tap here to enter text.

**PI Phone Number:** Click or tap here to enter text.

**PI Email:** Click or tap here to enter text.

**Lab Manager/Senior Lab Member:** Click or tap here to enter text.

**Lab Manager/Senior Lab Member Phone Number:** Click or tap here to enter text.

**Lab Manager/Senior Lab Member Email:** Click or tap here to enter text.

**Department:** Click or tap here to enter text.

**Building(s):** Click or tap here to enter text.

**Room(s):** Click or tap here to enter text.

**Pre-Research Preparations**

**I and/or my senior lab member have:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Y | N | N/A |
| 1. **Established social distancing protocols for all spaces:**
 |  |  |  |
| * 1. Spaces include, but are not limited to: Laboratories, offices, shared facilities, shared offices, break areas, food preparation areas, field location(s), vehicles.
 |  |  |  |
| * 1. Worked with building manager to ensure social distancing is maintained in elevators and stairwells (such strategies may be designating one stairwell “Up” and another “Down” only; limiting the number of people allowed on an elevator at one time, etc.)
 |  |  |  |
| * 1. Created staggered schedules for staff members to be present and maximize social distancing: AM/PM shifts, staggered benches, on/off days or weeks, or other strategies as needed.
 |  |  |  |
| * 1. Discouraged working alone if at all possible. If some personnel must work alone in the interest of social distancing, create a plan for ensuring adequate supervision of workers and controls for those who may be working alone (such as Zoom calls during high risk operations, text or app check-ins, etc.).
 |  |  |  |
| * 1. Created and posted a maximum occupancy and/or schedule on shared rooms and any multiuser spaces to ensure social distancing is maintained.
 |  |  |  |
| * 1. Created a schedule, and informed and trained users on it, for equipment use (fume hood, biosafety cabinets, etc.) to encourage social distancing.
 |  |  |  |
| 1. **Established guidelines for the use of face masks or shields:**
 |  |  |  |
| * 1. Created guidelines for use in the lab; beginning with an assessment of whether [face coverings or social distancing is more effective](https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/index.html).
 |  |  |  |
| * 1. Created guidelines for use of face coverings in shared office spaces, break rooms, and other common areas.
 |  |  |  |
| * 1. If requiring researchers to utilize face coverings:
 |  |  |  |
| * + 1. Ensured the materials are appropriate for the research being conducted (e.g. use Nomex fabric when working with pyrophorics, cotton for flammables, etc.). Contact RLSS for assistance determining the most appropriate material(s) in your lab.
 |  |  |  |
| * + 1. Ensured there is an adequate supply of masks available and train workers on proper hygiene measures, donning & doffing, storage, and cleaning.
 |  |  |  |
| 1. **Confirmed with building managers, lab managers, and/or Facilities Management that the laboratory has recently been cleaned/disinfected.**
 |  |  |  |
| 1. **Established disinfection routines (note: labs only receive a cleaning weekly from FM; daily cleaning is the responsibility of lab staff):**
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| * 1. Created, posted and trained researchers on a daily cleaning checklist for workspace disinfection.
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| * 1. Placed hand sanitizer, cleaning spray and/or wipes near equipment, common areas, inside/outside doorways, and any locations of high traffic.
 |  |  |  |
| * 1. Created labels for common areas and equipment reminding users to disinfect before and after.
 |  |  |  |
| 1. **Reviewed research supplies and facilities to plan research restart appropriately:**
 |  |  |  |
| * 1. Noted supply chain disruptions/limited supplies and prepared for limited availability and slow request fulfillments for reagents, consumables, etc.
 |  |  |  |
| * 1. Planned for limited, and potential shortages, of required personal protective equipment (PPE), like gloves, facemasks, respirators, etc.
 |  |  |  |
| * 1. Confirmed adequate waste-collection supplies are available for near-term research needs (includes bleach and ethanol supplies for inactivating biological waste prior to disposal).
 |  |  |  |
| * 1. Confirmed there is an adequate supply of soap and paper towels for hand washing and that disinfectant will be available for cleaning shared equipment and work areas.
 |  |  |  |
| * 1. Assessed necessary support services and deliveries (such as compressed gases, reagents, dry ice) required and determine whether those services are operational and available.
 |  |  |  |
| * 1. Determined how other facilities such as cores, sample/specimen providers, and collaborators will be managing their services and maintaining physical distancing requirements to prepare for delays.
 |  |  |  |
| 1. **Reviewed safety plans and materials to include new practices and requirements:**
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| * 1. Updated laboratory Standard Operation Procedures (SOPs), Chemical Hygiene Plan, Biosafety SOPs, etc. to include new social distancing measures.
 |  |  |  |
| * 1. Ensured that processes have proscribed steps for safely ramping down research in the event of another shut down.
 |  |  |  |
| * 1. Create new SOPs, as necessary, and integrated into existing safety plans.
 |  |  |  |
| 1. **Held or will be holding a laboratory meeting (remotely, or while maintaining proper social distancing in person) to discuss safely commencing work.**
 |  |  |  |
| * 1. Reviewed and trained all researchers on the established social distancing, engineering controls, hygiene measures and practices, and personal protective equipment required for work in the lab.
 |  |  |  |
| * 1. Informed workers that they are not to try and make up for lost time using risky behaviors, such as but not limited to:
 |  |  |  |
| * + 1. Scaling up reactions without a safety assessment and PI signoff;
 |  |  |  |
| * + 1. Significantly increasing hours and/or rushing experiments; or
 |  |  |  |
| * + 1. Working alone or extended hours on nights and/or weekends.
 |  |  |  |
| * 1. Reviewed equipment, experiments, and all relevant safety plans (e.g. Biosafety SOPs, Lab Chemical Hygiene Plan, etc.). Retrain workers as necessary.
 |  |  |  |
| 1. **Notified University Animal Care (UAC) about any change in research plans (e.g., ramping up breeding colonies, new shipments of animals, etc.), if working with animals.**
 |  |  |  |
| 1. **Verified that written lab SOPs include steps for restarting critical equipment or processes (e.g., temperature, pressure, or air sensitive equipment, glove boxes, distillation equipment, etc.), are up to date and readily available, and workers are trained appropriately.**
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| 1. **Reviewed the University Biosafety Plans and Chemical Hygiene Plans and any lab specific plans, such as Biosafety SOPs, Lab Chemical Hygiene Plans, etc.**
 |  |  |  |

**Entering the Lab**

**I and/or my senior lab member have:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Y** | **N** | **N/A** |
| 1. **Walked through the lab accompanied only by critical personnel and identified any potential damage that may have occurred during the temporary closure:**
 |  |  |  |
| * 1. Water: checked for leaking plumbing, DI sources, MilliQ water sources, etc.
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| * 1. Spills: inspected all hazardous material storage areas for leaks, spills, etc. and mediated as needed.
 |  |  |  |
| * 1. Electric: inspected cables, plugs, and other electrical equipment prior to use.
 |  |  |  |
| * 1. Mold or odors: Checked for evidence of mold growth or indoor air quality issues.
 |  |  |  |
| 1. **Confirmed critical equipment such as freezers, temperature sensitive areas, etc. are intact and fully functional. Disposed of any materials that may have been compromised by improper or malfunctioning storage.**
 |  |  |  |
| 1. **Carefully returned equipment, supplies, electrical wires, and chemicals from storage locations to regular use locations; contacted Facilities Management for the movement of large items.**
 |  |  |  |
| 1. **Checked all emergency supplies:**
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| * 1. Flushed eyewash stations and contacted Facilities Management (621-3000) to flush safety showers.
 |  |  |  |
| * 1. Checked pressure on fire extinguishers and contacted Risk Management Services (621-1790) for recharges or replacements, as needed.
 |  |  |  |
| * 1. Confirmed that emergency equipment (eyewash, safety shower, fire extinguishers) are not blocked.
 |  |  |  |
| * 1. Checked first aid and spill kit contents. Restock supplies as needed.
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| 1. **Managed any expired, outdated, peroxide-forming, self-reactive, or limited-lifespan reagents appropriately. Contact Risk Management Services (621-1790) for hazardous waste disposal as needed.**
 |  |  |  |
| 1. **Checked all instrument filters, inlets, etc. for potential dust clogging.**
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| 1. **Reconnected compressed gas cylinders (only those that will be in frequent use).**
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| 1. **Replaced and/or refreshed any cryogenic liquids and confirmed they are properly vented.**
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| 1. **Tested all equipment and facilities functionality\*:**
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| * 1. Gas and vacuum valves and lines.
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| * 1. Equipment and/or instruments using water (circulating water baths, aspirators, distillations, etc.).
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| * 1. Chemical fume hoods, glove boxes, biological safety cabinets, and/or other ventilated equipment.
 |  |  |  |
| * 1. Gas regulators and equipment.
 |  |  |  |
| * 1. Any and all equipment that was shut down temporarily.
 |  |  |  |
| \*Contact [RLSS](https://rgw.arizona.edu/compliance/rlss) and/or [Facilities Management](https://www.fm.arizona.edu/#/) with concerns or questions about functionality. |  |  |  |
| 1. **Surveyed all radioactive material (including waste) storage locations.**
 |  |  |  |
| 1. **Performed a response check on all radioactive material survey meters (batteries and check source).**
 |  |  |  |
| 1. **Performed laser alignment verification(s).**
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| 1. **Verified inventories of all hazardous materials, particularly security sensitive and/or highly hazardous:**
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| * 1. Conducted a check of all licensed or registered materials.
 |  |  |  |
| * 1. Conducted a check of all inventoried hazardous materials.
 |  |  |  |
| * 1. If missing, reported any missing materials to RLSS and UAPD as soon as possible.
 |  |  |  |
| 1. **Prepared any hazardous** [**biological, chemical**](file:///%5C%5Cfilesvr%5Cdata%5CChemical%5CDevelopmental%5C.arizona.edu%5Cenvironmental%5Cchemical-waste-pick-up-form) **and/or** [**radiological waste**](https://rlss.arizona.edu/services/) **for disposal and arrange for a waste pick-up.**
 |  |  |  |
| 1. **Prepared for delays and shortages of common PPE and lab supplies.**
 |  |  |  |
| 1. **Ensured Temporary Laboratory Closure Posting form(s) have been removed from the lab door(s).**
 |  |  |  |
| Lab Specific Items (edit to meet the needs of your lab)  |  |

END OF SURVEY

Thank you for completing this survey. Please contact RLSS with any questions, concerns, or to discuss measures particular to your research.