

PI/Lab Manager Research Laboratory Ramp-Up Checklist - (Version 1)

In preparation for the [phased resumption of research activities](#), EH&S has prepared this Ramp-Up Checklist for use by laboratories prior to and upon return to campus. Consistent with previously published University timelines, the planning phase for the resumption of research is underway now, and Phase 1 of the Ramp-Up Checklist is focused on activities and tasks that can be accomplished remotely, prior to a physical return to the laboratory.

Please note, the completion of this document shall not in itself serve as a clearance for a laboratory to return to campus. Formal University guidance on the date(s) of research resumption will be issued separately.

Phase 1 - Planning and Preparing for Research Resumption

| Item or Task | Complete | N/A | Notes |
|---|----------|-----|-------|
| Administration | | | |
| Notify EH&S of schedule for research resumption. | | | |
| Establish plans for the possibility of future immediate ramp-down requirements due to the changing nature of the pandemic. Review the laboratory's COVID-19 ramp-down experience for lessons learned. | | | |
| Review University Guidance on PPE, temperature and symptom monitoring, and physical distancing. | | | |
| Determine how social distancing will be maintained in the lab by creating a work schedule. Plan for the use of floor and surface markings to demarcate work zones, and other necessary modifications. Plan seating so physical distance can be maintained in common areas and shared spaces. Review School/building rules on rest rooms, elevators, doors, etc. Consider removal of obsolete or excess equipment, furniture and other materials as a means of creating additional workspace. https://research.columbia.edu/system/files/EHS/Fo rms/ClearanceRequestForm.pdf | | | |
| Update internal contact lists. Establish a plan to relay hazard information about ongoing experiments between lab members working across different shifts. | | | |
| Confirm that at least one researcher for each shift is a C-14 holder in all FDNY-permitted laboratories. | | | |
| Establish a plan for staff to communicate absence due to illness. Consult University guidance for current healthcare procedures, including isolation and post-illness policies. | | | |
| Communicate all changes to research group regarding work shifts, modifications to the work environment, meeting protocols, cleaning and disinfection protocols, relevant University policies, | | | |

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| and instructions on bringing equipment (e.g. laptops) back into the lab. | | | |
| Personal Protective Equipment | | | |
| Assess stock of PPE and order supplies if necessary, considering current shortages in PPE. Review available University policies on temporary central PPE acquisition and distribution. | | | |
| Ensure all researchers in the lab have at least two lab coats to be used alternatively between shifts, in order to allow for laundry rotation. If PPE can be cleaned and disinfected after use, do so. | | | |
| Identify, and if necessary, add places for individuals to store personal items (e.g., lab coats) separately from others. | | | |
| Safety Supplies | | | |
| Confirm there is an adequate supply of soap and paper towels for hand washing and cleaners and disinfectants for equipment and work areas. | | | |
| Communications and Training | | | |
| Complete COVID-19 Training: Safe Research at Columbia University training (course #TC5550 in Rascal) and communicate requirements to lab members. | | | |
| Remind lab members to complete any expired, or soon to expire, training courses: https://www.rascal.columbia.edu/tc/trainingStatus | | | |
| Update your laboratory's emergency contact information in LION: https://research.columbia.edu/chemical-hygiene-plan-latch . Include cell phone numbers. | | | |
| Check the status of your LATCH and update personnel, emergency contact and hazard information, as needed - https://research.columbia.edu/sites/default/files/content/EHS/COVID-19/LaboratorySafetyWhileWorkingRemotely-LATCHandTrainingUpdates.pdf | | | |
| Support Services and Materials | | | |
| Assess what support services and deliveries (such as compressed gases, reagents, dry ice) you may require when your research is restarted and determine whether those services are operational and will be available when you need them. <i>Note: Anticipate delays in response to any needed repairs or delivery of reagents and supplies.</i> Review applicable University procedures on delivery and supply ordering. | | | |
| Cleaning and Disinfection | | | |

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| Consult University guidelines on cleaning and disinfecting laboratory and office spaces. Develop a cleaning and disinfection protocol for the laboratory including benches, personal workspaces, and common group spaces/equipment - https://research.columbia.edu/sites/default/files/content/EHS/COVID-19/COVID_LabPersonnelDisinfectionGuidelines.pdf | | | |
| Develop a cleaning and disinfection protocol for conference rooms and break areas. Consult with other users of space to coordinate planning. | | | |

Phase 2 - Initiating Research Resumption / Returning to the Lab

| Item or Task | Complete | N/A | Notes |
|--|----------|-----|-------|
| Facility Preparation | | | |
| Walk through all lab areas and complete a visual inspection looking for any evidence of problems: broken chemical containers, old waste, leaks, failed equipment, spills, etc. Check chemical storage rooms, environmental rooms, equipment rooms and dark rooms. | | | |
| Mitigate any identified spills, leaks or other hazardous conditions. If required, contact EH&S. | | | |
| Conduct chemical inventory check to ensure no loss of material (chemicals, radioactive material stocks, toxins, controlled substances, etc.). | | | |
| Pour water down dry traps/floor drains to mitigate sewer gas smells or other indoor air quality issues. | | | |
| Avoid engaging in start-up procedures alone. Being mindful of physical distancing, try to have at least two people present in case an issue arises. | | | |
| Contact core/central facility managers to inquire if there are new protocols or restrictions associated with shared facilities and equipment (e.g., NMR, MS). | | | |
| Post signage indicating maximum occupancy of shared spaces to ensure adequate physical distancing. | | | |
| Put away and safely store any chemicals or other supplies that may have been delivered during the ramp down. | | | |
| Assess chemicals that may have become unstable during the shutdown. Submit a hazardous waste pick-up form for any expired, | | | |

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| outdated, peroxide-forming, self-reactive, or other reagents with a limited lifespan. | | | |
| Turn water back on slowly. Check connections for leaks. Do not leave the laboratory right away as some connections may fail after a few minutes. Return to the equipment a short time later to confirm there are no leaks. Contact Facilities to report any leaks immediately. | | | |
| Ensure all compressed gas cylinders are chained/secured. | | | |
| Ensure that the laboratory's door signage reflects updated emergency contact info; replace physical sign. | | | |
| If applicable, check dosimeter wear date(s). If necessary, return old dosimeter(s). | | | |
| Personal Protective Equipment | | | |
| Conduct a risk assessment to determine the appropriate level of PPE for tasks in the lab. Assign tasks requiring special PPE to select individuals as cleaning and disinfection may be problematic or impractical for some PPE that is commonly shared (e.g. laser glasses, cryogloves). Avoid sharing PPE. Provide individual PPE whenever possible. | | | |
| Emergency Equipment | | | |
| Ensure all emergency equipment such as eyewashes are operational. Flush eyewash stations for 3-5 minutes to remove sediment and stagnant water, and to ensure the water flow is adequate. Ensure overhead emergency showers are not obstructed. Verify annual testing is current for overhead emergency showers and fire extinguishers. Contact Facilities if testing is expired. | | | |
| Verify "Laser In Use" lights, door interlocks, or other safety related controls are operable. | | | |
| Equipment | | | |
| <p>Significant care must be taken when restarting all laboratory equipment. Restart all equipment only when there is adequate time to monitor performance.</p> <p>Follow manufacturer guidance for the safe reactivation of all equipment. Review operating manuals and SOPs for safe startup of LASERs and other high voltage devices. Review protocols for resuming work with high-hazard systems that involve pyrophoric materials or those that could lead to high pressure, such as solvent drying stills.</p> <p>Review all startup procedures for compressed gas cylinders, gas generators and gas distribution systems; monitor for leaks or pressure drops.</p> <p>Power up all electrical equipment slowly, one at a time, to reduce the likelihood of overloading power circuits. Verify that equipment is free of frayed or damaged cords before returning to service.</p> | | | |

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| <p>Safely release any stored-up energy sources, as needed. For example, hydraulic or pneumatic systems, capacitors or other mechanical equipment.</p> <p>Check equipment such as refrigerators and freezers to confirm that they have not been affected by power disruptions during the ramp-down.</p> | | | |
| <p>Confirm chemical fume hoods and biosafety cabinets are operating normally. Notify EH&S if not working properly.</p> | | | |
| Cleaning and Disinfection | | | |
| <p>Clean and disinfect all areas in accordance with the lab's hygiene protocol - https://research.columbia.edu/sites/default/files/content/EHS/COVID-19/COVID_LabPersonnelDisinfectionGuidelines.pdf.</p> | | | |
| Waste Management | | | |
| <p>Request EH&S pick-up of any old chemical waste or chemical containers that appear to be bulging or compromised in any way.</p> <p>Submit waste pickup request to EH&S - https://cumc.co1.qualtrics.com/jfe/form/SV_6gqSpJrYyxX5lul</p> <p>Perform required peroxide former tests, if containers have not been tested in the last 6 months - https://cumc.co1.qualtrics.com/jfe/form/SV_6gqSpJrYyxX5lul</p> <p>Dispose of regulated medical waste (RMW) generated before the ramp-down.</p> | | | |
| <p>Request waste collection supplies required for intended research onset - https://cumc.co1.qualtrics.com/jfe/form/SV_6gqSpJrYyxX5lul</p> | | | |

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