



LABORATORY RAMP UP GUIDANCE

1. PURPOSE

This document serves to provide instructions for situations requiring the ramp-up of Georgia Institute of Technology Tech (GT) laboratories after research ramp down due to the COVID-19 pandemic.

2. SCOPE

This document applies to all Georgia Tech, Georgia Tech Research Institute (GTRI), and affiliated research entities such as ATDC, GCMI, etc.

3. PROCEDURE

With the COVID-19 pandemic, it is critical that everyone do their part to reduce potential exposure to themselves and their colleagues. Sanitation and disinfection are important methods to reduce exposure. Please ensure your lab space is free from clutter, items are stored away appropriately, and items on the floors are either put away or discarded if not needed. Ensure walkways are not blocked and only items necessary for that day's work are on the counters (if possible). Some equipment and instruments may be handled by multiple lab workers and will need to be disinfected before and after use.

Each lab needs to have their own written disinfection plan that all lab members are required to follow.

Do not enter the lab if an alarm is sounding. Contact your Building Manager and EHS to report the alarm.

3.1. Entering & Exiting the lab

- 3.1.1. All persons upon entering the lab will:
 - A. Change from cloth face covering into a surgical/procedure mask if the lab contains chemical, biological, or radiological agents (cloth face coverings can only be worn in labs that do not contain these agents)
 - B. Wash their hands with soap for at least 20 seconds
 - C. Don PPE as appropriate given research application
- 3.1.2. All persons exiting the lab will:
 - A. Doff PPE as appropriate given research application
 - B. Remove surgical/procedure mask
 - i. If finished for the day, discard over waste bin
 - ii. If returning later the same day, place in bag labeled with name
 - C. Wash hands and safety glasses with soap for at least 20 seconds
 - D. Don a cloth face covering
 - E. Exit by touching the door handle with the elbow or hip/side, use a towel or wipe (i.e. not with hands)

3.2. Safe Re-Entry

- 3.2.1. The lab manager should enter lab with another lab member outside the lab to call for assistance if needed.
- 3.2.2. Enter the lab with a sense of caution:
 - i. Look through entry-door windows to inspect for any hazards: damaged equipment, liquids or chemical spills on floor or counters.
 - ii. Listen for any local alarms indicating a safety issue or issue with equipment.
- 3.2.3. Conduct a mental hazard assessment of the hidden or invisible hazards of your lab, such as compressed gases, vapor-producing chemicals, etc. that could have escaped containment.
- 3.2.4. If you discover a hazardous condition that poses a threat to you or to others, such as a hazardous material release, isolate the hazard (e.g., close the door to the lab), notify occupants in the area, activate the appropriate incident response action, exit the building if required, and call GTPD @ 404 894-2500 and EHS @ (404) 216-5237.
- 3.2.5. Walk through all of your areas and complete a visual inspection looking for any evidence of problems: broken chemical containers, old waste, leaks, failed equipment, and spills.
- 3.2.6. Mitigate any leaks, spills, or releases if and only if you are capable of handling them. If not, contact EHS Emergency Phone @ (404) 216-5237.
- 3.2.7. Check equipment that may have been affected by a power disruption as soon as possible.

- 3.2.8. Check for leaks that may have occurred if the temperature of freezers and refrigerators were compromised.
- 3.2.9. Review safe operation of equipment and review manuals for safe startup instructions.

3.3. Before Resuming Research

- 3.3.1. Flush eyewash stations for 3-5 minutes to remove sediment and stagnant water and document on weekly inspection sheet. Report any problems to your Building Manager.
- 3.3.2. Check the fire extinguisher pressure gauge to make sure the indicator is in operating range
- 3.3.3. Check the emergency spill kit.
- 3.3.4. Pour about 500 ml of water down dry traps/floor drains to mitigate sewer gas smells that are often confused with natural gas leaks.
- 3.3.5. Conduct a hazardous material inventory to ensure no loss of material (chemicals, radioactive material, toxins, or controlled substances).
- 3.3.6. Report hazardous material incidents to EHS. Report any missing materials to EHS and GT Police Department (GTPD) and other institutional officials, as necessary.
- 3.3.7. Assess chemicals that may have become unstable during the shut down and manage any expired, outdated, peroxide-forming, self-reactive, or other reagents with a limited lifespan appropriately. Do NOT touch chemicals on this list (peroxide formers). Also look for chemical containers that are bulging or have imploded. Submit a chemical waste pick up for chemicals in these categories via EHSA.
- 3.3.8. Cleanup/put away chemicals, supplies equipment, glassware, and other items left out during the shutdown.
- 3.3.9. Secure, correctly label, and/or request a pickup for Hazardous Chemical and/or Biological Wastes via EHSA.
- 3.3.10. Confirm chemical fume hoods and biosafety cabinets are operating as normal.
 - A. Do not use laboratory equipment, such as a chemical fume hoods or biological safety cabinets if the alarm is sounding or the equipment is not working properly.
 - B. Contact your Building Manager for support.
 - C. Your chemical fume hood work flow should be between 80-120 cfm
- 3.3.11. Assess stock of PPE and ensure you have enough to begin your work. DO NOT plan to start work for which you no longer have an adequate stock of PPE.

- 3.3.12. Prepare for supply chain disruptions and limited availability of materials
- A. Recognize that order placement may be slower as the volume of requests increases
 - B. Plan for limited sales of high demand items
 - C. Plan for some reagents having limited availability
 - D. Plan for some consumables having limited availability
- 3.3.13. Review start-up procedures for any compressed gas cylinders and gas generation stations.
- 3.3.14. Determine an appropriate lab cleaning protocol to disinfect high touch surfaces; ensuring it won't affect your research.
- 3.3.15. If experimental animals are in use, please coordinate with PRL staff to determine a lab-specific plan. Point of contact:
- Nic Parnell, Ph.D. Nicholas.parnell@biology.gatech.edu

4. DOCUMENTATION/NOTIFICATION

Campus-wide emergency: Follow all institute guidance.

Laboratory/Building-specific emergency: Follow the GT Redbook.

Notify EHS when laboratory ramp-up checklist has been completed:
lab-chemsafety@gatech.edu

5. ADDITIONAL RESOURCES

www.ehs.gatech.edu

LABORATORY RAMP-UP CHECKLIST

PREPARING

Item	Complete	N/A	Notes
Do NOT plan to start work for which you no longer have an adequate stock of PPE.			
Walk through <u>all</u> of your areas and complete a visual inspection looking for any evidence of problems: broken chemical containers, old waste, leaks, failed equipment, and spills.			
If you discover a hazardous condition or spill that poses a threat to you or to others, such as a hazardous material release, isolate the hazard (e.g., close the door to the lab), notify occupants in the area, activate the appropriate incident response action, exit the building if required, and call GTPD (404-894-2500) or EHS (404-216-5237) to report the situation.			

LAB CLEANLINESS

Item	Complete	N/A	Notes
Lab is not cluttered. Bench tops are clear except for items needed. Floor is clear and movement around the lab is not hampered by clutter. Unnecessary items are stored or disposed of as appropriate.			

COMMUNICATIONS

Item	Complete	N/A	Notes
Create a Contact List (home and cell numbers) for the Principle Investigator, all lab personnel, lab and/or department administrator, Building Manager, GT EHS emergency phone number (404-216-5237), and GT Police phone number (404-894-2500). Ensure this can be remotely accessed by all members.			
Ensure the Emergency Contact card (Pink Card) on the exterior of the lab is up to date and accurate.			
Ensure the Emergency Procedure on the interior of the lab is posted, up to date, and accurate. Request the Emergency Procedure poster if needed via EHSA (Barcode Request module: https://ehs.gatech.edu/node/2161)			

ORDERING & DELIVERIES

Item	Complete	N/A	Notes
Prepare for supply chain disruptions and limited availability of materials.			
Coordinate with lab personnel and/or Building Manager to receive and secure any incoming materials.			
Recognize that order placement may be slower as the volume of requests increases. Communicate with your group about any backordered materials and delivery delays.			
Do not place any packages potentially containing dry ice in a walk-in cold room or freezer.			

EMERGENCY & PERSONAL PROTECTIVE EQUIPMENT

Item	Complete	N/A	Notes
Ensure Eyewashes and safety showers are free of obstruction for easy access during an emergency, within 10 second access.			
Flush eyewash stations for 3-5 minutes to remove sediment and stagnant water and document on weekly inspection sheet. Report problems to your Building Manager.			
Check the fire extinguisher pressure gauge to make sure the indicator is in operating range.			
Check the spill kit and its condition. If it's not present or almost consumed, order the spill kit immediately.			
Ensure Personal Protective Equipment is available to all lab group members. PPE: Eyewear, masks, gloves and lab coats.			
ANSI approved safety glasses/goggles must be donned upon entry to the lab and while working in the lab.			
Nitrile gloves are recommended for all- purpose gloves. If you need guidance on process specific gloves , please contact Chemical Safety at lab-chemsafety@gatech.edu			
Ensure Lab sinks are equipped with soap and paper towels for hand washing.			
The use of respirators, including N95s, requires a risk assessment to determine if needed and best type of respirator. Respirator users approved by GT EHS must be enrolled in the Respiratory Protection program and recertified annually. Please contact Lab & Chemical Safety lab-chemsafety@gatech.edu with any questions or concerns.			

DECONTAMINATION & CLEANING

Item	Complete	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.			
Perform weekly radiation contamination survey and document (if required).			
Work surfaces and aisle ways are uncluttered to allow space for safe work practices.			

RESEARCH MATERIALS

Item	Complete	N/A	Notes
Ensure all chemical containers are in good condition (i.e., no bulging, leaking, cracked caps or crystal formation).			
Assess chemicals that may have become unstable during the shutdown and manage any expired, outdated, peroxide-forming, self-reactive, or other reagents with a limited lifespan appropriately. Do NOT touch chemicals on this list (peroxide formers). Contact EHS with any questions.			
Ensure all biological materials are stored and secured.			
Check all consolidate storage of valuable perishable items within storage units/freezers that have backup power supplies/systems in place.			
Inspect and refill Dewar flask and cryogen containers for sample storage and critical equipment. Review the equipment manual before turning it on.			
Properly secure and store all hazardous materials.			
Ensure all flammable liquids are stored in flammable storage cabinets.			
Ensure all items are labeled appropriately. Working stocks of materials must be labeled with full name of contents and all hazards.			
Remove all chemicals and glassware from bench tops and fume hoods and store in cabinets or appropriate shelving.			
Confirm inventory of controlled substances and consider additional measures to restrict access.			
Inspect all gas cylinders and regulators. Secure all gas cylinders and ensure all are stored in upright position. Remove regulators and use caps if not used.			
Inspect and evacuate/purge all gas lines – particularly those containing dangerous gases (flammable, corrosive, toxic etc.) before first use.			
Ensure all radioactive materials (RAM) are locked/secured inside a refrigerator, freezer, or lockbox. If you need to transfer RAM, please contact the RSO (Steve Grimm) @ (404) 234-4360.			

WASTE MANAGEMENT / REMOVAL

Item	Complete	N/A	Notes
Inspect, secure and/or request a pickup for Hazardous Chemical and/or Biological Wastes via EHSA.			
Chemical/Biological waste is properly labeled with a description of the contents, fill start date and owner's name. Labels are generated via EHSA: https://ehs.gatech.edu/node/1982			
Secondary containment is present for all hazardous liquids.			
Chemical disposal containers are closed when not in use.			
Request waste pick-ups via EHSA (https://ehs.gatech.edu/node/1971) for peroxide forming compounds or other chemicals (i.e. piranha etch) that may become unstable over time.			
Inspect, collect contents of any acid/base baths into appropriate containers and request waste pick-up via EHSA, if necessary.			
Collect and properly label all hazardous chemical waste in accumulation areas via EHSA.			
Segregate incompatible chemicals by means of physical barrier (i.e. secondary containment). Request waste pick-up via EHSA if appropriate.			
Biological Waste: Disinfect and empty aspirator collection flasks.			
Liquid biological waste is labeled appropriately and disinfected prior to disposal down the drain using the chemical disinfectant and contact time indicated on the lab's Biological Hygiene Plan.			
Collect all solid biological waste in appropriate containers. Request biological waste pick-up via EHSA, if Appropriate.			
Radioactive Waste: Collect RAM in appropriate containers. Request RAM waste pick-up via EHSA if appropriate.			

EQUIPMENT

Item	Complete	N/A	Notes
Check equipment that may have been affected by a power disruption as soon as possible.			
Check refrigerators, freezers, and incubator doors are tightly closed.			
Check for leaks that may have occurred if the temperature of freezers and refrigerators were compromised.			
Biosafety Cabinets: review equipment manual, inspect the work area, close the sash and power on. Turn on UV lights. Ensure all biological materials are stored appropriately.			
Review start-up procedures for any compressed gas cylinders and gas generation stations.			
Review start-up procedures for any sensitive electric equipment.			
Inspect oil baths before turning them on. Any spills and decontamination must be addressed immediately. Old oil can be disposed by submitting the waste pick-up request via EHSA.			
Turn on appliances, computers, hot plates, ovens, and other equipment. Review equipment operation safety.			
Weight balances: review equipment manuals for safe startup instructions. Clean the weight balance before turning it on. Recalibrate equipment before first use.			
Inspect and run hot & cold water in all sinks and cup-sinks (in fume hoods). Contact Building Manager in case of any water disruptions and leaks.			
Pour about 500 ml of water down dry traps/floor drains to mitigate sewer gas smells that are often confused with natural gas leaks.			

ENGINEERING CONTROLS

Item	Complete	N/A	Notes
Verify Chemical Fume Hoods (CFH) have been certified in the past 6 months by the Georgia Tech approved vendor and are functioning properly. The certification label is attached to the CFH.			
The CFH flow should be between 80-120 LFM. If it's not, ensure via EHS and/or Facilities that the fume hood problem is being addressed. It them must be re-certified by EHS.			
Verify Biosafety Cabinets (BSC) have been certified in the past year by the Georgia Tech approved vendor and are functioning properly.			
CFH and BSC sashes are functioning properly, set to appropriate heights, not cracked, and alarms are not muted.			
Items stored in CFHs and BSCs do not disrupt normal use and/or airflow. Specifically, BSC grills are free from obstructions.			
Centrifuges have door interlocks (mechanism to keep lid closed during operation).			
Secondary containment (i.e., centrifuge safety caps, buckets, sealed rotors) is available and used when centrifuging infectious samples.			

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