Reactivating research and supporting operations

Introduction

The "New York State on PAUSE" executive order issued by Governor Cuomo effective March 22, 2020 required all non-essential businesses statewide to close in-office personnel functions. In compliance with that order, the vast majority of Cornell's research and operations functions were suspended at that time. Essential services, however, including COVID-19-related research, continued. To prepare for Cornell's eventual return to full research activity, President Martha Pollack established, in April 2020, the Committee on Research Operations Reactivation. This report represents the work of that committee and its sub-committees.

Cornell is adopting a staged approach to workforce reactivation that permits on-campus presence consistent with New York state guidance. Specific research operations on the Ithaca and Geneva campuses will be restarted as stage one of reactivation and are the focus of this report. Reports focusing on aspects of reactivation other than these specific stage-one research operations will follow.

Given the uncertain trajectory of the pandemic, we expect that some aspects of research reactivation may be adjusted as state, local, and federal guidelines continue to evolve and as we monitor the effectiveness of our stage-one reactivation measures.

Underlying all policies and procedures related to reactivation are **Cornell's guiding principles for COVID-19 response** as expressed in President Pollack's April 7 message to the community.

- **Caring for our students.** We will do everything possible to enable all current and newly admitted students to complete their Cornell educations, despite the obstacles created by the COVID-19 pandemic. Family circumstances, financial resources, and students' lives will undoubtedly change in many ways. Working to see that all students have the financial resources they need is among our highest priorities. We also realize that financial concerns are not the only new stresses that students will face, and we aim to provide the support that our students will need to succeed academically and personally.

- **Safeguarding our future as a world-class academic institution.** We believe deeply in the value of Cornell's exceptional academic community and will strive always to ensure that our scholarly enterprise is supported and thriving. Throughout its 155-year history, Cornell has defended truth, expanded knowledge, and explored what it means to be human, while bringing its mission to the world through research and outreach. Through past wars, epidemics, and economic downturns, Cornell continued to teach, continued to conduct world-class research, continued to engage, and continued to adapt to a changing world. Cornell has endured the unprecedented before and will do so again. I believe deeply that, ultimately, we will emerge from this newest challenge even stronger.

- **Maintaining our staffing.** Cornell is Cornell because of our wonderful faculty and students, and because of our exceptional staff: our custodians, technicians, dining workers, office professionals, and skilled trades and grounds staff, to name just a few. We are a community, and we will do everything we can to keep our community together. Even now, when everyone who can is sheltering in place, many of our dedicated staff are enabling students who could not go home to have a home at Cornell. Despite the challenges, they are coming in every day, keeping the lights on, the buildings warm and safe, and the food ready. In addition, many of our staff have successfully moved to working remotely – by no

means an easy undertaking in this difficult time. While I truly wish that I could say with certainty that there will be no furloughs or layoffs, there is, unfortunately, too much about the future that we simply do not know. What we do know is that when we make decisions about our collective future, the welfare of our employees will remain a critically important factor.

- **Seeking new knowledge.** It may seem incongruous to speak of seeking opportunities in the midst of crisis, but we are an educational institution. We are fundamentally about learning. And as we navigate through this time, we will pay attention to what we can learn along the way. We may learn about new ways of working remotely, we may learn about new ways of delivering education, and we will undoubtedly find new ways to develop resilience in the face of the unprecedented.

The Cornell University research operations reactivation requirements are listed below:

- **Research reactivation:** All researchers will fairly and safely reopen their laboratories and restart research on campus in a staged approach. Each researcher is required to use the Research Reactivation Plan and to gain approval from their department chair or center director prior to commencing workforce reentry related to research activities.

- **Facilities reactivation:** The facilities organization will safely reactivate facilities operations to support research activities on campus in conjunction with staged reopening of research. Facilities will activate and adhere to the Facilities Reactivation Plan to complete all necessary safety inspections and safe startup of operational systems and equipment to support facilities-related workforce reentry.

Research Reactivation

Standards for reactivating research programs

It is important to reactivate our research programs as soon as we safely can, and our suspended research programs will be among the first campus activities to be restarted. However, in the absence of an effective and widely available COVID-19 vaccine, it is not feasible to safely manage a return to campus of all members of the Cornell community. Reactivation planning is further complicated by the reality that we cannot predict the impact of reactivation on the rate of COVID-19 infection. For these reasons, reactivation will be gradual, conducted in stages and with contingencies in place should a retreat from reactivation become necessary.

Reactivation will adhere to the following standards:

- The health and safety of students, staff, and faculty are our top priorities. New York State and local guidelines for health and safety will be met or exceeded.

- No one will be compelled to return to campus to do work that can be accomplished remotely.

- The process for reactivating research will be transparent, fair, and equitable.

- The importance of preserving Cornell's research capacity and contributing to the economic well-being of our region, our nation, and the world will be an important factor in our decisionmaking.

- Reactivating research will occur in stages that will be consistent with New York State and local government requirements.

- Although the initial stage of research reactivation focuses narrowly on scientific laboratory work, we realize the critical importance of creative and artistic practice, and its on-campus reactivation will be an important component of the next stage of overall campus reactivation.

Planning for reactivation of laboratory research on campus

To facilitate the reactivation of our research activities, faculty, facility managers, and department chairs should begin immediately to develop plans for restarting laboratory research, with the goal of obtaining maximum scholarly value from limited use of on-campus resources. These plans must ensure that all users of a facility at any time are able to fully maintain safety protocols (such as adhering to social distancing guidelines, practicing disinfection, and wearing appropriate personal protective equipment) that reduce the risk of spreading the virus.

The following guidelines should be used by researchers in developing their restart plans:

- Researchers must designate specific individuals to work in specified rooms at scheduled times for defined work, rather than authorizing general access to on-campus resources.

- To allow time to monitor any emergence of the virus and to ensure adherence to the reactivation principles describe above, on-campus work will ramp up in stages, with the maximum occupancy limited in each stage. Plans for laboratories should adhere to the six-foot rule.

- Only individuals whose research work requires them to be on-site should be working on campus. Any work that can be done remotely should continue to be done remotely.

  - Appropriate reasons to conduct research activity on campus
    - Use of scientific equipment located only on campus
    - Use of reagents
    - Research involving animals and plants

  - Inappropriate reasons to conduct research activity on campus
    - Convening in-person meetings
    - Human subject research requiring in-person interactions
    - Personal preference or convenience

- The university will gradually increase the occupancy of each facility, provided the number of COVID-19 cases on campus is consistent with New York state guidance and there is

broad compliance with the procedures around the use of on-campus resources. Under no circumstances may occupancy of any room or other shared space reach a point where proper social distancing cannot be maintained, regardless of the maximum facility occupancy at a reactivation stage, until the COVID-19 crisis is over and we are able to move all research back to campus. Higher occupancy will occur in later stages as allowed by data on the spread of the pandemic and New York state guidelines.

- All researchers (e.g., faculty, postdocs, staff, and students) as well as all support staff, (e.g., facilities, EHS, and IT personnel needed to support the laboratories) returning to campus must adhere to the university's Employee Health Protection Procedures and complete EHS Return To Work Health and Safety Training for COVID-19

- New York state requires all employees and visitors to a workplace to complete a mandatory health screening assessment. The assessment must be completed each day prior to entry to the workplace. The current assessment can be found here: Employee Health Protection Procedure. As we are able to implement new assessment tools, we will communicate to campus.

- To reduce the risk of importing the virus from outside the local community, researchers who have not been residing in the local community and wish to return to use on-campus resources must remain off campus for 14 days in the local area.

- All members of the Cornell community are expected to follow all travel guidelines that may be in place as communicated by the Centers for Disease Control and Prevention (CDC), New York state, the Tompkins County Department of Health, or the U.S. Department of State Travel Warnings. Additionally, at this time, Cornell strongly discourages any non-essential travel for personal reasons, especially to areas where there is a higher incidence of COVID-19 than in Tompkins County. Further guidance on personal travel is forthcoming.

- It is anticipated that the vast majority of research reactivation will involve faculty, post-docs, graduate students, and staff. Undergraduate researchers should only very rarely be involved in the early phases of on-campus research reactivation, and then only if they are already established in the Ithaca region and have unique skills that advance the research. Requests to include undergraduates in on-campus research must be made explicit in reopening plans, and specific approval must be given. Launching new undergraduate-based research activities will resume in later campus reactivation stages.

The Plan Review Process

Individual PIs must develop reactivation plans using the template in Appendix 1B. Completed plans will be reviewed by the responsible facility manager(s) and passed on to the departmental (or center) planning committee for further review. Each planning committee will be appointed by the department chair (or center director) to review plans and suggest revisions that may be needed to meet the guidelines. The facility manager must collaborate with faculty to ensure that the combined occupancy contained in each facility's plans does not exceed total occupancy guidelines for each wing, floor, or building. Once the plans collectively meet the reactivation guidelines, plans will be sent for approval to the department chair or center director; then to the dean; and finally, to the Vice Provost for Research (VPR). In the case of collaborative research and/or shared space, the PIs will develop the initial plan together. For core facilities, the core manager will develop the plan, have it reviewed by the responsible facility manager(s), and then send it for approval to the center director and finally the VPR.

The required steps in the planning and review process described above are provided in flowchart form in Appendix 1A.

Review structures and criteria are provided in Appendix 1C. Building and facility managers will work with EHS, purchasing, and other support functions to ensure that each facility can be properly maintained, cleaned, and supplied.

Department chairs and facility directors, as well as the deans and VPR, will have the authority to rescind approvals to reactivate individual faculty programs if the on-campus activity associated with that program does not adhere to the limits and procedures in the approved reactivation protocol or if any individuals are found to have been coerced into returning to campus when it is not safe for them to do so. If approval is rescinded, faculty would be required to suspend all on-campus research activities immediately and work with their chair to reformulate reactivation procedures to ensure compliance. Individuals who believe they are being required to work on campus in unsafe conditions should speak to their supervisor, manager, Graduate School, or HR representative. Such situations can also be reported to the Ethics Point Hotline.

We recognize that every unit is different and that details of their planning and review processes may vary. However, in all cases, the required steps described here and in the appendices must be followed.

Control Checklists

The risk of coronavirus infection, like any hazard, is mitigated by controls and specific changes to the environment or activities, including application of personal protective equipment (PPE). The following checklists provide guidance for using PPE, administrative, and engineering controls to create a safe research reactivation plan.

Checklist for PPE Controls

It is important to plan for use of appropriate PPE and to ensure adequate supplies are stocked before executing plans to reactivate research.

Task	Control	Notes
Conducting research in a shared space	At a minimum, all individuals in shared spaces in a building must wear a cloth or surgical mask at all times, except when alone in a room with a closed door.	If a person does not have a disposable mask or a cloth mask, the faculty and directors are responsible to provide masks at no charge to the research. See the Mask Guidance on Cornell EHS COVID site.
Research requiring PPE	PPE must be worn as required under the Research Standard Operating Procedures (SOP).	PPE may be difficult to obtain. Faculty and directors are responsible for supplying all PPE required and having appropriate stock for PPE. Efforts are underway to obtain a selection of hard-to-source laboratory PPE supplies such as gloves, gowns, and respirators. The PI or designee must complete the materials survey prior to reactivation.
Obtaining and stocking cleaning supplies and PPE	Plan lead times and stocking intervals for cleaning supplies.	Cleaning supplies and PPE may be difficult to acquire through several phases. Maintain enough stock on hand.

Checklists for Administrative Controls

Administrative controls are practices that help prevent the transmission of the virus that causes COVID-19. These controls do not replace existing practices for safe and responsible conduct of research but are in addition to them.

Research and Academic Activity Checklist

Task	Control	Notes
Administrative work	Must be performed at home for NY phases one and two.	In some cases, obstacles such as poor internet connections or crowded conditions make ordinary office activities difficult to do at home. Measures to improve these conditions should be considered and implemented.
Personnel instructed to come to campus for onsite research reactivation work	Practice social distancing, proper use of PPE, frequent handwashing, and proper sanitizing techniques as instructed.	If you observe non-compliance of work rules, contact your supervisor. In the event you feel forced or coerced to work, speak to your supervisor, manager, Graduate School, or HR representative. For safety issues, contact Environmental Health and Safety. Such situations can also be reported to the Ethics Point Hotline.
Reversal in work, work pause	Prioritize activities that can be shut down quickly without significant difficulty or expense.	In the first phases of reactivation, occupancy is likely to be limited. If COVID-19 infection rates increase, reactivation may be reversed.
Pending grant dates for postdocs and students	Prioritize planned activities based on needs of students and postdocs for dissertation and training, due dates of grant deliverables/ milestones, data collection to support	This applies to activities that must be done on campus.

	future proposal submission, and experiments and data needed to finalize or submit manuscripts.	
Field work	Identify needed equipment and stage shipping to the location. Travel to field sites should not be done in shared vehicles (only one individual per vehicle will be permitted). Field sites that involve overnight residence on site must implement appropriate social distancing and sanitizing of common-use surfaces and equipment within the residence. Cloth or surgical masks must be worn at all times within a common residence, except when sleeping (in separate rooms).	Ensure that your plan is consistent with travel restrictions and local requirements.
Pre-occupancy check	A pre-occupancy check with the responsible facility manager is required for each room to be reactivated.	For shared rooms, plan with the other faculty in charge and the facility manager.
Working alone	General safety procedures cannot be neglected and need additional attention when individuals are working at lower density and in more shifts. For low- and medium-risk work, plans for virtual	A virtual buddy could text hourly, for example, to check in on a researcher conducting low-risk work alone in an on-campus facility.

	buddies or other check-in/check-out system should be put in place.	
Vulnerable staff returning	Consider the needs of individuals with higher health risk and ensure confidentiality of the information.	No student, postdoc, or staff member should be forced to return to campus to do work that can be accomplished remotely. If work cannot be done remotely, see your Graduate School or local HR representative.
Training	Everyone returning to campus must complete the required CULearn Training on SARS-CoV-2 and COVID-19 and attest that they will follow protocols.	EHS Return To Work Health and Safety Training for COVID-19
Health checks	Be aware that health checks and active screening may be conducted on all individuals returning to campus.	Procedures and policy will evolve and be promulgated by the university as they become available.
Obtaining and stocking research materials	Plan lead times and stocking intervals for materials and supplies, especially those that may be difficult to acquire.	Coordinate animal requirements with the Center for Animal Resources and Education.

Cleaning Practices for Both Shared and Single User Equipment and Spaces

These controls can be implemented in individual or shared laboratories and studios or can be implemented across buildings and colleges.

Task	Control	Notes
Equipment restart	Review equipment start-up hazards and procedures. Plan to complete start-up activities before general occupancy of rooms. Identify staff and develop a schedule for readying equipment before returning to campus.	For example, fume hoods that have been hibernated should be restarted following required procedures.
Shared facilities	Identify shared facilities that are needed for your planned research and report usage required for specific equipment.	Shared equipment scheduling must be conducted in collaboration with other users.
Shared equipment	For any equipment that is used by more than one person, schedule times for individuals to use the equipment and implement procedures for sanitizing commonly touched surfaces at the beginning and end of each use period.	User facilities generally schedule use of equipment but must now take care to prevent congregation around the equipment and sanitize between uses.
Working in small rooms	Small rooms (under 500 sq. ft.) should be scheduled for single occupancy work. For larger rooms, work zones that enable individuals to remain at least 6 feet apart at all times as defined in the engineering controls list below.	All individuals in a room must be able to maintain social distancing of at least 6 feet at all times. Brief moments of closer distance while entering a room and moving to a workstation are allowable.

Shared equipment	Consider relocating pieces of equipment to make social distancing easier. Consider scheduling use of in-demand equipment or resources across multiple shifts.	Late or overnight shifts should not be required of anyone but may be used voluntarily.
High hazard processes	For work fundamentally too dangerous or too difficult to perform alone or with a minimum of 6 feet of separation, teams that work together can be established. These teams must not switch members and must maintain PPE and disinfection standards.	Members of teams working together must quarantine themselves if any member of the team becomes ill or tests positive for the virus.
Cleaning work areas	Develop and implement standard operating procedures for cleaning and sanitization in each room to be used, both before a new user begins work and after that user completes their work (i.e., each individual should sanitize their way in and sanitize their way out).	See Cornell's COVID-19 FAQ for examples and best practices. Coordinate with EHS representatives.

Checklist for Engineering Controls

Engineering controls are physical changes to a building or room that reduce the probability of COVID-19 infection. Most engineering controls must be implemented by facilities and maintenance personnel on behalf of department chairs, center directors, or academic unit heads. Many engineering controls are expensive, and some may not be possible in all buildings.

Building and facilities managers will lead the planning for and implementation of engineering controls for their building or facility.

Task	Control	Notes
Returning HVAC to normal operations	Convert HVAC systems to negative pressure, which tends to draw air from outside a building into the rooms in use.	This may be impracticable or overly expensive in many buildings. Request review and approval by facility manager.
Designating entry and exit	Identify and mark specific doorways for entry and exit into a building. Designate and mark specific sets of stairs for moving up and down in a building.	This may be impracticable in some facilities due to building layout. Request review by facility manager.
Room air changes returning to normal operations	Increase airflow exchange rates to bring higher rates of fresh air into relatively high occupancy areas.	This may be impracticable or overly expensive in many buildings. Additional filtration equipment may be required. Request review by facility manager.
Access control	Secure all building entry and exit points. Consider permanently locking as many entrances as safety codes allow.	Keycard access is preferable but may not be feasible for many buildings.
Dividing workstations	Place physical barriers (e.g. plexiglass plates) between individual workstations in shared areas.	Depending on funding source, this may be planned and proposed by individual faculty. Consult with facilities manager.
Designated walkways	Place tape, arrows, and signs in work areas to help individuals maintain social distance.	This should be implemented by individual faculty or work groups. See COVID-19 Guidance for Facilities Management Staff for examples and further details.

Appendix 1A: Planning and review process flow

PI Develops Plan → PI Reviews Plan with Facilities Manager → Plan reviewed by Department Planning Committee

Plan Approved by Department Chair or Director → Plan Approved by College Dean → Plan Submitted to VPR

Figure 1. Planning steps for space controlled by one PI

Collaborating PIs Develop Plan → PIs Review Plan with Facilities Manager(s) → Plan reviewed by Department Planning Committee(s)

Plan Approved by Department Chair(s) or Director(s) → Plan Approved by College Dean(s) → Plan Submitted to VPR
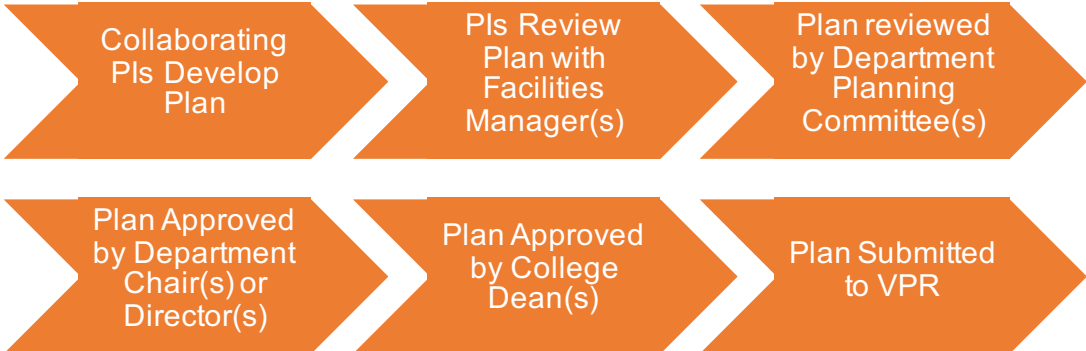
Figure 2. Planning steps for space controlled by multiple principal investigators

Core Manager Develop Plan → Manager Reviews Plan with Facilities → Plan Approved by Center Director → Plan Approved by VPR

Appendix 1B: Reactivation proposal template

1. Faculty/User Facility Manager:

2. Department/Academic Unit:

3. Briefly describe the scholarly work that would be conducted on campus and explain what on-campus resources are needed for this work. Identify source of funding.

4. Identify the individuals who would use on-campus facilities.

5. Identify the specific campus facilities where the work would be done, describing how workspaces will be physically separated to maintain social distancing requirements. (This should be a room-by-room description.)

6. Describe how use of these spaces will be scheduled to keep maximum facility occupancy below the required level, and how scheduling will be coordinated among faculty using shared or adjacent on-campus facilities (e.g., same wing or floor of a building).

7. Identify any on-campus resources outside the identified workspaces that will be required for the work (e.g., use of core facilities, or access to archival materials). Use of such resources must be coordinated with the directors of those facilities and must adhere to the reactivation procedures for each facility.

8. Describe the disinfection protocol researchers will use when entering their workspace, before beginning work, after completing work, and when exiting the workspace.

9. Describe the personal protective equipment researchers will wear and verify availability of sufficient PPE.

10. If it is essential to include undergraduates in the on-campus facilities, describe the need for that here, along with the number of students involved.

11. Faculty/user/facility manager must attest to having taken all required Return to Work Health and Safety for COVID-19 and PPE training.

Appendix 1C: Department-level review processes and criteria

Department-level review of reactivation proposals must focus on the individuals identified to return to on-campus work and on the procedures put in place to ensure compliance with guidelines on social distancing (minimum 6-foot separation at all times), maximum occupancy density, disinfection protocols, PPE use, and appropriate coordination with adjacent spaces and shared facilities. The review must focus on whether the research is allowed by the New York state guidelines, whether it requires on-campus facilities, and whether the proposal to use them safely is adequate.

Preparing for on-campus work

A process must be developed at the department level to ensure that each individual who would use on-campus resources understands their responsibilities to minimize the spread of the virus and has the knowledge and resources to meet those responsibilities. Every PI and group member must take required training. The required EHS training will provide a baseline of knowledge about social distancing requirements, PPE use, and disinfection protocols. All individuals returning to campus must attest that they will monitor their health, not come to campus if ill, and follow all procedures. Faculty and supervisors will ultimately be responsible for ensuring individuals returning to campus understand and adhere to these procedures.

Review of reactivation protocols

The dean shall establish a framework for departmental review of reactivation protocols and establish a process that facilitates coordination between faculty. It is anticipated that committees will be appointed to review reactivation plans for the unit, provide feedback to improve safety and coordination, and coordinate reporting and final review within each school or college. Such committees shall include the facility manager for the building and the administrative manager for the unit to ensure facility and logistics concerns are being addressed. In larger facilities or for units distributed across multiple buildings, faculty leaders for individual wings or floors of a facility should be identified to locally coordinate reactivation plans. These faculty leaders then serve as the overall review committee for the unit.

Reactivation plans must be evaluated based on these criteria:

1. Does the proposed work require on-campus resources

2. Are plans for workspace layout and scheduling sufficient to meet social distancing and maximum occupancy guidelines? Are plans coordinated by wing, floor, and building, as appropriate?

3. Are necessary facilities available for the research, including access to core facilities, collections, or other shared resources? Has the use of these facilities been coordinated with the appropriate directors?

4. Do the individuals using on-campus resources have a firm understanding of their responsibilities (e.g. do not come in if feeling ill, use PPE, disinfect workspaces) and have the necessary knowledge and resources to meet them?

Facilities Reactivation

The return of university staff, faculty, and students to Cornell's campuses will require careful thought and planning to lessen the COVID-19 infection risk. Here we provide an overview of building systems, cleaning, administrative controls, engineering controls, and construction and maintenance considerations needed as we restart campus operations. COVID-19 guides are provided in the appendices detailing expectations of our contractor partners in providing safety plans to address risk associated with the COVID-19 virus.

It should be noted that lead time to accomplish the proper restart protocols may vary: for example, the time required to flush potable water systems depends on the individual building circumstances. Therefore, clear identification of restart priorities by units will be essential in readying buildings for safe occupancy.

FACILITIES REOPENING PROTOCOLS

Resuming Construction and Maintenance

To date, New York state has permitted the continuation of essential maintenance services necessary to ensure safety and sanitation, and to enable essential operations to continue. It is now allowing construction work to resume (NYS Executive Order 202.6). As the campus prepares to resume construction and non-essential maintenance operations, procedures have been put in place to mitigate the risk to construction, maintenance, and building staff.

All construction meetings and the bidding processes have been moved to online, virtual settings. Cornell's Contracting Office has required contractors to provide a detailed COVID-19 safety plan that addresses social distancing, personal protective equipment (PPE), and community protective equipment (CPE) prior to resumption of work on any construction project. Cornell employees providing project oversight are required to wear face coverings and gloves at all times on construction sites, in addition to other PPE appropriate to the job site (e.g., hard hats).

Under current New York state COVID-19 guidance, maintenance activities require employees to maintain 6 feet social distance at all times, except when it is not feasible because of the work task, at which time a face covering or mask shall be worn (NYS Executive Order 202.16).

These procedures are in addition to the universal practices of disinfection, hand hygiene, cough and sneeze etiquette, and staying home when sick. If maintenance tasks take place within a construction site, then employees are required to wear a face covering or mask at all times. PPE requirements for Cornell employees are prescribed by the unit's personal protective equipment programs and procedures.

To aid Cornell employees in determining whether a task or project is construction or maintenance, the following definitions will be used to differentiate and to establish safe work practices:

- Maintenance is replacement in kind.

- Construction is anything other than replacement in kind.

Additional guidance is provided at [COVID-19 Guidance for Facilities Management](#).

Building Systems Restart Proposal

HVAC (Heating, Ventilation, Air Conditioning)

A recently published position paper by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) makes a number of recommendations for dealing with coronavirus and other infectious pathogens. The following recommended measures are to be implemented:

- Increase outdoor air ventilation during low occupancy hours

- Disable demand control ventilation

- Open minimum outside air dampers to the extent possible to minimize the recirculation of air

- Bypass energy wheel recovery ventilation systems where installed

Other measures included in the ASHRAE recommendations are considered time and cost prohibitive as they would require significant investment and/or alteration of building mechanical systems without commensurate benefit. These measures will not be implemented:

- Replace filters with high efficiency filters (MERV-13 or better) and seal edges preventing bypass air

- Deploy portable room HEPA filter "air cleaners"

- Install UVGI (ultraviolet germicidal irradiation UV-C mercury type bulbs) in air ducts

Prior to resuming research and operations on campus, facilities HVAC programming must be adjusted. The process will include:

- Terminate load shed programming to reset buildings to normal operation

- Adjust building controls programming to incorporate appropriate ASHRAE recommendations (note that this measure applies to office, classroom, and studio spaces; laboratories already run on 100% outside air and do not require adjustments)

- Return fume hoods that were hibernated to normal operation. For details on the steps required to un-hibernate fume hoods as required to resume research, see [EHS COVID 19](#).

- Complete required preventative maintenance on system components

Scheduling

The restoration process is anticipated to take five working days for resetting the building programming, completing preventative maintenance checks, and returning fume hoods to operation. (Note that adjusting controls to increase outside air will require more in-depth analysis to make any appropriate adjustments needed prior to building occupancy, so will take additional time.) Unit facility staff are requested to provide building priorities to the research reactivation subcommittee. Generally, buildings with higher occupancy should be higher priority.

Hibernated fume hoods will be placed back in service within three working days of request. Unit facility staff should request un-hibernation via a facility service request.

Potable Water

Due to the extended unoccupied period, flushing of potable water systems will be required for buildings that are designated by Utilities. The flushing procedure is described at [EHS COVID 19](#).

Utilities responsibility: Utilities personnel will contact college/department/research facility directors and zone facility director after service entrance water quality testing has been completed.

Building care responsibility: Upon notification from college/department/research facility directors or zone facility director, building care will flush terminal devices (e.g., sink faucets) and test chlorine residuals at a single terminal fixture on each floor.

College/department/research unit responsibility: Point-of-use potable water devices, such as ice machines, coffee makers, and drinking fountains, must be flushed with filters changed prior to being placed back in service. All potable water storage devices shall be cleaned and flushed prior to use and ice-making machines should be emptied and cleaned. Building coordinators will issue a service request for custodial services to empty and clean the ice-making machines. Building coordinators will also contact the coffee service company to replace carbon filters. Until these services have been completed, building coordinators shall install "Out of Service" notices on devices. Procedures for returning appliances to service are listed at [EHS COVID-19](#).

The weekly eye wash station inspection shall be completed by the laboratory user immediately upon their return to the campus laboratory. The eye wash station should be tested for performance and the water allowed to run for approximately five minutes to enable the potable water system to be flushed.

FCS has designated a project manager for the "potable water return to service project." The project manager will coordinate and communicate with all responsible parties and users, prioritize and schedule all testing/flushing activities, document building system flushing and internal test results, and coordinate point-of-use devices' return to service.

Scheduling

The unit facility director is required to submit a service request to customer service five working

days prior to reoccupation of a previously unoccupied facility to complete testing and flushing. Any building that has been partially occupied must be checked by FCS utilities personnel to determine how much water was used during the partial occupancy period, compared against baseline usage. Flushing will not be required if sufficient water usage was maintained. A service request is not required if the unit facility staff have received notification from utilities distribution that their facility has been tested and flushed.

Building Care Restart Proposal

As Cornell restarts campus activities, building care staff will be at the forefront of preparing our buildings to welcome back students, faculty, and staff. Building care only uses EPA List N-approved disinfectants found to be effective at killing the virus that causes COVID-19. This, along with the expectation that all building occupants practice recommended handwashing procedures and follow social distancing and face-covering guidelines, will help in providing the safest possible environment for everyone. While cleaning is important, it is only a part of any overall risk mitigation strategy.

Building care personnel will continue to follow the established PPE requirement. Other practices for building care staff will include:

- Used PPE shall be disposed of via regular landfill/trash containers, unless otherwise directed.

- Custodial managers and associate directors will communicate with building directors/facility managers to coordinate cleaning and disinfecting space priorities based on research and operational needs.

- Additional hand sanitizer stations (and inventory for restocking) will be provided by building care and placed in identified locations near building entrances and interior common areas throughout campus.

- Building care will create a two-month inventory of disinfectant concentrate and disinfectant wipes for future emergency needs.

- Building care will provide disinfectant spray and microfiber towels for use in rooms/spaces that are identified by unit facility directors, such as conference rooms, general office areas, and break rooms for use by building occupants. Custodians will check and refill disinfectant spray bottles once per day.

Scheduling

Cleaning and disinfecting procedures will take place within five working days after being notified of the restart date for a specific building. If there is a more immediate need for a specific space to be cleaned, that can be accomplished within three working days of being notified. A detailed list of the cleaning procedures that will occur prior to the restart is provided at EHS COVID-19. A notice will be posted on doors upon completion of the cleaning and disinfection of each space.

As the campus then restarts, ongoing cleaning and disinfection Category 2 tasks (defined at EHS COVID-19) will be performed daily (five days per week) to include full cleaning and disinfecting of:

- All restrooms, showers, and locker rooms

- Classrooms, lecture halls, public offices, hallways, and conference/meeting rooms

- Elevators, open gathering spaces, entryways and foyers

- High touch point items such as light switches, door handles and push bars, elevator call buttons, and handrails will be sanitized twice per day

If a person has tested positive for COVID-19, the Category 3 COVID-19 cleaning protocols must be followed for the spaces the individual occupied:

- Unit representative restricts access to the individual's office or workstation and notifies building care

- Upon notification, building care will confirm the occupant's office and confirm the space has been vacant for a minimum of three hours

- Building care staff will use EPA List N disinfectant and proper PPE (nitrile gloves and safety glasses, face coverings) to clean and disinfect the hard services within the workspace, suite, and facility to include common touch points:
    - Telephones
    - Computer keyboards
    - Mouse
    - Door handles
    - Light switches
    - Remote controls

- Category 2 procedures (see COVID-19 Guidance for Facilities Management) in the remainder of the facility will be performed

- If the space has not been occupied for seven days or more, disinfection actions by building care are not required, based on virus stability, and will not be performed

Administrative and Engineering Controls

To reduce the likelihood of spreading the virus, EHS recommends a number of control strategies in the categories of administrative controls and engineering controls.

The priority items for **administrative controls** include:

- Restart checklists for facilities staff

- Employee training for COVID-19 risk reduction, EHS 2019 Return to Work Health and Safety Training for COVID-19

- Policies and signage to maintain social distancing requirement in buildings (e.g., one- way traffic flow, space occupancy limits, queue spacing) and hygiene practices. Unit facility directors and unit facility representatives will be provided a list of signage to enable consistency across facilities. A draft of proposed signage title, concept, and application is listed at EHS COVID-19.

- Employee health protection protocol

- Appropriate personal and community protective equipment for assigned project job or task

Engineering controls focus on disinfectants, barriers, and equipment and system design. Priority items include:

- Use of chemical disinfectants as outlined above and by unit procedures

- Ventilation system adjustments as outlined above

- Installation of clear plastic barriers at customer service points

- Hands-free items/equipment where feasible

EHS has created a Hierarchy of Controls Document for Facilities Restart which outlines guidelines for these controls and is located at EHS COVID-19.

CONCLUSION

As we begin the process of reopening campus, coordination of this committee's activities with the other committees is imperative to ensure a smooth transition back from remote to on-site operations. Robust communication with our campus partners will be key to coordinating the safe and comfortable return of occupants, and information such as the date of occupants' returns will be necessary as we schedule cleaning and maintenance activities.