

**Back to Work Policies and Procedures for IQ  
Return to Work Phase 1  
EFFECTIVE: JUNE 8, 2020**

**Purpose:**

The purpose of this protocol is to enable personnel to work more safely in IQ laboratories and other facilities while there is still a risk of contracting SARS-CoV-2 (COVID-19) from co-workers and other people in the building. This document should be taken in the context of university-level **Research Reactivation** guidelines (<https://vp.research.msu.edu/coronavirus/research-reactivation>) and may change as conditions warrant or require.

Laboratory and Research Reopening Plan		
Research Category	Phase	Timeframe
Essential Research	0	Current
High Priority <b>Research</b>	1	June 2020
Expanded Research	2	September 2020
Computational Research/ <b>Non-laboratory personnel</b>	3	January 2021

**At present, only essential and high priority research is to be conducted on campus (Phase 0 and 1) until permission is granted for expanded research (Phase 2 in the September, 2020 time frame) and lastly for all personnel including those in computational research (Phase 3 in the January time frame).** This protocol addresses each of these Phases with a focus on the more extreme measures required for Phases **0 and 1**. Working in all MSU laboratories and facilities is limited to work that can only be done on campus—if your work can be done at home, stay at home—this will be the operational plan for next 6-24 months depending on the progression of the COVID-19 pandemic.

*This protocol will remain binding until the MSU Office of Regulatory Affairs (ORA) or the Office of the Senior Vice President for Research and Innovation (OSVPRI) allow for or require modifications. Changes to this protocol will be widely distributed to all building occupants and their supervisors by email, postings will be made at the entrances of the building, digital signage, and on the [IQ COVID-19 Sharepoint Site](#).*

**I. Guiding Principles**

1. Safety of personnel and their families is first and foremost in these guidelines
2. The risk of going back to work in IQ alongside other people is both contracting SARS-CoV-2 (virus that causes COVID-19) from co-workers and transmitting to others at home or at work by aerosol or contaminated surfaces. Keep in mind, a contagious person may not have symptoms.
3. The risk will remain until there is a vaccine or there are a large number of immune co-workers from prior exposure.
4. The anticipation is that there will be a risk of SARS-CoV-2 transmission for the next 12-24 months, and we will be running through all phases of this plan with that risk in place. Precautions need to be added on top of existing lab safety protocols and the new precautions do not replace them.
5. Training on new policies and procedures is required for all those returning to work and building access will not be granted until there is demonstrated proficiency in these new guidelines.
6. To prevent SARS-CoV-2 infections, **awareness is key**
  - i. Maintain physical distances of 6 ft, or more, between co-workers at all times
  - ii. Maintain physical distances between all people coming to and from work
  - iii. Monitor your health (temperature, etc.)
  - iv. Wear relevant PPE at all times (e.g. Fisher 3 ply back to work disposable PPE mask and safety glasses)
  - v. Take note, and make a list, of all people you come in contact with while in the building. Maintain this so that it can be used for contact tracing for you and others if necessary. Guidance for what constitutes contact is spending 15 min or longer within 6 ft of another person.
7. Working off-site should continue as much as possible – (e.g. experiment planning, manuscript writing, literature research)
8. No one will be compelled to work in the laboratory, particularly those that are members of vulnerable populations.

9. An individual who stays home or who leaves work when they are at a particular risk of infecting others with COVID-19 will not be disciplined or otherwise retaliated against.
10. Initial research priorities will focus on experiments that in case of Executive Order can be suspended in a timely manner--Must be prepared for rapid ramping down of research in case of Executive Order.
11. Each person reentering the workplace should aim to reduce the numbers of items that you touch and disinfect all shared surfaces that you do touch.
12. Guidance documents will be written by the University, VPRI office, IQ Administration and each laboratory PI—these need to be consistent and available to all people who work on campus.
13. Eating puts people at risk of infection, and thus eating in IQ will be prohibited

## II. Baseline Expectations for IQ On-site Reactivation of Research—University Policies

The following University principles shall apply to all return to work protocols but are subject to change in light of evolving external constraints. Based upon applicable constraints now in force, the following principles apply:

1. MSU colleges, department and laboratory planning must comply with the evolving Federal, State, and local policy framework summarized above.
2. MSU planning will be implemented so that public health conditions can be maintained. Foremost in the planning is the safety of the workforce and everyone associated with its return, including members of surrounding communities.
3. A required contingency component of MSU plans will be **reversibility**, in case of a recurrence of local pandemic severity forces another contraction of research activity.
4. MSU plans will be developed and implemented so that the infrastructure can support the reactivation of activity. Many laboratories and some entire buildings have been idle for over a month, and they must be prepared for occupancy.
5. MSU planning will be as transparent as possible, to permit individual faculty to make plans that conserve their time and effort.
6. Administrative review of plans will seek to ensure effectiveness and compliance in health and safety, at all levels: college/unit, building, and research group. Plans from PIs must include a mechanism of auditing lab personnel for compliance.
7. Administrative appeals will be heard when requested, to ensure faculty are treated appropriately in light of the specific needs and risks of their research or creative activity.
8. Research work that can be conducted at a satisfactory standard (including health and safety) at home must continue to occur at home, while public health orders governing individual activity remain in effect.
9. Students may not be compelled to conduct research activities on campus as a condition of assistantship or postdoctoral research associate support, while public health orders governing individual activity remain in effect.
10. MSU Work Alone Policy must be followed. Attention must be paid to personal safety. Attention must also be paid to personal safety if someone is working in a sparsely populated building. Anyone with safety concerns should contact Heather Hazzard ([hazzardc@msu.edu](mailto:hazzardc@msu.edu)), Paula Palmiter ([palmite2@msu.edu](mailto:palmite2@msu.edu)), EHS, or Internal Audit.
11. All individuals should seriously consider whether they (or their family members residing with them) fall in a "high risk" category. If so, they are strongly encouraged to engage in research and other scholarly work at home while public health orders governing individual activity remain in effect.
12. All individuals that have any respiratory symptoms (difficulty breathing, cough, etc.) or who have had any contact with someone with a confirmed diagnosis of COVID-19 must not enter the IQ.
13. Should someone in your research group have symptoms or test positive for COVID-19, immediately notify the Chair/Unit Administrator, University Physician and EHS. The laboratory will need to be properly cleaned and disinfected. Personnel who are ill are required to stay at home.
  - a. Should someone in your research group test positive for COVID-19, send all personnel home and contact the University Physician to report as much information as known at the time. It is important to maintain the privacy and confidentiality of information.

## III. IQ-Specific Training

1. **Team:** Dr. Contag leads the training team for IQ and the team has reviewed and contributed to this document and a training protocol; these protocols and training documents will continue to be revised to address the changing circumstances and dynamics of our response to the

pandemic. Building access may not be granted until training has been completed and documented.

2. **Training:** On-line IQ-specific training will be required for all faculty, staff and students who wish to return to work in IQ. This training will include: policies and procedures, scenario training, decontamination protocols, proper disinfection and cleaning, physical distancing, daily staffing, contact tracing, and responses to COVID-19 infections in the building. This training will be documented.
3. **EHS Training:** EHS's [Ability online training course](#) is required for everyone entering the building. This training can be directly access via [IQ's COVID-19 Sharepoint site](#).
4. **Individual Lab Training:** In additional to the IQ specific training, each lab is also responsible for conducting site specific training as well as adhering to the respective division policies and policies.

#### IV. General Expectations for IQ Faculty Staff and Students working in IQ

1. **BSL-2 Space: At no time will research with active virus causing COVID-19 be conducted.**
2. **Building Preparation:** The building has remained operational during the shutdown, equipment has been routinely monitored and repaired as needed by essential personnel, and in principle, the building is ready for resumption of work following inspections by IPF and EHS. Biosafety cabinets and autoclaves will be checked by labs/building managers and will be recertified as needed. The buildings will remain locked and access controlled.
3. **Custodial services:** Custodial services will follow CDC guidelines and implement appropriate protocols for high-touch point cleaning routines outside the labs, using approved disinfectants. IQ will continue to follow the same trash custodial plans prior to the *Reactivation of Research*.
4. **Daily Access Log & Health Screener:** Temperature checks and the [Daily Access Log & Health Screener](https://bit.ly/36iLJGB) (<https://bit.ly/36iLJGB>) must be completed prior to going into the building. A thermometer will likely be available at entrances for those without access to one, however, we strongly encourage everyone to take their temperature prior to coming into the building. If you have to use the IQ thermometer, the Daily Access Log & Health Screener can be submitted at that point. This form serves as both individual lab's access log and the daily health screening information.
5. **Building Access:** Key card access will be limited to only those faculty, staff and students who have been trained and acknowledged the policies and procedures in this document. Key card access will be cut off for anyone found to be violating policies and procedures in this document.
6. **Designated Entry Points:** MSU Police Department will designated a specific entry point(s) into the IQ building. Access will be disabled on the remaining doors.
7. **Minimize movement:** Try to stay in your lab space and division as much as possible. Stay in in your own areas--Don't walk through other divisions--If you need to move from place to place use the East end of the building and stay in the linear equipment hallways and not in labs or write up space. Walk outside if possible.
8. **Restricted Spaces:** Large open spaces with seating will be off limits and signage will be posted. Common spaces including kitchenettes (including refrigerators and microwaves), conference rooms, vending machines, lounge and break out spaces will be closed for use until further notice.
9. **Cubicle Spaces:** Cubicle spaces will have limited use. Individual labs can allow single workstations to be occupied at any one time with a 6-foot perimeter. If your time in the building requires private office space, please contact the respective Division Chief.
10. **No Eating:** During Phase 1, no eating in the building. Drinking is allowed using water that you bring in a closed container with you from home. Drinking fountains are closed. If you need to eat, bring wrapped food that does not need to be heated or refrigerated and eat outside the building or in your car. Do not use the microwave or refrigerators. Wash your hands before and after eating. Follow proper "gowning" and "de-gowning" procedure as appropriate.
11. **Leaving and Reentering:** Each time you reenter the building, please follow the gowning procedure.
12. **Signage:** IPF will provide tape to mark directional flows. This will also include floor signage for waiting areas at ice machines, liquid nitrogen dispensing, etc. Please adhere to the maximum occupancy posted.
13. **Restroom:** Public restroom ingress/egress will be established and signed accordingly.

14. **Elevators:** Use of the elevator is discouraged. For those that need to use it, the elevators should be used by one person at the time. Appropriate signs will be placed as reminders.
15. **Outside Contractors:** MSU approved outside contractors will be met by IQ personnel upon appointment by phone or email at a building entrance door, instructed on our PPE protocol. IQ personnel will accompany outside contractors to their designated work area. The work area needs to be cleared of lab personnel to maintain social distancing of 6 feet.
16. **Visitors:** Visitors must not enter the building without official business to conduct. Unpaid (and therefore unessential) undergraduate students and non-essential visiting scholars cannot enter the building.
17. **Contractor/Vendor Building Access:** Contractor and vendor access must pre-approved in advance (i.e. Thermo Fisher, VWR, Leica, etc.). Visiting requests should be directed to Paula Palmiter in advance ([palmite2@msu.edu](mailto:palmite2@msu.edu)). The facility staff will arrange for access to the building and facility. All visitors must complete the electronic sign-in and are expected to adhere to the policy and procedures in this document while in the building.
18. **All Visitor Log:** An electronic sign-in is required for all visitors. Instructions for sign-in will be available at the entrance.
19. **Ordering & Deliveries:** All shipments should be directed to Central Receiving (166 Service Rd). University Stores will continue to deliver packages to the back loading dock (room 1840). A member of each lab will be responsible for checking for packages every day. Building staff will help check packages but all laboratory staff should help notify other labs if there are packages in the package room.

#### V. Base Personal Protective Equipment (PPE) Requirements

1. The following PPEs are required and will be made available at the entrance(s):
  - i. Clean safety glasses—if you have prescription glasses these can substituted for safety glasses—side panels on your prescription glasses are recommended
  - ii. Cloth face covering or disposable face masks
2. Cloth face coverings or disposable face masks must be worn in building in all common areas, laboratories, and shared spaces. If a person is in their office alone, the mask can be removed if the door is closed. For further guidance regarding appropriate and effective masks, see [Guidelines for Cloth Face Coverings](#). Contact Nisa Chaiwang ([chaiwang@msu.edu](mailto:chaiwang@msu.edu)) or Heather Hazzard ([hazzardc@msu.edu](mailto:hazzardc@msu.edu)) to request a cloth face mask. Disposable face mask will be made available should cloth face masks become unavailable.
3. Clean safety glasses will be available at the entrance to the building and there will be a drop off container for all glasses that have been worn even once. The used glasses will be disinfected every day, then rinsed and dried for re-use. EPA approved disinfectant methods will be used, based on availability and function.

#### VI. Preparation For Lab Work

1. File the [Daily Access Log & Health Screener](#) before going to the building. Take your temperature and put it in report before going to the building. In the rare event that you do not have access to a thermometer, one will be made available in IQ, however, it's encouraged that you take your temperature at home prior to coming into the building.
2. Minimize the transport of items between work and home. Leave most personal items at home—transport only essential items between work and home (e.g., water, key card, wallet, phone). Make sure you have all your belongings in a bag that you can wear over your shoulder (i.e. so that you don't have to carry anything in your hands since you will need to wash your hands upon entry).
3. You cannot bring your computer to work. Similarly, if your computer is already at work, you cannot bring it home.
4. No phones are allowed in the building unless packaged in a Ziploc bag—only unwrap your phone when exiting the building. Bags will be provided at each entrance.
5. If you need to eat, bring wrapped food that does not need to be heated or refrigerated and eat outside the building or in your car. Do not use the microwave or refrigerators. Only remove mask for the time it takes to eat. Wash your hands before and after eating.
6. Headsets and earbuds should not be used in the building.

## VII. "Gowning/De-gowning" and General Building Practices

1. Frequent hand washing and avoiding touching one's face is recommended by the US Center for Disease Control ([CDC](#)) to avoid infection, and MSU follows these recommendations.
2. The "gowning" protocol begins **immediately** upon entrance to the building and should remain on until exiting the building.
  - i. Upon entrance into the building put your phone into a Ziploc plastic bag. Ziploc bags are provided at the entrances. Bagging does not impede function of the cell phone but will help prevent contamination while on the premises. Bags can be disposed in plastic lined receptacles upon leaving the building.
  - ii. Wash your hands in the first-floor bathroom using soap and water for 20s and use paper towels to open doors—do not touch door handles with bare hands. Hands should be washed at regular intervals during the work period to minimize the potential infection.
  - iii. Take your temperature (if you were unable to take it at home) and submit the Daily Access Log & Health Screener. **If you have a temperature greater than 99°F go home.**
  - iv. Put on a face mask and safety glasses.
  - v. Proceed to your work location. As you walk through the building use disinfecting wipes or paper towels (if wipes are unavailable) to open doors, push elevator buttons, etc.
3. Upon entering the laboratory work area put on a lab coat and gloves. Gloves should be worn in the laboratory only as part of the usual PPE for a procedure. The CDC recommends that gloves should not be worn at other times as it may cause further spread of the virus
4. At the time of exiting the lab for any reason, remove lab coat and gloves.
5. Wash your hands frequently throughout the day.
6. Upon exiting the building, follow the "de-gowning" protocol:
  - i. Discard mask in the appropriate receptacle (this will be marked)
  - ii. Discard the safety glasses in the appropriate receptacle (also marked)
  - iii. Remove phone from Ziploc bag and discard bag in the appropriate receptacle
  - iv. Wash hands and use paper towels to exit building
7. Note levels of soap in all dispensers and refill when near empty. Supplementary bottles of soap will be available on the first floor near the masks and thermometer—use these to replace soap when necessary in bathrooms.
8. Each lab should designate a person to clean common touch surfaces in the lab at the beginning of each shift, including doorknobs, light switches, faucets, general use equipment.
9. Notify Nisa ([chaiwang@msu.edu](mailto:chaiwang@msu.edu), 517-281-0413) or Heather ([hazardc@msu.edu](mailto:hazardc@msu.edu), 517-945-1687) immediately if any of the PPE and cleaning supplies are depleted.

## VIII. Division Procedures

1. General Principles
  - i. The Division Chiefs have the authority to ensure adherence to these guidelines
  - ii. The Division is comprised of shared space and the division is the fundamental compliance unit for safety in these spaces—each individual lab must adhere to division policies
2. Mandatory Actions
  - i. Divisions must designate two people per division to ensure that there is soap and paper towels at the sinks in both the kitchenettes and bathrooms—bathrooms are only stocked once a day by custodial staff. Contact Nisa ([chaiwang@msu.edu](mailto:chaiwang@msu.edu), 517-281-0413) or Heather ([hazardc@msu.edu](mailto:hazardc@msu.edu), 517-945-1687) for additional supplies. Any division without soap and paper towels at the sinks in the kitchenettes will be out of compliance
  - ii. Cleaning and disinfection must happen a minimum of two times per shift for common areas, laboratories, and shared research spaces.
  - iii. [EHS's COVID-19 Non-Healthcare Facility Cleaning guideline](#) should be followed for routine cleaning of frequently touched surfaces. These surfaces include tables, doorknobs, light switches, handles, desks, toilets, faucets, sinks, and electronics. Precautions should be taken when applying the product, such as wearing gloves and making sure to have good ventilation during use of the product. The approved disinfectants that may be used are:

- a. 70% ethanol or 70% isopropanol for a contact time of 5 minutes.
- b. 10% bleach solution for 10 minutes. The diluted bleach solution must be prepared fresh, dated, and labeled daily.
- c. Sani-Cloth, if available, for a contact time of 3 minutes
- iv. Cleaning logs noting the date of cleaning and responsible individual should be maintained for each shared lab, common space, or shared pieces of equipment or instruments.
- v. Labs may have no more than 2 persons seated in their designated write up space provided the minimum 6 feet between individuals—divisions are to enforce this policy
- vi. Each cell culture room, and other spaces of these dimensions, must have a sign that states only one person at a time may work in that space
- vii. Doors to all rooms must have signs indicating maximum number of people in that space.
- viii. Divisions should optimize their space in order to maintain physical distance. Unused and unattended offices should be made available to students when possible.

#### **IX. General Laboratory Practices**

1. In addition to maintaining physical distance, you should also minimize your time in the building. Anything that can be done at home, you should do at home. Only go to the building if you are doing work that **MUST** be done at the laboratory.
  - i. If your task for the day is minor, ask a colleague who needs to go to the building to complete the task for you (be reasonable; e.g., ask to grab deliveries; don't ask to change media in 10 cell culture flasks).
  - ii. Be good teammates and help each other out by completing simple tasks for others so they don't have to come in.
  - iii. Have a clear plan for the day and write up protocols for the day's work before coming to the building—only be in the building to execute the task.
  - iv. Don't spend time socializing in the building.
  - v. If you finish your tasks before the end of the shift—go home.
2. Don proper PPEs at all times.
  - i. Leave safety glasses and mask on when using all equipment including microscope.
3. Wipe off all equipment before and after use. Please make sure not to damage optics (microscopes) with disinfecting solutions.
4. If you bring notes, protocols or other paper items from home leave them in the lab if possible—minimize what you bring to and from the lab.
5. Since computers stay at home put all data in the cloud for accessing later.

#### **X. Time Shifts**

1. Guidelines for spacing of people in labs—6-foot minimum at all times
2. Labs will be required to record their schedule of in-building work on their respective division calendar on the [IQ Intranet](#). Division chiefs are responsible for ensuring that the maximum number of occupants is not exceeded.
  - i. These schedules will be recorded on the division shared calendar on the [IQ Intranet](#). An example would be three shifts during the day (4 hours per shift) (i.e. 8am-12pm; 12pm-4pm; 4pm-8pm)—adjust times and duration for your particular laboratory or division needs
3. PIs must complete an [individual lab plan](#) and have it approved by their respective division chief, IQ director, research deans and EHS/ORR. The PI must review the plan and conduct site-specific training with all lab members prior to re-entry.
4. Make sure that people schedule their work in non-overlapping shifts to minimize the number of potential contacts and no one should work more than one (1) shift per day.
5. Have a designated person clean common touch surfaces in the lab at the beginning of each shift, including doorknobs, light switches, faucets, general use equipment.

#### **XI. Shared Laboratory Equipment and Spaces**

1. All shared equipment in laboratories and shared spaces must be cleaned before and after use.

2. EPA approved cleaning disinfectants must be used for cleaning shared equipment and common space. *The EPA has a list of approved disinfectants for use against COVID-19 including:* 1) 70% Ethanol, apply and maintain wet for 5 minutes. Ensure wet contact time is accomplished as ethanol evaporates; 2) 10% Bleach, make fresh daily, apply and maintain wet for 10 minutes. Ensure use is within 24 hours after making solution; 3) Sani-Cloth® Germicidal Disposable Cloth, apply and maintain wet for 3 minutes, dispose of wipe appropriately; 4) Cavicide™, ready to use within the expiration date, apply and maintain wet for 3 minutes.
3. The approved disinfectants listed above will also be used for cleaning general building-based facilities that are overseen either by IQ and/or Facilities Planning & Space Management. These spaces and equipment include, but not limited to, autoclaves, glass washers, water purification systems, package delivery room, etc.
4. Cleaning and disinfection of common shared laboratory spaces and equipment should be clearly stated in the individual lab plans. SOPs (standard operating procedures) that include the disinfectant instructions (and how to prepare the disinfectant and any PPE required for its use) should be posted/available in the research areas and by the equipment to be disinfected.
5. Cleaning logs noting the date of cleaning and responsible individual should be maintained for each shared lab, common space, or shared pieces of equipment or instruments.
6. Disinfect all handheld devices (e.g. pens, pencils, pipettors using a 70% alcohol solution).
7. Research spaces (tissue culture rooms, autoclave rooms, etc.) will be subjected to the same physical distancing restrictions as other spaces –a minimum of 6 ft between individuals at all times.
8. When applicable, an electronic reservation and logbook will be available for shared research spaces
9. Shared research spaces should have a sign on the door indicating maximum occupancy, and whether the room is occupied or not
10. Shared equipment in individual labs will be accessible by appointment with the PI or appointed person, and the visitor needs to complete the digital shared equipment log of the lab.

## **XII. Monitoring to ensure compliance**

Compliance will be monitored periodically during walkthroughs by the training team. Attention will focus primarily on:

1. Ensuring appropriate physical distance is maintained in all spaces
2. Ensuring that lab occupancy does not exceed what was agreed upon
3. Ensuring the use of PPE
4. Ensuring that everybody in the building has gone through the training
5. Minor violations will be communicated to the individuals in writing with copy to the PI. Repetitive offenders will be asked to take the training again before being allowed back into the building.
6. Preparedness for ramp-down as necessary
7. Each lab should have in place a procedure in place to ramp down research activities again, if required. Such a plan should include a list of essential personnel and duties that will need to continue to go to the building.

Questions or concerns about this document, and reports of unsafe behaviors can be directed to Dr. Chris Contag ([contagch@msu.edu](mailto:contagch@msu.edu)), Dr. Kurt Zinn ([zinnkurt@msu.edu](mailto:zinnkurt@msu.edu)) or Heather Hazzard ([hazzardc@msu.edu](mailto:hazzardc@msu.edu)).

### **Helpful links:**

Cloth mask guidance: <https://ehs.msu.edu/assets/docs/fact-sheets/cloth-face-covering-fact-sheet.pdf>

OSHA guidance on preparing workplaces: <https://ehs.msu.edu/news/2020-04-19-osha.html>

COVID-19 Cleaning guidelines: <https://ehs.msu.edu/news/2020-03-19-covid-19-cleaning.html>

CDC poster and communication materials: <https://www.cdc.gov/coronavirus/2019-ncov/communication/print-resources.html?Sort=Date%3A%3Adesc>

CDC Communities, Schools and Workplaces: <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/businesses-employers.html>

CDC Reopening Document: [https://www.cdc.gov/coronavirus/2019-ncov/community/pdf/Reopening\\_America\\_Guidance.pdf](https://www.cdc.gov/coronavirus/2019-ncov/community/pdf/Reopening_America_Guidance.pdf)

Version 1: 5/26/2020

## Memorandum

To: Jeffrey MacKeigan, Ph.D.

From: Joseph R. Haywood, Ph.D.

Subject: Building Plan for the Institute for Quantitative Health and Engineering Building

Thank you for your prompt responses to the issues raised during the review of the building plan for the Institute for Quantitative Health and Engineering Building.

Your building plan has been approved by EHS/ORAs.

We want to remind you that the Building Plan is only one part of the process to getting back to work. The return to research is predicated on: 1) completion of building infrastructure review conducted by IPF and Facilities and Planning, 2) approval of the Building Plan, and 3) approval of individual Laboratory Plans. While the building can open without all the Laboratory Plans approved, no investigator can start work without individual approval. ORAs will be contacted by IPF and Facilities and Planning when the buildings are ready.