

## MRL X-Ray SEF Rules for After-hours Privileges

After receiving initial training and authorization, users are allowed to work in the MRL X-Ray SEF only during normal business hours, which are non-holidays, Monday through Friday, from 9 am to 5 pm.

If a user wishes to work in a lab outside normal business hours, then they must request and qualify for after-hours privileges. After-hours privileges can be granted to MIT personnel after they have demonstrated safe, responsible, and productive operation of an instrument for a set period of time (the period of time required varies by instrument). After-hours privileges allow a user to unlock the lab door using their MIT ID and enter the lab at any time. The user may reserve and operate only the instruments, using only the techniques, that they have been trained on and officially authorized to use.

Working after-hours carries additional responsibilities. Users working after-hours will be held liable for instrument and lab condition to a greater extent than users working during normal business hours.

You must read and acknowledge the following rules in order to receive after-hours privileges. After you have read the rules, you must

- (1) complete and sign the form on the last page.
- (2) complete the quiz on the last page
- (3) give the completed form to X-ray SEF Staff.

**After-hours privileges can be revoked for violation of any of these rules.**

*Please note: When different sources (MIT vs. MRL vs. UROP) have different rules for working after-hours, the stricter rules always take precedence.*

1. If you break something, such as an instrument or sample holder, while working after-hours, you must report it to X-ray SEF Staff. Failure to report the accident or breakage will result in loss of after-hours privileges and may result in loss of access to the X-Ray SEF. You are accountable for damage to an instrument after-hours.
2. Undergraduate students cannot work alone in a MRL lab after-hours. Therefore, undergraduate students will not be given after-hours privileges. An undergraduate student may work in a lab after-hours only if they are supervised at all times by someone who does have after-hours privileges for that lab.

3. You are responsible for the safety and security of the lab and its contents. If an instrument is damaged or stolen after-hours, we will look at the entry logs for the lab to figure out who is responsible.
  - a. You will be held responsible for any loss or damage caused by somebody that you allow to enter the lab.
  - b. Do not prop the lab door open. Keep the lab door closed and locked during after-hours, even when you are in the lab.
  - c. Do not open the door to allow somebody else into the lab.
  - d. Do not allow anybody else to use your MIT ID to enter the lab.
  - e. *Please note: we record every time you enter the lab using your MIT ID.*
  - f. Exceptions:
    - i. You may escort a trained user into the lab after-hours so that they can collect data as long as you remain in the lab with that person at all times. You are accepting responsibility for their actions and any damage that they cause.
    - ii. You may escort an untrained user into the lab after-hours if they are present to help ensure your safety when transferring liquid nitrogen or working with hazardous materials.
4. You are responsible for the condition of the instrument and the lab.
  - a. When done, turn the instrument off or leave the instrument in the standby mode, as specified by the SOP, and leave the work area clean.
  - b. You can be billed for all of the time that the instrument is on at full power, even if it is not actively collecting data for you. Your billable time does not stop when the instrument finishes collecting your data; your billable time stops when you turn the instrument off or put it in standby mode and clean up your work area. Therefore, it is important that you promptly return to the lab when your measurement is finished.
  - c. If an emergency alarm sounds, the building must be evacuated immediately. You must return to the lab after the alarm is cleared for the purpose of turning the instrument off or putting it in standby mode and cleaning up your work area.
5. If an instrument does not seem to be working properly, then leave SEF staff a voicemail or email. You are **required** to report the problem. If the instrument seems unusable, leave an "Out of Order" sign on the instrument or keyboard. Report the problem in Coral.
6. If there is a problem that requires immediate action, such as a water leak near electrical equipment, you are **required** to alert the appropriate personnel. Do not attempt to fix the situation, because you may not have the proper training to do so safely. You should safely leave the lab and then call campus security at x100.

- a. The MRL Emergency Action Plan and the MIT Emergency Response Guide are posted near the lab door. Consult these when dealing with any unexpected incident. Call campus security at x100 if you are uncertain about what to do.
  - b. Staff home or cell phone numbers are posted on the green card on the lab door. Call staff if there is something seriously wrong after-hours (damaged equipment, water leak, etc.).
  - c. *Do not just leave a voicemail. Keep calling numbers until you talk with an actual person to whom you can report the problem.*
7. After-hours users are responsible for recognizing the limits of their own skills. If you reach a point where you are unsure how to proceed, you must stop work at once and shut the instrument down.
  - a. All use of SEFs after-hours, regardless of the amount of data obtained, is billable.
  - b. Any time spent by staff correcting situations left by a user working after-hours will be billable.
8. If you are authorized to change a sample stage or optic, such as the furnace on the PANalytical, then you should inform X-Ray SEF Staff at least one business day in advance every time that you plan on changing the instrument configuration after-hours. This will also help Scott make sure that the accessory is accessible and not locked up in the workshop. You are responsible for returning the instrument to its default configuration when you are done.
9. When working alone after-hours in a MRL lab, you must arrange for a person to be your safety contact.
  - a. That person must know where you are and what you are doing.
  - b. You must contact that person by some means (e.g. telephone) once per hour.
  - c. If the other person does not hear from you at the expected time, then they should verify your safety by attempting to contact you. If they cannot contact you, they must call campus security (x100) and ask them to visit the lab to check on your safety.
  - d. You must tell that person when you expect to leave and notify them when you have left the facility safely.
10. When working alone in a lab, you must take breaks at regular intervals.
  - a. Take a short break every 2 hours.
  - b. Every 4 hours, you must take a longer break of at least 30 minutes. You should leave the work area during this break.
  - c. You may not work more than 8 hours continuously in an area.
  - d. You may not work more than 16 hours in any 24 hour period.

11. You must properly use Coral for reservation and logging your instrument use time. Failure to do so will result in loss of after-hours privileges.
  - a. You must use the time that you reserve in Coral or delete your reservation in advance. If you consistently reserve the instrument and do not use it, you will lose after-hours privilege.
  - b. You must engage the instrument in Coral to log all of your instrument use time. If you consistently forget to engage the instrument in Coral, you will lose after-hours privileges.
  
12. You may not do chemical processing in a MRL lab after-hours. The only material handling activity that you may do is loading your sample into the instrument.
  
13. You may not work alone after-hours with acutely toxic materials.
  - a. Before you can work with acutely toxic materials in a MRL lab, you must meet with SEF staff to develop a plan and get explicit approval before bringing hazardous materials into any MRL lab. During this meeting, you will:
    - i. Discuss the hazards of the material
    - ii. Provide SEF staff with an MSDS
    - iii. Develop a safe procedure for handling the sample in the instrument, preventing contamination of the instrument, cleaning up a spill, and responding to any other emergency.
    - iv. *This procedure is required if you are working during business hours or after-hours.*
  - b. If your research involves acutely toxic materials, you should work during normal business hours if possible.
  - c. If you must work after-hours with toxic materials, then another person must be with you at all times. That person does not have to be a trained operator of the instrument, but they must be familiar with the hazards of your sample and the appropriate response in an emergency.
  - d. You must bring all spill control materials and protective clothing required for working with the hazardous material.
  - e. If there is a spill:
    - i. You must inform SEF Staff
    - ii. You must clean all affected equipment, furniture, floor according to the procedure that was outlined before.
    - iii. You must contact EHS as described in the MIT chemical hygiene plan.
  - f. All chemicals and hazardous waste, including used kimwipes and other ancillary materials, must be collected and safely transported back to your lab for disposal.
  - g. When wearing gloves to work with hazardous material, take those gloves off before typing at a computer keyboard or operating controls (knobs, buttons) for the instrument.

**APPLICATION FOR AFTER-HOURS PRIVILEGES TO THE MRL X-RAY SEF**

Complete and sign this form. Circle each correct answer on the quiz. Then, return this application to X-Ray SEF Staff.

Name (print): \_\_\_\_\_

MIT ID#: \_\_\_\_\_

*I have read the "MRL X-Ray SEF Rules for After-hours Privileges" and agree to accept the additional responsibility and liability as described and to abide by all of the rules:*

\_\_\_\_\_  
Your Signature

\_\_\_\_\_  
Date

**Quiz**

- 1) When may you let somebody who does not have after-hours privileges into a lab after-hours?
  - a) Never
  - b) If they are a trained user and you stay in the lab with them at all times.
  - c) If they have after-hours privileges but forgot their MIT ID.
  
- 2) What are the consequences if you consistently do not use the instrument time that you reserved in Coral?
  - a) You will permanently lose access to the X-ray SEF.
  - b) You may be billed for that time anyway.
  - c) You will lose after-hours access.
  
- 3) If there is a puddle of water, from an unknown source, on the floor near or under an instrument, what should you do?
  - a) Clean it up and leave a note/voicemail/email for the SEF staff person
  - b) Ignore it and collect data anyway
  - c) Leave the lab and report the problem to SEF staff person or campus security.