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STANDARD OPERATING PROCEDURE #1

Work Instructions for Reopening the Chapter Facility and Heightened Facility Maintenance for a Healthy Chapter Facility

Revision Register:

Documentation and Responsibility	Name	Title	Date
Amended by:			

Last Review Date	Next Review Date

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OBJECTIVE

A number of facility responsibilities come with reopening a chapter facility. This SOP addresses assessing the condition of the chapter facility, including building systems, administrative functions, and members' responsibilities to achieve and maintain a healthy environment.

APPARATUS

1) Face masks
2) Gloves
3) Camera
4) Screwdriver (Phillips & flat blade)
5) Adjustable wrench
6) Flashlight
7) Pen, tablet, and clip board
8) Painter's tape or electrical tape

SAFETY

During the chapter facility tour, practice social or physical distancing. Stay at least 6 feet from other people. Wear clothes that cover your skin, closed toe shoes, and a head covering. Safety glasses or shields over prescription glasses are also suggested.

Only facility personnel or trained technicians are authorized access to equipment and mechanical spaces, electrical spaces, basements, etc.

DEFINITIONS

1) Diffuser and Grille – A slotted or square metal device typically in the ceiling which either supplies or exhausts air to or from the space.
2) Directional Airflow –The concept of directional airflow is moving potentially clean outdoor air through a space to a more potentially contaminated space (i.e., room ventilator to bathroom exhaust) where it is exhausted outdoors. Previous records may record amounts of fresh air introduced into the building and where it is exhausted. A new healthy LEED building has at least 20% of outdoor air.
3) Non-Contact Infrared Thermometer (NCIT) – According to the Food and Drug Administration, is a thermometer that measures an individual's surface temperature without making physical contact. Improper use of NCITs can result in inaccurate temperature measurements.
4) LEED – Leadership in Energy and Environmental Design
5) HVAC – Heating Ventilation & Air Conditioning
6) CADR – Clean Air Delivery Rate
7) CFM – Cubic Feet Per Minute

8) MERV ("Minimum Efficiency Reporting Value") – A filter efficiency rating system

9) HEPA Filter – High Efficiency Particulate Air Filter

10) OA – Outdoor Air (often referred to as fresh air)

11) RA – Recirculated Air

12) FDA – Food and Drug Administration

13) USDA – United States Department of Agriculture

PROCEDURES

1) ESTABLISH A RECOVERY TEAM

a. Appoint a team leader that is supported by several team members to divide work.

b. Consider reaching out to alumni to serve as consultants to supplement and support the process.

c. Appoint an individual to gather past, current, and maintain future, maintenance records, warranties and receipts.

> **NOTE:** Equipment should be restarted by facility personnel or trained technicians.

2) TOUR THE CHAPTER FACILITY

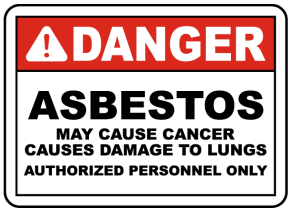
a. Inspect the chapter facility's condition to get "a picture" of the state of its condition. Every space needs to be visited including the outside of the building.

b. Walk the committee through the facility looking for issues and recording them with a description, location, and take a photograph.

> **NOTE:** Consider pre-numbering index cards to place next to an item or area being photographed and add that number to the corresponding description. This will make it easier to match photos with comments.

c. If applicable, use your chapter's "Chapter House Facility Inspection Checklist" as a guide. A checklist used from previous appraisals can be used and referenced for baseline information. Focus is not on completing a checklist, it is about identifying and documenting potential problems and developing solutions.

d. If there is a sign that is posted stating, "Asbestos," do not enter the space.



e. Focus on issues that can impact health including:

i. Building Envelope

- Are windows operable or non-operable? Operable windows are sources of outdoor air but may exceed the cooling and heating capability of the building. Plan to air out the building on a mild day or when the building is unoccupied (e.g., semester breaks).

ii. Plumbing

- Identify water fountains including each fixture type, model, and service connection.
- Consider disabling water fountains to avoid pathogen transmission from surface contamination.
- Consider replacing standard water fountains with no-touch water bottle refilling stations.
- Identify plumbing leaks and stagnant water in appliances (e.g., dishwashers, refrigerator drip pans). Mold growth can be caused by any condition resulting in excess moisture.
- Check for leaks from seals where the toilet tank meets the bowl and at the floor to the drain fitting. Leaks that result in water on the floor is a water source for pests. To test for a leaky toilet, add a colored toilet bowl tablet. If the toilet leaks, there will be colored residue on the floor or where the tank meets the toilet bowl. A plumber is needed to tighten the toilet or replace it. Do not try this yourself as the tightening process can cause the toilet porcelain to crack or brass screws to snap causing the entire toilet to be replaced.

iii. HVAC

- Make note of the HVAC system type in the event it needs to be serviced.
- Identify preventative maintenance activities (e.g., quarter or semi-annual inspections) which have occurred in the past and schedule during future semester breaks.
- Using the equipment's model and instruction manual, check online for the maximum filter efficiency recommended. Measure the filter for replacement size and seek assistance at the hardware store when purchasing.
- Consider upgrading opportunities and energy cost reduction through consultation with your power company.
- The EPA recommends maintaining indoor relative humidity between 30% and 60% to reduce mold growth, and ideally between 30% and 50%. This is dependent on geographical location and outdoor air temperature. Contact with your local EPA office or indoor air quality experts to determine the proper level.

- Identify leaks from dehumidifiers, condensing coils and drip pans in HVAC systems. These lead to mold and respiratory ailments.
- Verify that leaves and debris have not accumulated at outdoor air intakes, gutters, and basement entrances. They can be a source of mold, clog air filters and drains.

iv. Equipment Failure

- In mechanical spaces there is potential for mold growth from leaks from pipes, drains and roof. Odors, water staining and visual damage serve as clues for identifying issues.
- Noises, smells such as from overheating, and vibrating equipment are telltale signs of bearings, belt and other pending equipment failures. Take action to inform maintenance or contact a service technician to investigate and resolve.

v. Mold

- A musty odor may suggest mold growth. Other signs indicating that mold may exist include discolored spots on walls and floors, development of respiratory problems, and noticeable moisture on surfaces. Discolored spots may be distinguishable by a dark grainy look.
- Mold on walls or ceilings requires an industrial hygienist to assess for removal. (Do not touch).
- Paper, cardboard, etc., when wet attracts mold spores (32^{o}F to 120^{o}F). Discard immediately.

vi. Pest Management

- Capture by photograph or by placing tape on the floor (sticky side up) to possibly trap pests. This may allow the pest technician to discern a specific treatment.
- Identify and remove stacks of newspapers, unneeded documents or cardboard. Remove papers and cardboard and dispose properly as these can harbor pests.

vii. Signage

- Inspect current signage and determine if it is in good condition, requires updating or needs to be replaced.
- Use plastic signage or laminate signage so that it can be easily cleaned. Replace paper signage.

3) PLUMBING IMPROVEMENTS

a. Prioritize corrective actions with the Recovery Team and, if possible, get budget estimates.

b. Contact a plumber to remediate leaks.

c. Water Fountains, Decorative Fountains/Aquariums and Recreational Water Sources (e.g. Pools, Hot Tub, Sauna, Etc.)

i. Consider disabling water fountains to avoid pathogen transmission from potentially-contaminated surfaces.

ii. Place “water fountain closed signage”.

iii. Consider replacing standard water fountains in the chapter facility with no-touch water bottle refilling stations.

iv. Inquire if the water heater is properly maintained and the temperature is correctly set. At least 140°F. Higher temperatures can further reduce the risk of *bacterial* growth, but ensure measures have been taken to prevent scalding.

v. A decorative fountain, aquarium, hot tub, sauna, swimming pool, may have been inactive during the shutdown. Though there is no evidence demonstrating transmission of COVID-19 by water sources at this time, standing water can be a source for breeding insects (mosquitoes) and bacteria. If maintenance has not been suspended during the COVID-19 period, maintenance should be resumed possibly draining the water source, sanitizing it and refilling with water with the recommended water treatment.

d. Water Filter Maintenance

Water filter maintenance may have been suspended during the shutdown. This can become evident to you by a bitter and unpleasant taste. Taste is not an indicator whether the water is safe to drink. Water may have impurities such as chlorine and zinc. Inquire if the water is filtered and its source. Make a healthy decision to install a point of use filter at the faucet, use bottled water or filtering pitcher.

e. Toilets

i. Before opening the facility, it is recommended that all toilets be cleaned using the following process:

- Flush toilet and pour disinfecting bleach as directed by product into the bowl and tank.
- Scrub the bowl with a toilet brush, making sure to get under the rim.
- Wait at least 6 minutes for disinfection to occur.
- Flush toilet again.

- Close the lid.

ii. Tank toilet bowl cleaners can disinfect the toilet bowl automatically when the toilet is flushed. Consider using these as part of toilet maintenance in accordance with the manufacturer's directions.

iii. Bathroom windows should not be opened if the room exhaust is working. Directional airflow is toward the exhaust fan. Opening the window disrupts that process.

iv. If leaks are discovered or suspected, have an inspection performed by licensed plumber.

v. Some experts have speculated that flushing a toilet can send an aerosol into the air based upon computer modeling. The best practice is having the toileted closed before flushing. Adding signage in bathrooms to promote this practice as well as proper handwashing is suggested.

4) HVAC IMPROVEMENTS

a. Prioritize corrective actions and, if possible, get budget estimates.

b. Resume maintenance routines and scheduled maintenance that may have been postponed due to the COVID-19 pandemic. Heating/cooling systems should be serviced in anticipation of cooler/warmer weather.

c. Consider contracting with a licensed HVAC technician to start the system, evaluate the system and conduct:

i. Preventative maintenance activities.

ii. Filter replacement.

iii. Routine maintenance.

iv. Evaluate if the fan curve will allow for additional filter efficiency.

v. If central air handling unit is equipped with economizer cycle (outdoor air for temperate season cooling) verify it works.

vi. Make sure humidification is operational before winter season.

vii. Inquire about newer technologies for UV placed within ducts and at filters.

viii. If chapter facility has a central air handling unit, have the coils cleaned and treated with biocide.

ix. Verify air filters are not bypassing air around the filter.

x. Verify dampers are operational.

xi. Maintain and clean fan coil unit or heat pump wall unit.

- Make sure that the equipment used by the technician is a strong "HEPA filtered" vacuum cleaner. Ordinary vacuums and using compressed air can spread particles that could be contaminated with potentially-infectious pathogens.

d. Clean air vent covers, grills and diffusers. Alternatively, consider hiring a professional.

e. ***Temporarily*** increase a chapter facility humidity to 45% - 60% during the winter months.

   i. Heavier and wetter air "weighs down" certain particles (such as viruses) making them fall for surface disinfection. The dryer the air, the more easily a virus can freely circulate throughout a chapter facility.

   ii. Prolonged periods of increased humidity above 60% can be harmful to the facility and increase harmful microorganism growth.

   iii. Always check with your Contact with your local EPA office or indoor air quality experts to determine the proper level.

f. If additional humidifiers are required and installed in certain rooms, follow the manufacturer's instructions for maintaining the humidifier.

   i. Add changing filters and cleaning humidifiers to the maintenance schedule.

   ii. Consider training residents to properly operate, maintain, clean and disinfect humidifiers.

5) HVAC OPERATION AND MAINTENANCE

a. After a building is reopened and occupied, routine (e.g., weekly) checks of the HVAC system are recommended to ensure operating efficiency.

   i. During HVAC checks, inspect and replace filters as indicated or needed.

   ii. The frequency of HVAC system checks can be gradually reduced (e.g., monthly, quarterly), depending on the operational and maintenance specifications for the HVAC system.

   iii. Maintain indoor temperature and relative humidity within ranges recommended by the CDC.

   iv. Clean air vent covers, grills and diffusers. Duct cleaning may possibly be required.

b. If no routine HVAC operation and maintenance program is in place for the building, one should be developed and implemented. At a minimum, consider including the following:

   i. Inspection and maintenance of HVAC components

   ii. Calibration of HVAC system controls

   iii. HVAC testing and balancing

   iv. Dirty grills and diffusers can indicate lack of proper filtration and maintenance. Duct cleaning may possibly be required.

c. HEPA Filter Devices

   i. Consider placement of portable or installation of wall-mounted HEPA filter devices in areas close to where most activity occurs (e.g. desks, bed).

   ii. Clean Air Delivery Rate (CADR) reflects, in cubic feet per minute, the volume of clean air that an air purifier produces at its highest speed setting. Select models with a CADR over 240, which can perform roughly five air exchanges per hour in its suggested room size.

   iii. Follow the manufacturer's instructions regarding placement and use of a HEPA filter device.

   iv. Ensure the HEPA filter device captures and reduces up to 99.9% of air particles of 0.3 microns or larger.

   v. Add changing filters and cleaning HEPA devices to the maintenance schedule.

   vi. Consider training residents to properly operate, maintain, clean and disinfect HEPA filter devices.

d. Ceiling Fans

   i. Dry dusting disturbs particles that become airborne instead of collecting and removing the particles. The steps for cleaning a ceiling fan are:

      - Place a piece of duct tape or electrician's tape over the wall switch. This will prevent the fan being accidentally turned on during cleaning.
      - Always wear a mask and eye protection.
      - Use an extension cleaning wand such as a Swiffer with a pre-moistened cleaning pad. If a ladder is required, use only an OSHA-approved ladder and read instructions before use. It is recommended to perform this work in pairs with one person on the ground to hold the ladder and ensure safety while the other person performs the cleaning.
      - Dust the top of the fan blade surface first, wiping away from you.
      - If cleaning by hand, use a split microfiber positively charged cloth which, with disinfectant, attracts the negatively charged dust particles like a magnet.
      - When cleaning is complete:
        a. Remove the tape from wall fan switch.
        b. Remove and dispose of the mask properly,
        c. Wash hands immediately.
        d. Then remove and clean eye protection.
        e. Change clothes.

f. At a minimum, wash face, neck and other exposed skin with soap and warm water. If possible, shower and wash hair.

6) EQUIPMENT FAILURES

a. Train residents and members to report failed equipment to the Chapter's designated officer so it can be properly reported to the House Corporation. In particular:

i. Report water leaks occurring from anywhere.

ii. If equipment or individual units (e.g. heating or cooling units) begin to make noise, notify the Chapter's designated officer immediately.

iii. Do not attempt to make equipment repairs by removing covers or hitting equipment. Not only could the equipment become damaged or result in injury to the individual, this could invalidate any warranty covering the equipment. Arrange with the House Corporation for a trained technician to service the equipment.

7) PEST MANAGEMENT IMPROVEMENTS

a. Consider hiring a pest management professional to take care of pest issues. Pesticides can cause harm by over usage or improper selection.

b. Prepare and institute a pest management plan.

c. Eliminate food crumbs and pools of sitting water.

d. Seal cracks and gaps in cabinets, walls, floor bases and moldings.

e. Members should report evidence of insects, bugs, or animals so a pest management professional can be called. Members can also provide a picture so the pest management professional can identify an effective treatment.

f. For information on identifying the types of pests in your area, consult the USDA's Identification Technology Program.

8) ISOLATION ROOM OR "SICK ROOM"

a. Identify an isolation room or "sick room" and bathroom with adequate ventilation. Consider having the following in the isolation room or "sick room" has the following:

i. True HEPA air purifier

ii. UV light for surface decontamination

iii. Room humidifier

iv. Refrigerator or cooler

v. Dedicated isolation kit as detailed in SOP 6 – Work Instructions for Isolation

9) SPACE CONFIGURATION

a. Modify space configurations to maintaining social distancing (e.g., entry, member rooms, and occupancy limits of meeting/common areas).

b. Post occupancy limit signage so others know the limits, plan their functions appropriately and comply for each other's health.

c. Reinforce social distancing by setting up the room with cleanable chairs with the maximum number of chairs placed the appropriate distance apart.

d. Consider converting meetings to web-based meetings.

e. Ask member to download a social distancing app on their cell phone.

f. Measure distance of beds between shared bedrooms to ensure appropriate distance apart.

g. Add touchless sensor or soft-step trash cans and paper towels.

h. Prepare policy or signage that instructs members not to move furniture or chairs without prior approval.

10) ENTRY AND EGRESS POINTS

a. If possible, restrict to a single point of entry.

   i. Before locking other points of entry, check with the local fire code to ensure compliance with emergency egress requirements.

   ii. Consider installing a secure entry system such as card access. If possible, install an intercom/buzzer system with a magnet door release for visitors and others to announce themselves before gaining entry. Security system (Ring, Simply Safe, ADT etc.) information is available on the web and at hardware stores.

   iii. Disinfectant mats at all exterior entrances. Disinfectant mats work by pouring ½ inch to ¾ inch of disinfectant into the mat well. When pedestrians walk over the mat, surface contaminants on the bottom of the shoes come into contact with the disinfectant. Some styles include rubber "fingers" to scrub debris. Disinfectant mats are to be placed on smooth, even surfaces only. Because the bottom of the shoes will be wet, place a larger entrance mat with a rubber backing under the disinfectant mat to protect flooring and prevent slipping when exiting the disinfectant mat.

   OR

   There are also sticky mats that utilize adhesive inserts to capture dust and fine particles. These mats are used in interior applications such as entrances from a room that has more particles on the floor, like a recreation room, or to the kitchen. They are not recommended for wet areas or outside entryways where shoes may be wet from rain or snow.

iv. COVID-19 warning signs/posters. Include that they must comply with mandatory COVID-19 prevention steps as a condition to enter the chapter facility. A sample COVID-19 warning sign is provided in SOP 8 – Health Surveillance and Reporting.

b. Recommended Facility Entryway Needs For Health Screening:

i. Soap and running water near the entry or alcohol-based hand sanitizer containing at least 60% alcohol.

ii. Room for touchless sensor or soft-step waste basket.

iii. Place signage explaining steps to administer health screening.

iv. Use painter's tape or stanchions to set up lanes on the floor or other methods to ensure individuals remain at least six feet apart during the entry process.

v. Depending on space availability, install pegs or hooks spaced 24 inches apart or other accommodation for hanging outerwear prior to entering interior spaces of the chapter facility.

vi. If using a NCIT, use a draft-free space and out of direct sun or close to radiant heat sources. If possible, set up the screening area close to the entrance with a barrier between the screener and people being screened.

vii. Determine if conditions are optimal for use for an NCIT. Typically, the environmental or temperature required in order for the device to operate should be between 60.8-104º F (16-40º C) and relative humidity below 85 percent.

viii. Indicate participant waiting spots in 6-foot increments to maintain social distancing and confidentiality. If possible, provide seating a safe distance from the entrance and screening station for visitors who are awaiting re-screening.

ix. Have a sign in sheet available at all entrances (many chapter facilities have more than one entrance). If possible, restrict to a single point of entry to facilitate surveillance and monitoring.

x. Ensure that the screening location does not block building exits or egress in case of an emergency.

xi. Place hand sanitizer at the entrance and require all entrants to disinfect their hands immediately upon entry into the chapter facility.

xii. Refer to SOP 8 – Health Surveillance and Reporting for more information and guidance.

11) ADDITIONAL PRACTICAL MEASURES FOR THE CHAPTER FACILITY

a. Ask a technician to train the Chapter's designated officer in filter changing.
    i. Prepare step-by-step signage to change the filter and place near the air handling unit.
    ii. Order a one-year supply of filters at the end of the semester or the next academic cycle.
    iii. Always wear a mask to change filters.
    iv. Always place filters in plastic trash bags for disposal.
b. Until the COVID-19 pandemic subsides, consider disabling setbacks of ventilation systems. Where possible, set recirculating systems for continuous air filtration.
c. Do not plan duct cleaning when the chapter facility is occupied.
d. Add signage to all doors that states "Close Door." Ventilation systems are usually designed for directional airflow, so closing doors is necessary. For areas of continual non-compliance, consider having door closers installed by a technician.
e. Consider adding room humidifiers in sleep or study areas to increase the room's humidity during the winter. To measure room temperature and/or humidity, you may use a small individual thermometer and/or hygrometer (measures room humidity) that are readily available and are low cost.
f. Consider adding a room desk type HEPA fan which filters the air in each room and common areas to improve filtering the air.
g. Remove magazines, newspapers, pens, and other frequently shared items that are not easily disinfected. Potentially-infectious pathogens may be present and transfer from person to person with repeated use.
h. Thermal comfort is always an issue and is relative to an individual's metabolism. The more energy used to heat or cool a space, the more cost for fuel the larger the carbon footprint. Recommend layered clothing inside during the winter and lighter clothing in the summer to maintain individual comfort while setting the HVAC to an efficient temperature.
i. Spend time in healthy LEED buildings or outdoors.

12) REFERENCES

CDC Guidelines - Social Distancing, Keep your Distance to Slow the Spread

CDC Guidelines – Indoor Air Pollutants and Toxic Materials

A Facilities Manager's Guide to Reopening and Occupying Buildings Safety

Busting Bugs: USDA Creates Online Tools to ID Pests

13) VENDORS

No-Touch Bottle Refilling Stations Also, Retrofit Stations and Retrofit Kits for replacing touch water fountains. Some feature UV light biofilm control, ADA compliant, Energy Star rated	**Global Industrial** www.globalindustrial.com **Elkay** www.elkay.com **Grainger** www.grainger.com
Water Fountain Closed Signage	**Owensboro Health COVID-19 Signage** https://www.owensborohealth.org/news-events/news-media/2020/covid-19-signage/
Humidifier	**Homech** http://www.homech.net/product/1010 **Global Industrial** www.globalindustrial.com
HEPA Filter Devices	Rabbit Air https://www.rabbitair.com 3M Filtrete https://www.filtrete.com NuWave https://www.nuwaveairpurifier.com/

Microfiber Towels	**Microfiber Wholesale** https://www.microfiberwholesale.com/16-x16-All-Purpose-Microfiber-Towel.html **University Products** https://www.universityproducts.com/buff-pro-multi-surface-microfiber-towel.html
Water Filters	**Brita** https://www.brita.com
Security Solutions	**Ring** http://www.ring.com **SimpliSafe** http://www.simplisafe.com **ADT Security Services** http://www.adt.com