

(Updated 5-20-2021)

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## I. Purpose

**Preliminary: This is an evolving document which will be updated, as knowledge and practices develop for the prevention and management of COVID-19. Yellow highlighted sections indicate recent document updates.**

This **COVID-19 Space Cleaning Protocol and Decision Guide (SCPDG)** is prepared to support and clarify options for cleaning and disinfecting indoor spaces at Penn State facilities (except Penn State Health). In accordance with CDC and PA DOH guidelines, businesses need to develop, implement, and revise, as needed, cleaning and disinfection plans for areas used by individuals with COVID-19 illness. For the purpose of this document, spaces for closure and cleaning are defined as spaces recently occupied by person(s) confirmed as COVID-19 positive or a verified suspect case as determined by Occupational Medicine (employees), University Health Services (students) and the Penn State COVID-19 Contact Tracing Team. [Refer to the COVID-19 Space Closure Assessment & Reporting instructions details on proper reporting and space closure.](#)

## II. Background & Limitations

As part of Penn State return to work and return to campus planning, the Office of Physical Plant and other University Park work units including: Auxiliary & Business Services (ABS), Animal Resource Program (ARP), Applied Research Laboratory (ARL), University Health Services, University Athletics, as well as each Commonwealth Campus have established [routine preventive cleaning and disinfecting measures](#) which includes [schedules for routine cleaning and disinfecting](#) of classrooms, restrooms, teaching and research labs, and other public spaces. Spaces are cleaned and disinfected by trained custodial or maintenance employees, and/or by work unit employees. Such cleaning and disinfecting measures are preventive in nature.

Areas recently occupied by persons confirmed as COVID-19 positive, or verified as suspect cases by Occupational Medicine, University Health Services, and/or the Penn State COVID-19 Contact Tracing Team are referred to as COVID-19 space(s). These spaces may present an increased risk of exposure to other occupants. Additional cleaning/disinfection (C/D) may be advised for COVID-19 spaces, depending on the relative exposure risk to cleaning personnel and occupants, as determined by the facility type/use conditions, and in cooperation with the Facility Coordinator. The cleaning/disinfecting approach may not significantly change; however, the PPE requirements for COVID-19 spaces may increase to reduce the exposure risk to cleaning personnel and occupants, as further presented.

## III. Facility Type/Use – Exposure Risk Clarifications

### A. Low-Risk Facility Type/Use

Low-risk facility use/type includes one or more of the following exposure-risk conditions:

- Infrequent or low-frequency occupancy, or where occupants and/or trained custodial or maintenance personnel periodically clean common, high contact surfaces for COVID-19 prevention,
- Areas/rooms served by operable mechanical ventilation, at recommended ASHRAE exchange rates, and providing no less than 10-15% fresh outdoor air during occupied periods, or areas with good natural ventilation (by outdoor air),

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- Areas/rooms with limited specialty equipment surfaces, and which are routinely cleaned for COVID-19 prevention.

Example low-risk facility use/types include: classrooms, common instructional areas, general office suites, conference rooms, copier/workroom areas, research areas with limited specialty contact surfaces, lobbies, elevators, stairwells, corridors, kitchens/kitchenettes and food preparation areas (frequently cleaned using sterile procedures), outdoor entryways.

## B. High-Risk Facility Type/Use

High-risk facility use/type includes one or more of the following exposure-risk conditions:

- Highly frequent/ high volume occupancy, not routinely cleaned by occupants or trained custodial or maintenance personnel,
- Areas where high intensity physical activity is conducted, potentially where bodily contact or contact with body fluids is increased, or involving high intensity breathing (music, athletic training),
- Health care examination or treatment areas,
- Areas with high or frequent occupant load, and many types of contact surfaces which are frequently used, and not typically cleaned/disinfected on a preventive basis.

Example high-risk facility use/types include: high occupancy, frequent or 24-hour use eating/cafeteria areas, restrooms, breakrooms, fitness/athletic training rooms, academic kinesiology or therapy rooms, gymnasiums/physical training facilities, music/vocal/instrument studios or practice halls, locker or change rooms, high volume computer studios, workshops, health-care clinics or facilities.

**NOTE:** High-Risk Facility Type/Use for work units including: Auxiliary & Business Services (ABS), Animal Resource Program (ARP), Applied Research Laboratory (ARL), University Health Services (UHS), and University Athletics must be defined in cooperation with the corresponding Facility Coordinator and/or Safety Officer (FC/SO) in consultation with EHS.

## C. Specialty Use/Type

The operation of specialty research laboratories may involve unique factors that determine which surfaces may be impacted, such as: specific instrument or equipment components accessed by varying persons or groups, types PPE used, and frequency and timing of access or use. Cleaning/disinfection (C/D) may require specialized procedures for effective COVID-19 preventive or response cleaning, which require a more specific risk evaluation. *Consult work unit Safety Officer and Penn State EHS for assistance.*

## IV. Operational Guidance

### A. Prerequisite – COVID-19 Case Assessment and Reporting

Suspected or confirmed COVID-19 cases are assessed and reported according to the [COVID-19 Space Closure Assessment & Reporting instructions](#), and the associated [Space Closure Assessment Tool](#). Reported employees will be referred to Occupational Medicine, and students

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to University Health Services. An employee's supervisor will be notified by their employee and Occupational Medicine.

**NOTE:** Each College/Department or work unit should arrange notification procedures to the FC/SO and/or Pandemic Safety Officer (PSO) regarding reported suspect or confirmed COVID-19 cases, as soon as possible, for their timely follow-up and action. The Penn State Contact Tracing Team can provide verification of suspect or confirmed COVID-19 cases within a given work unit.

Regardless of notification sources, Supervisors and Instructors should coordinate with their [unit-specific Pandemic Safety Officers](#) to identify the impacts of the case and potential space closures assessed with this process.

Refer to this SPCDG, [Appendix 1 – Re-Occupancy Cleaning Decision Process Summary](#) for an overview of cleaning procedures based on re-occupancy needs. This tool helps clarify specific cleaning and disinfection requirements, based on the specific work unit's timing needs for re-occupancy.

## B. Cleaning/Disinfection Requirements by Facility Type/Use

**The duration and timing since last occupancy by confirmed or "verified as suspect" infectious person(s), are key determiners for cleaning and disinfection requirements for low-risk, and separately for high-risk facility type/use as noted below.**

1. **Low-risk facility type/use** – Confirmed or verified as suspect infectious person(s) have conducted work, research, academic, or related activity within a low-risk facility use/type, for more than 15 minutes, within the past 24 hours, that has not been preventively cleaned/disinfected by service personnel, nor routinely cleaned/disinfected by occupant employees within this 24-hour period.
2. **High-risk facility type/use** – Confirmed or verified as suspect infectious person(s) have conducted work, research, academic, athletic, performing arts, or related activity within a high-risk facility use/type, for more than 15 minutes within the past 24 hours, regardless of whether the space has been preventively cleaned/disinfected within the past 24 hours.

### NOTES

- Impacted areas SHALL NOT INCLUDE common areas such as hallways or corridors used by persons for sole purposes of movement through buildings to an occupied work, research, academic, athletic, or performing arts area.
- Impacted areas SHALL INCLUDE areas where infectious person(s) have directly used equipment, materials, and/or contacted surfaces within the space for work, research, academic, athletic, performing arts, or other activity.
- Cleaning/disinfection measures and/or PPE may be increased in areas where confirmed or verified as suspect infectious person(s) became acutely ill immediately prior to, during, or immediately following occupancy in the impacted area.
- [Electrostatic sprayer use is optional. This method may be useful or preferred in complicated space configurations. Refer to Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure](#) for more information. Contact the unit FC/SO and/or PSO in consultation with EHS for assistance or support in determining pertinent applications.

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## C. Cleaning/Disinfection Requirements by Occupancy Demands

### 1. **Occupancy Not Required within 3 Days**

In cases where a confirmed or verified suspect COVID-19 infectious area (COVID-19 space) may remain vacant for a period equal to or exceeding **3 days (72 hours)**, and the space receives routine custodial or occupant cleaning/disinfection, no additional cleaning/disinfection is required.

### 2. **Occupancy Required within 24 Hours – 3 Days**

In cases where a COVID-19 space may remain vacant for at least 4 hours, but preferably 24-hours, and subsequently cleaned/disinfected and re-occupied, use the following requirements:

#### a. **Low-Risk Facility Type/Use**

1. Generally, no additional cleaning is required where thorough preventive cleaning/disinfection of all high contact surfaces, and other likely impacted surfaces by confirmed or verified suspect COVID-19 infected persons has been performed within the past 24 hours, with the following guidelines:
  - i. Service personnel cleans all frequently touched surfaces including desks, tables, doorknobs, drawer pulls, computer keyboards and mice, and all other identified high-contact surfaces using microfiber cloth or alternates and above-listed EPA-Registered disinfecting agents.
  - ii. If hard surface flooring is present, service personnel mops floor with microfiber flat mop, using EPA-Registered disinfectant solutions.
  - iii. Once detail cleaning is completed, gather and bag all used microfiber/other cloths and mop heads. Bagged microfiber can be laundered as normal or disposed.
2. Don all appropriate PPE (minimum includes: universal procedural or cloth mask, appropriate nitrile or vinyl gloves, eye protection).

Consult the work unit FC/SO and/or the PSO to clarify any additional requirements or PPE in coordination with EHS (as support).

#### b. **High-Risk Facility Type/Use**

1. Ensure the [COVID-19 Space Closure Sign](#) has been properly completed and posted at the door or space entry. Unauthorized personnel shall not enter affected areas.

#### **NOTES:**

- If the Space Closure Sign is NOT posted, contact/inform the FC/SO or PSO, prior to beginning work, to ensure the sign is properly posted.
- As feasible, contact the assigned Penn State Building Engineer to verify impacted areas with HVAC service are adjusted to maximize outdoor air exchange prior to and during cleaning, where possible (e.g. variable air volume-controlled spaces).

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2. Immediately prior to cleaning/disinfection, service personnel affix the [Appendix 4 – COVID-19 Disinfection In-Progress Sign](#) to applicable entry(s).
3. Don appropriate PPE for chemicals to be used, at a minimum including:
  - i. disposable coveralls (Tyvek not required), garment or gown
  - ii. disposable gloves (nitrile or vinyl), suitable for use with cleaning/disinfecting product,
  - iii. safety glasses,
  - iv. procedure mask (to be discarded after use)
  - v. additional protection in cases with possible splash hazard or direct contact with bodily fluids is present:
    - face shield (for protection against accidental hand contact with facial surfaces (eyes, nose, or mouth)
    - disposable shoe covers

#### NOTES:

- [Electrostatic Sprayer use is optional, but may be preferred, depending on size and use of the space, and for spaces with multiple impacted high contact surfaces. Refer to Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure. Contact the unit FC/SO and/or PSO for assistance, in consultation with EHS.](#)
  - Disinfectants for COVID-19 must be registered and listed at the [USEPA List N: Disinfectants for Use Against SARS-CoV-2](#).
  - Certain List N agents may NOT have been tested in electrostatic sprayers. *Consult the sprayer manufacturer for any guidance on product selection.*
  - Certain electrostatic sprayer applications require additional chemical clearance from air prior to re-entry. Refer to the Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure for clarifications.
  - For areas not served by mechanical ventilation, open windows to improve natural ventilation prior to re-occupancy.
4. Enter room and clean/disinfect applicable surfaces, known or suspected to have been contacted by infectious person(s).
  5. Upon completion of cleaning, service personnel enter the time requirement for re-entry to the Disinfection In-Progress Sign.
  6. Notify the Facility Coordinator/Safety Officer (FC/SO) of completion.
  7. FC/SO, PSO or designated party remove COVID Disinfection In-Progress Sign and notify work unit of acceptable space re-occupancy status.

### 3. Immediate/Urgent Occupancy Required

In cases where a COVID-19 space must be immediately entered for urgent service, and/or immediately cleaned/disinfected for re-occupancy, use the following measures:

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## a. Low-Risk or High-Risk Facility Type/Use

The measures taken for urgent response and/or immediate cleaning/disinfection are not distinguished with respect to risk level by facility type/use, since there is recognized increased exposure risk to airborne droplets or contaminated aerosol.

1. Ensure the [COVID-19 Space Closure sign](#) has been properly completed and posted at the door or space entry. Unauthorized personnel shall not enter affected areas.

### NOTES:

- If the Space Closure sign is NOT posted, service personnel contact/inform the FC/SO or PSO, prior to beginning work, to ensure the COVID-19 Space Closure sign is properly posted.
  - As feasible, verify with the assigned Penn State Building Engineer to verify impacted areas served by HVAC mechanical equipment are adjusted (where feasible) to maximize outdoor air exchange prior to and during cleaning, particularly where mechanical adjustments may be increased (e.g. variable air volume controlled spaces).
2. Immediately prior to cleaning, service personnel affix the [Appendix 4 – COVID-19 Disinfection In-Progress Sign](#) to applicable entry(s).
  3. Refer to the [Appendix 3 – COVID-19 Urgent-Immediate Response/Maintenance Procedure \(URMP\)](#) for specific guidance.

### NOTE:

- Electrostatic Sprayer use is optional, but may be preferred, depending on size and use of the space, and for spaces with multiple impacted high contact surfaces. Refer to [Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure](#). Contact the unit FC/SO and/or PSO for assistance, in consultation with EHS.
- Disinfectants for COVID-19 must be registered and listed at the [USEPA List N: Disinfectants for Use Against SARS-CoV-2](#).
- Certain List N agents may NOT have been tested in electrostatic sprayers. Consult the sprayer manufacturer for any guidance on product selection.

## 4. Unique Settings/Schedules

Certain specialty research laboratories, clean rooms, and other environments may require special considerations for determining appropriate cleaning times, methods, and scope of cleaning. Consult Penn State EHS for additional guidance and support.

## V. Cleaning/Disinfection Application Notes:

1. Hard surfaces – Clean and then apply disinfectant for recommended dwell time and wipe clean.
2. Soft surfaces – Soft/fabric surfaces may require compatibility check with disinfectant product; where compatible, spray surface for dwell time and wipe clean.

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3. Carpet – May require chemical compatibility check with disinfectant product; where compatible, spray apply for required dwell time and let dry.

Note: HEPA carpet cleaning may be conducted as a preliminary measure to final application of disinfectant, prior to re-occupancy.

## VI. Reference Information

U.S. Centers for Disease Control (CDC)

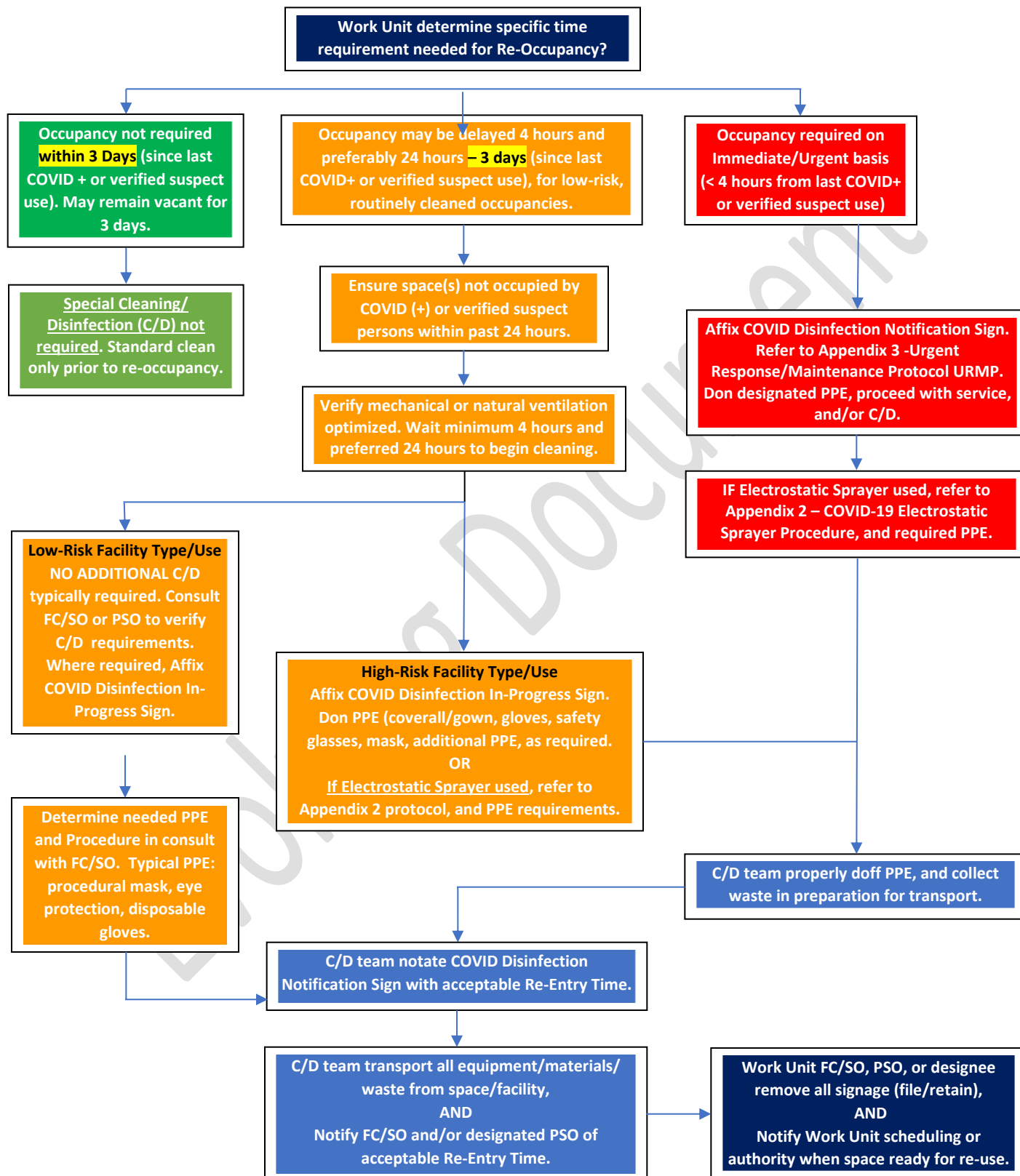
1. *Cleaning and Disinfecting Your Facility*  
<https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>
2. *Reopening Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools and Homes*  
<https://www.cdc.gov/coronavirus/2019-ncov/community/reopen-guidance.html>
3. CDC Environmental Infection Control Guidelines – Part IV. Appendices, Appendix B – Air  
<https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html>
4. [CDC Update - Cleaning and Disinfecting Your Facility \(April 2021\)](#)
5. [CDC Update – SARS-CoV-2 and Surface \(Fomite\) Transmission for Indoor Community Environments \(April 2021\)](#)



# COVID-19 Space Cleaning Protocol and Decision Guide

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## Appendix 1 – Re-Occupancy Cleaning Decision Process Summary



## Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure

### Electrostatic Sprayer Background:

This procedure should be used in accordance with requirements established by the *COVID-19 Space Cleaning Protocol and Decision Guide*, and is typically used for “high-risk facility type/use” occupancies. *Such occupancies typically include larger complex area(s), multiple rooms/suite, building floors, and/or areas with multiple impacted, high contact surfaces, that cannot be readily wiped using traditional manual cleaning/disinfection methods alone. The usage of PPE is also dependent on the specific chemical agent used as further noted.*

### Preliminary Notes:

- 1) Service personnel shall not enter areas to clean where there is a potential or confirmed coronavirus-infected (infectious) individual currently occupying the area(s).
- 2) A review of the [Appendix 5 – CDC Personal Protective Equipment Donning & Doffing Guidelines](#), is advised as part of C/S personnel readiness in utilizing this Electrostatic Sprayer Procedure.
- 3) As an alternative to cleaning and disinfection, a space/area which has been recently occupied by person(s) tested and confirmed to be infectious with COVID-19 may remain vacant for 3 days, after which the SARS-CoV-2 virus is deemed non-viable and non-infectious, and no further cleaning/disinfection is required. Typical cleaning may be performed prior to re-use.

### Personal Protective Equipment (PPE) Required

**Preliminary:** Follow PPE requirements for the specific chemical agent used, as stated on the manufacturer’s label or Safety Data Sheet, and/or per USEPA label requirements.

- Where required by chemical agent, properly fitted N-95 or MSA-200 half-face respirator (e.g. MSA GMC with N95 prefilter),
- Disposable coveralls (Tyvek not required), gown, or other equivalent protection
- Gloves (nitrile or vinyl, as required by disinfecting agents used)
- Safety glasses
- Procedural mask (discard following use)
- Additional protection to prevent potential splash hazard or direct contact with bodily fluids:
  - Chemical goggles or face shield (protection against direct hand contact with face)
  - disposable shoe covers

### Tools, Equipment and Materials Required

- Standard equipment and supplies, plus:
- Electrostatic Sprayer (Victory hand-held, Victory backpack, or Clorox 360)

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## Appendix 2 (cont.)

- Solution Tank filled with Betco Quat Stat 5, pH7Q Dual (Medical Alternative), or suitable EPA-Registered alternate
- Microfiber cloths or suitable alternate

### Cleaning Products Required

- Betco Quat Stat 5, or pH7Q Dual (Medical Alternative)
- Other EPA-Registered N-List Agents for use against SARS-CoV-2

### Cleaning/Disinfection Procedure

1. Unit notified according to Penn State protocol that a treatment is required.
2. Wherever feasible, ensure a minimum of (4) hours and up to preferably 24 hours with no occupancy prior to entry.
3. Unit dispatches service personnel identified to perform the cleaning and disinfection, depending upon identified impact:
4. Service personnel don proper PPE as listed above.
5. Service personnel affixes [Appendix 4 – COVID-19 Disinfection In-Progress Sign](#) to applicable entryways.

#### NOTE:

*Service personnel should contact their Supervisor, Safety Officer, or EHS for assistance with any unforeseen or unusual conditions.*

6. Pre-Disinfection
  - a. Service personnel enters space and performs pre-disinfection using designated equipment and materials for electrostatic sprayer cleaning and disinfection.
  - b. Pre-treat general room area (not specific surfaces) and allow proper dwell-time of the applicable disinfecting agent.
7. Service personnel completes detail room cleaning:
  - a. Clean all frequently touched surfaces including desks, tables, doorknobs, drawer pulls, computer keyboards and mice, and all other identified high-contact surfaces using microfiber cloth or alternates and above-listed EPA-Registered disinfecting agents.
  - b. If hard surface flooring is present, servicer mops floor with microfiber flat mop, using EPA List N registered disinfectant solutions.
  - c. Once detail cleaning is completed, gather and bag all used microfiber/other cloths and mop heads as waste for disposal, or for normal laundering.

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## Appendix 2 (cont.)

### 8. Post-Disinfection

Service personnel performs post-disinfection of room using electrostatic sprayer and EPA N List registered disinfectant solutions for enhanced cleaning and disinfection.

- a. Mist spray all accessible surfaces from top horizontal surfaces towards floor, and by moving from most inward location towards the room or area entryway.

9. Service personnel notifies supervisor upon work completion.

10. Upon work completion, servicer posts re-entry time on Disinfection In-Progress Sign.

- a. Time requirement for re-entry should include appropriate air clearance time to ensure residual airborne chemical agent has dissipated, and/or as notated by product label or instructions. For Betco QuatStat 5, a 1-hour time lag prior to re-use is advised.

11. Service personnel notifies the work unit FC/SO, PSO, or designee of work completion, and re-opening time.

12. FC/SO or PSO, or designee notifies work unit personnel according to internal procedures.

End of COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure

## Appendix 3 – COVID-19 Urgent-Immediate Response/Maintenance Procedure (URMP)

### Urgent Response Background

This procedure should be used in accordance with requirements established by this *COVID-19 Space Cleaning Protocol and Decision Guide*. Where electrostatic sprayer use is selected, refer also to the *Appendix 2 – COVID-19 Electrostatic Sprayer Cleaning/Disinfection Procedure*.

The following Urgent Response/ Maintenance Protocol is developed to protect life and property and to support occupational safety and health of personnel responding to urgent equipment malfunction or maintenance conditions within a COVID-19 Space, and/or where there is an urgent need to clean and disinfect COVID-19 space, followed by immediate re-occupancy. Wherever feasible, once minimum activity is completed to arrest the threat, additional work should be completed after consultation with the applicable campus work unit, Safety Officer, and EHS.

#### Example areas may include:

- Isolation or quarantine rooms, with plumbing or mechanical equipment failures requiring urgent service, or
- Critical research areas, or
- Critical health-care or related service areas.

### Urgent Response Protocol

No distinction is provided for low-risk vs. high-risk facility type/use areas.

1. OPP Work Control (W/C), Commonwealth Campus Maintenance Reception Center (MRC), or other work unit as applicable, receives call and triages/evaluates source and impact.
2. W/C, MRC, or other work unit help guide occupant on early intervention if possible and feasible, and confirm that occupant has been relocated or has vacated the room.
3. W/C, MRC or other unit dispatch applicable service personnel needed for urgent response.

**NOTE:** Where urgent-immediate cleaning/disinfection is required, consult the FC/SO or PSO for support.

4. As applicable, service team affix the [Appendix 4 – COVID-19 Disinfection In-Progress Sign](#).
5. Dispatched servicer(s) must adhere to the following PPE Requirements for space entry and work (PPE kits may be prepared and located by applicable campus or work unit):
  - Properly fitted N95 or MSA 200 ½ air respirator (GMC cartridge), or as
  - Full-body disposable coveralls or isolation gown and disposable foot covers
  - Disposable nitrile or vinyl gloves worn beneath disposable work gloves
  - Safety glasses or chemical protective goggles if potential splash hazard
  - Optional: Face shield (for prevention against liquid or bodily fluid spatter)

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## Appendix 3 (cont.)

6. Once the problem is isolated, the dispatched servicer can exit the room to the corridor immediately outside the space/room to doff PPE. PPE must be doffed on a drop cloth outside of the room in the following order:
  - Remove outer work gloves, lightly spray with disinfectant spray (S/D), discard into disposal bag.
  - Remove face shield and chemical goggles as applicable, place on drop cloth for later disinfection.
  - Remove boot covers and/or coveralls (rolling inwards), lightly S/D, and discard into the disposable bag.
  - Don new 2<sup>nd</sup> pair disposable gloves over existing pair and S/D other PPE; place in clean storage.
  - Collect all debris and S/D drop cloth/articles, and discard into the disposable bag.
  - Lightly S/D inside of disposal bag, then remove all disposable nitrile or vinyl gloves, place in bag.
  - Seal bag by minimizing air collection. S/D outer surface, and dispose of bag at outdoor or designated waste collector. When handled in this manner, waste is NOT deemed biohazardous waste.
7. As soon as feasible, servicer personnel wash hands and face, or use cleaning/disinfecting disposable towelettes.

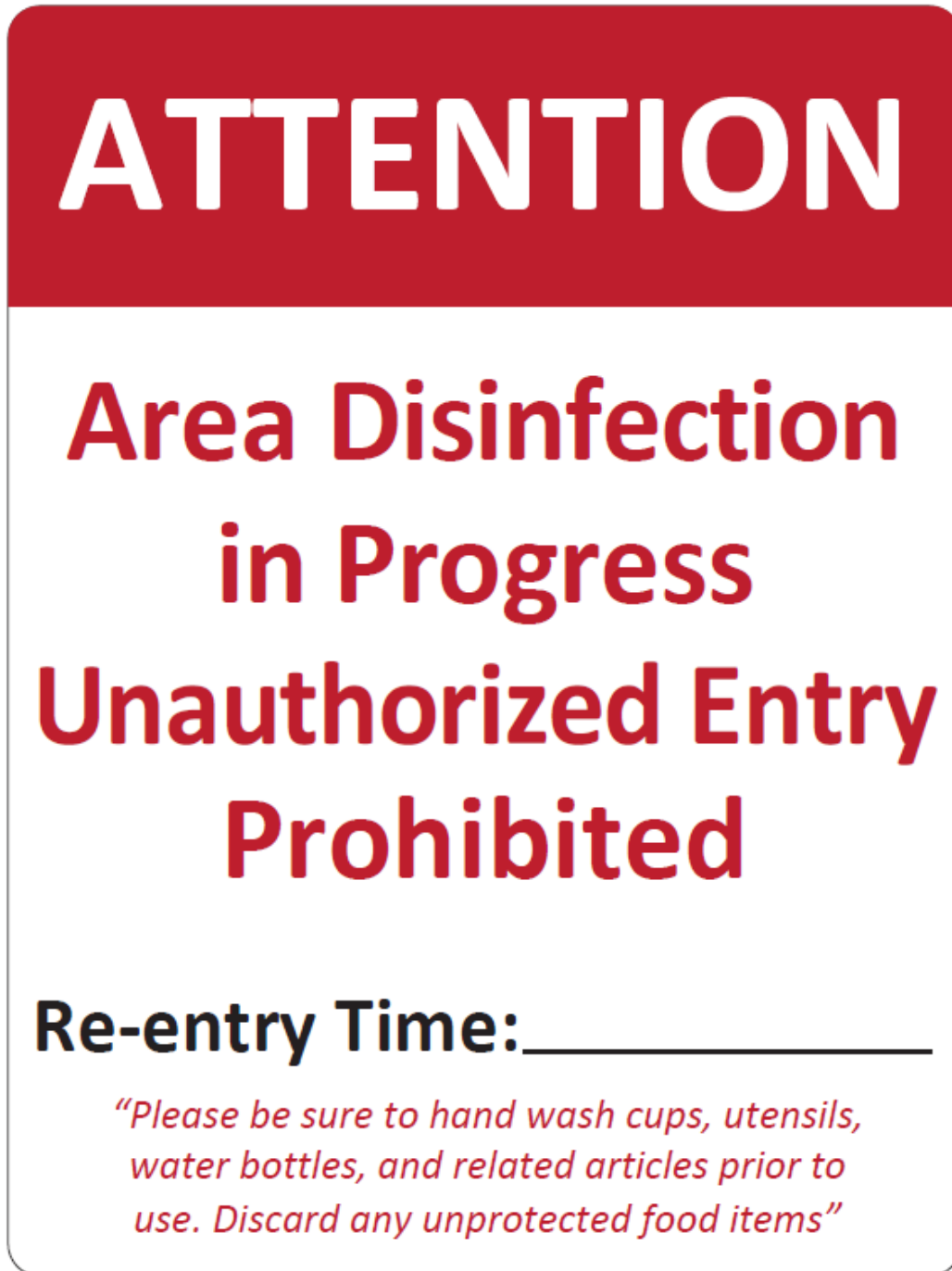
### NOTES:

- Where urgent response is followed by chemical/disinfection, refer to other chemical/disinfection procedures as appropriate. Notate the Disinfection In-Progress sign with appropriate re-occupancy time to accommodate any needed chemical clearance for electrostatic spray applications.
- Notify the work unit FC/SO and/or PSO of completion status.
- FC/SO or PSO remove the Disinfection In-Progress sign, and notify work unit personnel for space re-occupancy according to work unit internal procedures.

End of COVID-19 Urgent-Immediate Response/Maintenance Procedure

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Appendix 4 – COVID-19 Disinfection In-Progress Sign



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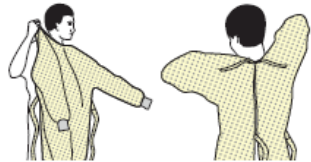
**Appendix 5 – CDC Personal Protective Equipment Donning & Doffing Guidelines**

**SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)**

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

**1. GOWN**

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist




**2. MASK OR RESPIRATOR**

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



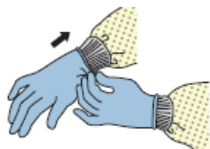
**3. GOGGLES OR FACE SHIELD**

- Place over face and eyes and adjust to fit



**4. GLOVES**

- Extend to cover wrist of isolation gown



**USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION**

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene





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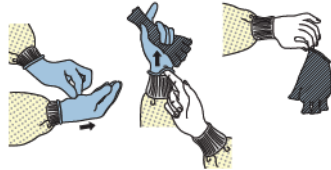
## Appendix 5 – CDC Personal Protective Equipment Donning & Doffing Guidelines

### HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

#### 1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



#### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



#### 3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

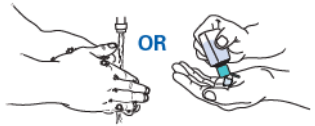


#### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



#### 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



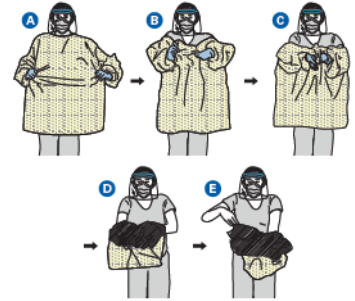
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### HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Remove all PPE before exiting the patient room except a respirator, if worn. Remove the respirator after leaving the patient room and closing the door. Remove PPE in the following sequence:

#### 1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



#### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

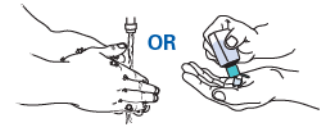


#### 3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



#### 4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



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