



Administration and Finance
Operations Detail: **#20-01**

FACILITIES PLANNING AND MANAGEMENT | ENVIRONMENTAL HEALTH AND SAFETY
Campus Guidelines on Deploying Portable Air Cleaners/Scrubbers (PACs)
August 13, 2021

1.0 PURPOSE

This document provides parameters for obtaining and deploying portable air cleaners/Scrubbers (PACs) on campus during the COVID-19 pandemic.

2.0 BACKGROUND

The campus hired P2S Engineering who was tasked with surveying the existing air handling systems serving 91% of the square footage on campus. The purpose of the survey was to assess the existing condition of air handler systems and air filtration, and to offer recommendations to minimize the potential spread of the pandemic causing COVID-19 virus within the building HVAC systems.

Overall, approximately 64% of Cal Poly Pomona air handling and packaged units can be fitted with MERV 13 filters, but some systems will require modifications to accept the filters. Due to the potential risk of aerosols, any system serving multiple zones should be operated with MERV 13 filters or highest feasible filtration level supported by the mechanical systems. For spaces with multiple occupants and is served by a system that cannot accommodate MERV 13 filters, portable in room air cleaners were recommended.

3.0 OVERVIEW

In response to the P2S Inc. Engineering campus-wide survey to assess the existing air handling system and air filtration HVAC systems, recommendations to utilize air portable cleaners¹ in areas that have multiple occupants and systems cannot accommodate filter upgrades or increased ventilation due to physical limitations of existing equipment to reduce the overall transmission risk were noted.

However, these units only present one of several methods of reducing indoor air contaminants, which include source control/removal and ventilation modifications. Based on data driven decisions and what is known through supporting epidemiological literature on airborne transmissions^{2,3,4}, Facilities Planning and Management and Environmental Health & Safety recommend the following criteria for campus allocation of portable air cleaners with sensitivity to the expenditure impact of scarce budget resources.

4.0 CITATIONS

¹ EPA Air Cleaners, HVAC Filters, and Coronavirus (COVID-19)

² Goyal, Sagar M., et al. "Detection of viruses in used ventilation filters from two large public buildings." *American journal of infection control* 39.7 (2011): e30-e38.

³ Xu, Pengcheng, et al. "Transmission routes of Covid-19 virus in the Diamond Princess Cruise ship." *medRxiv* (2020).

⁴ Taylor Engineering Covid-19 White Paper, Oct. 17, 2020, <https://taylorenceers.com/taylor-engineering-covid-19-whitepaper> (July 21, 2021)

⁵ California Air Resources Board, List of CARB Certified Air Cleaning Devices

5.0 PROCEDURES

Criteria for Receiving Portable Air Cleaning Units

The following three methods will be used to determine the purchase and deployment of an appropriate portable air cleaner in specific locations on campus:

1. Recommended by P2S Engineering based on a campus-wide HVAC assessment where systems are not able to accommodate MERV-13 filters due to building/mechanical limitations and only in rooms with multiple occupants and is served by an air handler unit (AHU) that cannot meet the minimum recommendations for filtration and ventilation.
2. Through Employee Labor Relations, ADA reasonable accommodations process, (contact Manuel Montilla, ADA Coordinator, at (909) 869-4095 or via e-mail at adacoordinator@cpp.edu)
3. As approved by EH&S through the Workspace Readiness Assessments conducted by department HEERA managers. Consideration on high-traffic, multi-occupancy areas that cannot be supported by other ventilation modifications, other administrative/engineering controls cannot be implemented, and will not pose a workspace safety hazard (i.e., trip, slips, falls, electrical overload, fire, etc.).

NOTE:

It is the responsibility of the department to maintain the security of the Cal Poly Pomona provided asset. The department is responsible for notifying Facilities Planning and Management Customer Service (fmcustomer@cpp.edu or (909) 869-3030) for any replacement of filters based on manufacturer recommendations.

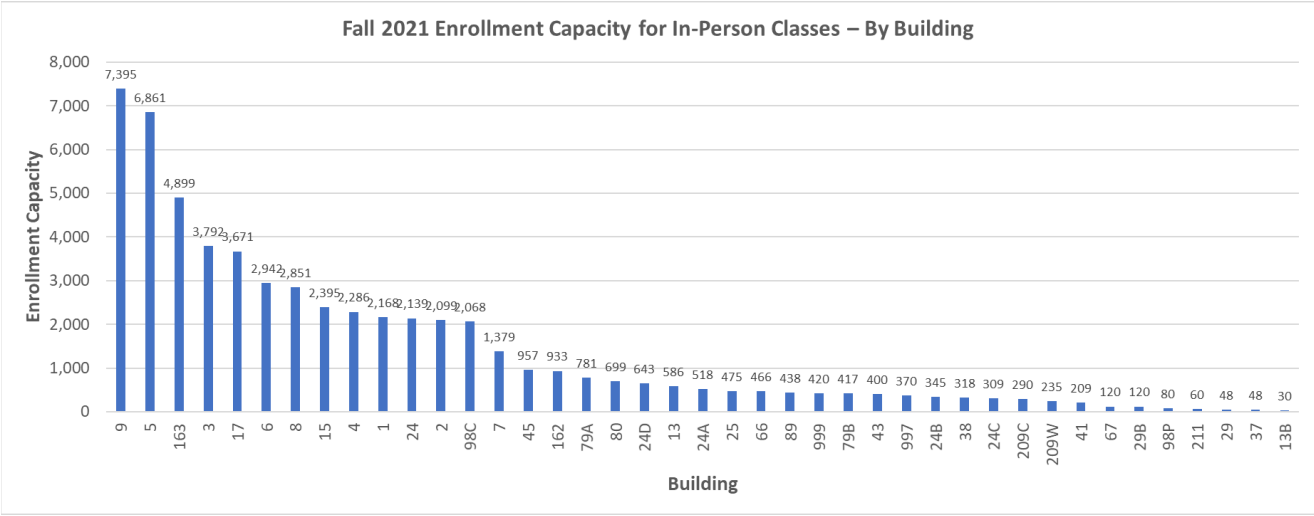
Deviation from criteria:

- Personally purchased portable air cleaners are **not** permitted due to the safety hazard risks of trips, slips, falls, electrical overload and fire.
- If the campus elects to permit independent purchases from departmental funding an EH&S Workplace Readiness Assessment conducted by the department HEERA manager will be required to ensure safety from the hazards of the proliferation of portable air scrubbers.
- FPM will install and maintain department purchased equipment as an additional service.

Portable Air Cleaning Unit Deployment Plan:

With data provided by the Division of Academic Affairs, 3 tiers of academic buildings were prioritized, which was based on the building enrollment capacity and activities with higher respiratory risks. Campus has standardized two type of certified⁵ air scrubber units based on their square footage of coverage and clean air delivery rates. FP&M will be purchasing air scrubbers for areas less than 465 sf and larger spaces less than 800 sf. For rooms larger than 800 sf, multiple scrubbers will be used.

- Tier 1 Buildings – No air scrubbers are needed.
- Tier 2 & 3 (15) Buildings – Approximately 60 units will be required.
- Non-Class Related State Buildings – Additional 107 units will be purchased for multi-occupant spaces not related to academic classes.
- Additional units will be in inventory for supporting criteria 2 & 3.



6.0 DEFINITIONS

Portable Air Cleaners/Scrubbers: Portable air cleaners/scrubbers (PACs) are transportable air cleaning units equipped with high efficiency particulate (HEPA) air filters typically used in multi-occupied spaces to reduce the concentration of airborne particles.

7.0 CONTACTS

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8.0 REVISION TRACKING

Revision History

Revision Date	Revised by	Summary of Revision	Section(s) Revised
07/26/2021	Kennedy-Kiet Vu	Published	All
08/13/2021	Kennedy-Kiet Vu	<ul style="list-style-type: none"> Criteria #3 was revised to provide clarity on EH&S approval considerations with respect 	Procedure Contacts

		<p>to dept. HEERA manager Workspace Readiness Assessments.</p> <ul style="list-style-type: none"> • “source control” was revised to engineering and administrative controls. • Added contact: George Lwin, FPM Utilities & MEP Service Manager 	
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Review/Approval History

Revision Date	Revised by	Summary of Revision	Section(s) Revised
07/26/2021	Ysabel D. Trinidad	Approved	All
08/24/2021	Aaron M. Klemm	Approved – Minor Revisions	Procedures/Contacts