

IPAC Recommendations Air Scrubbers for Wildfire Smoke

This document is Infection Prevention and Controls (IPAC) supplement to Workplace Health & Safety's (WH&S) [Wildfire Smoke & Air Scrubbers Guidelines](#) and provides guidance to ensure that wildfire smoke in Healthcare Settings (HCS) ¹ is properly managed with functioning Heating Ventilation Air Conditioning (HVAC) systems and with minimal air scrubbers being deployed.

Background:

The odour of smoke originates from a mixture of gases generated during combustion. These gases may include Volatile Organic Compounds (VOCs), carbon monoxide, nitrogen oxides, and more. The odour of smoke, in the amount in which they are produced, poses fewer health risks compared to particulate matter, but is more challenging to manage. Only carbon filtration can capture the gases. Carbon filters with activated charcoal, are a costly filtration option and must be discussed with Facilities Maintenance Operation (FMO)/Plant Services to implement.

Air scrubbers should have a limited use in healthcare settings. Air scrubbers raise health and safety concerns by creating turbulent air-flow, which can disturb and move dust that has potentially harmful microorganisms in it and it also can affect air balancing.

IPAC is concerned with the disruption and disturbance of air-flow within healthcare settings and the transmission of microorganisms and the risk to patients/residents and staff.

IPAC Recommendations:

- Consult with Infection Prevention and Control (IPAC), Workplace Health and Safety (WH&S), and Facilities Maintenance Operations (FMO) prior to use
- Air Scrubbers are not recommended in patient care areas, ORs, ICUs, Medical Device Reprocessing Department (MDRD), NICUs, High Acuity Units (HAUs, e.g. burn units, transplant units, lab, etc.) for wildfire smoke

HVAC systems:

The primary task of a facility's HVAC system is to maintain optimal temperatures, humidity, and air quality throughout the facility.

HVAC systems vary by design- air supply comes from outside fresh air intake valves, a combination of recirculated air and outside air, or, only recirculated air. The building envelope, the HVAC filtration and gaskets, as well as the age of the system all influence the efficiency of an HVAC system. A **functioning** HVAC system, which is maintained and fitted with appropriate filters, can protect patients, residents and Health Care Providers (HCP) from the dangers of wildfire smoke.

¹ Healthcare settings (HCS)- Areas in which the delivery of health care services are provided across the continuum of care, including acute care (e.g., hospitals), outpatient care (e.g., clinics) and long-term care and assisted-living facilities

Prior to Wildfire season, Healthcare Sites Operations Leadership should consult with Infection Prevention and Control (IPAC), Workplace Health and Safety (WH&S) and Facility Management Operations (FMO) for guidance and input:

1. Review the HVAC system:
 - What is the ratio of outside air to recirculated air?
 - Can recirculated air be increased, and to what level (e.g. up to 100%)
2. Review installed Pre and Final Filters:
 - When wildfire smoke is a concern a pre-filter minimum of MERV 8, and a secondary minimum of MERV 13 is recommended
3. Inspect ductwork and filter gaskets to ensure a good seal
 - Tape filter seams to ensure no gaps are present
4. Inspect the HVAC system to ensure capacity to increase system's positive pressure while maintaining pressure differentials
 - This will work to keep unfiltered air from entering the facility through doors, elevator shafts, and other leaks to the building's envelope.
5. Inspect windows and doors to ensure proper functioning.
 - Opening of doors, windows, vestibules that are not air balanced or are heavily used, and unsealed elevator shafts may all allow smoke entry into the building.
 - Consider limiting building access to one entrance during periods of heavy wildfire smoke to reduce smoke infiltration.

Air scrubber and placement location

Decisions regarding the use and location for an air scrubber in **consultation with IPAC and WH&S**, should be based in response to the above.

- If a HVAC system is not operating up to standards, or gaps in the system are allowing smoke to infiltrate the facility, then an air scrubber may be required, **until** repairs and improvements are made.
- Place air scrubber in hallways or office areas, away from patient/resident/clinical care areas.
- Consider placement in high impact locations such as exterior entrances.

Maintenance and Cleaning and Disinfection of Air scrubbers:

[Injury Prevention \[IH\] - Wildfire Smoke and Air Scrubbers.pdf - Documents \(sharepoint.com\)](#)



Air Scrubber- also known as portable air scrubbers, HEPA units, Containment Air Handling Units (CAHU's)

Reference:

CSA HVAC in HCF Z317.2:19, section 6.7.6, 2019

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