
# Creating Safer Buildings Without Breaking the Budget Should Be the NEW NORMAL...





*By Fritz Kreiss, CEO, Onsite Utility Services Capital, LLC*

**Quite a lot has been said recently about the pandemic-related challenges facing multi-family dwellings across America as they figure out how to successfully and properly address COVID-19 safety concerns for the tenants and staff.**

This presents several important questions for boards of directors and management companies: What do you need to implement? How do you create and sustain a healthy indoor environment? And how do you minimize the costs for the both capital reserve expenses and the operating budget?

The Center for Disease Control (CDC) and the World Health Organization (WHO) recommend intensifying both air sanitization and surface disinfection practices. In addition, the CDC has offered guidance suggesting buildings will need to dramatically improve their process for screening visitors and staff as they enter buildings to identify potential COVID-19 carriers. Recent research by Harvard indicates that a small increase in long-term exposure to COVID-19 particle matter leads to an increase in the COVID-19 death rate; and proper monitoring of indoor air can help track those harmful pollutants in real time.

At its most basic level, your building's HVAC system has a wide variety of both mechanical and electronic equipment designed around a core set of parameters, such as the building's location, typical local weather patterns, number of people inhabiting it, and regional outdoor air quality.

But these HVAC systems are simply not equipped to handle the air purification standards that your building needs to operate in a COVID-19 world. Your current HVAC system cannot eliminate all of those microscopic aerosol particles that consist of viruses, bacteria and other pathogens that continue to circulate throughout the ventilation systems of your building, possibly carrying and spreading COVID-19 throughout every room and hallway.

## SANITATION AND PROTECTION

The Center for Disease Control (CDC) has compelling research showing COVID-19 can be spread by person-to-person contact, touching contaminated surfaces, and through airborne particles circulating in the airstream. This means it is critical to disinfect surfaces (like desks, drinking fountains, door handles, etc.) but also to purify the air inside your building's common areas.

## SCREENING PROCEDURES

If your building is sanitized and safe, you must also deploy measures to help keep COVID-19 from entering. That requires at least the temperature screening of visitors, facility, staff, and outside vendors. To effectively screen each and every person coming to your building - and doing it every day - becomes a massive challenge when you consider the shortage of no-touch thermometers, the need to conserve resources, and the necessity to protect staff from exposure.

What if you were use a stand-alone, automatic, non-contact temperature screener, so visitors and staff entering your building have their temperature screened without anyone or anything touching them. The device uses a simple stop-go, red light/green light system. If the person being scanned has a normal temperature, a green light is visible and an audible message is delivered, granting entry to the building. If the person has a fever, the red light is visible, and an instruction message is heard while staff is alerted. All of this could be accomplished in seconds.

## MEASURE AND MANAGE

Successful operation of your building requires diligence to sustain both sanitization and screening efforts while watching for trends in the data for both. The moment you let down your guard is when COVID-19 makes its return attack.

**Indoor air quality monitoring usually covers:**

1. Carbon dioxide (CO2) levels
2. Particulate - microscopic particles of liquids or solids suspended in the air
3. Volatile organic compounds (VOCs) – organic particles that have evaporated from a liquid or a solid and entered the air
4. Temperature
5. Humidity

Once measured, this information can be shared online for everyone to feel confident with the building's air quality.

According to Gallup, 74% of Americans are very or somewhat worried about catching COVID-19, while 8 out of 10 people are at least "somewhat" concerned about the quality of the air inside buildings where they live, work, shop, attend classes, and more. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) reports that ventilation and filtration provided by HVAC systems can reduce the airborne concentration of COVID-19 and thus the risk of transmission through the air. Additionally, they have stated how changes to building operations, including the operation of heating, ventilating, and air-conditioning systems, can reduce airborne exposure to COVID-19. Therefore, to effectively maintain safety in today's new COVID-19 environment, your building must have some type of air purification system, as well as some kind of temperature screening solution in place. The ASHRAE Ventilation Task Force Team recently came out with a recommendation that buildings increase their fresh air makeup by 150%. But this creates another problem: many building systems are not capable of increasing to this level because that fresh air needs to be heated or cooled, as well as having the humidity controlled. If your building is in the city, outside air quality is not great, and bringing in that extra air is also going to blow up your energy budget.

But there is another solution utilizing ASHRAE's Indoor Air Quality standards that can improve the air quality, reduce the amount of fresh air required by up to 75%, monitor CO2 levels for Demand Control Ventilation, and cut your energy bill by up to 30% for your HVAC. This solution is called ionization.

**Ionization - Natures Air Scrubber for Air Quality**

Ionization is the process by which an atom or a molecule acquires a negative or positive charge by gaining or losing electrons, with the resulting electrically charged atom or molecule called an "ion." Nature generates ionization in many ways - most commonly through lightning and waterfalls - which cleanse the air naturally.

There are multiple 'types' of man-made ionization processes, and the most effective is Needlepoint Bi-Polar Ionization. Needlepoint Bi-Polar Ionization (NPBI) is a state of the art, patented technology that uses an electronic charge to create a plasma field filled with a high concentration of positive and negative ions. As these ions travel with the air stream, they attach to particles, pathogens and gas molecules and help to agglomerate (or stick together) fine sub-micron particles, making them large enough to be trapped by the filter.

The ions kill the pathogens (including COVID-19) by robbing them of life-sustaining hydrogen. They also break down harmful volatile organic compounds (VOCs) with an electron volt potential under twelve (eV<12) into harmless compounds like oxygen, carbon dioxide, nitrogen and water. The ions produced then travel within the air stream into the occupied spaces, cleaning the air everywhere the ions travel - even in unseen spaces.

In addition to large NPBI systems for commercial applications, there are also Bi-Polar Ionization units that can provide the clean air and safety for the individual condo owners.

With community association budgets strained from the pressures of 2020, clean air as a service with zero debt and zero capital expenditure for the building owner is a great option in this new economy to upgrade your HVAC, save energy, and stay safe.

**A vaccine may be coming in the year 2021, but these healthy building ideas will remain a reality as the "NEW NORMAL!"**