

Resilience 2021: How to Stay Safe as Lockdowns Lift and Buildings Reopen

April 20, 2021 | Session Overview

PANEL

Lieutenant Commander Kevin Dunn, MS, Certified Industrial Hygienist, Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)

Christoph Lohr, PE, CPD, LEED AP BD+C, Vice President of Strategic Initiatives, International Association of Plumbing and Mechanical Officials (IAPMO)

Jennifer Mercer, National Co-op Sales and Marketing Manager, Facility Solutions Group

Greg Walker, Senior Director of Research, Continental Automated Buildings Association (CABA)

MODERATOR

Bob Payn, Senior Director, Information Technology, NIBS

HOW TO STAY SAFE AS LOCKDOWNS LIFT AND BUILDINGS REOPEN OVERVIEW

Because of COVID-19, many buildings have sat empty for the better part of a year, and there are possible health risks tied to the return of these unoccupied spaces.

On April 20, 2021, the National Institute of Building Sciences hosted a panel of experts to discuss how the building industry must recalibrate and adjust to a post-pandemic world.

Panelists came from the Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health, International Association of Plumbing and Mechanical Officials, Facility Solutions Group, and Continental Automated Buildings Association.

The Centers for Disease Control and Prevention (CDC) reports the temporary shutdown or reduced operation of a building and reductions in normal water use can create hazards for returning occupants. These hazards include mold, Legionella (the cause of Legionnaires' disease), and lead and copper contamination. The building industry must consider transformational initiatives to thrive beyond this pandemic.

The webinar was the third installment of the NIBS Resilience 2021 webinar series. It was sponsored by the Whole Building Design Guide and received more than 500 registrants.

The next Resilience 2021 webinar – [Extreme Weather and Rising Sea Levels Cause More Flood Damage Every Year. What Can We Do?](#) – takes place May 18.

REDUCE EXPOSURE TO COVID-19 WITH A LAYERED APPROACH

When it comes to protecting workers at their jobs and bringing workers back into businesses, one size does not fit all, says Lieutenant Commander Kevin Dunn, MS, Certified Industrial Hygienist with the Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH).

LCDR Dunn said NIOSH has been very active in the CDC's response to COVID-19 over the past year and mentioned the CDC recommends a layered approach to reduce exposure to COVID-19 in the workplace.

In addition to individual measures like wearing face masks, physical distancing, and handwashing, this mitigation strategy includes checking and servicing HVAC systems, altering the physical layout of an office or work space, and adjusting the flow of personnel, products and customers.

LCDR Dunn mentioned several resources that could help businesses and building owners, including the CDC's Resuming Business Toolkit, which covers things to consider before reopening physical spaces. These include how to

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perform hazard assessments, guidance for remediating moisture, mold and pests, and how to evaluate mechanical and water systems.

Site references:

- CDC Resuming Business Toolkit and Restart Readiness Checklist: [Resuming Business Toolkit | COVID-19 | CDC](#)
- CDC Ventilation in Buildings: [Ventilation in Buildings | CDC](#)
- American Industrial Hygiene Association: [Homepage | AIHA](#)
- Building Owners and Managers Association (BOMA) International: [BOMA Home](#)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers Filtration and Disinfection: [Filtration / Disinfection \(ashrae.org\)](#)

PLUMBING RESILIENCY: A HOLISTIC MINDSET

The plumbing industry is going through a renaissance, says Christoph Lohr, PE, CPD, LEED AP BD+C, Vice President of Strategic Initiatives with the International Association of Plumbing and Mechanical Officials (IAPMO).

The COVID crisis has elevated the concern of many in the plumbing industry.

"When you think about plumbing resiliency – things like sustainability, drought prevention, water efficiency, affordability and equity, and water safety," Lohr said. "All of those things relate to each other. When codes and standards are used to try to solve this, you need to have a holistic mindset."

Stagnant water in vacant buildings has been forefront on the minds of folks within the water industry. In 2020, water flow rates even inside hospitals also were reduced, partly because people turned to hand sanitizers vs. water systems.

In October 2020, IAPMO partnered with the American Water Works Association to develop a 30-page guide to help building managers address water system stagnation. IAPMO and AWWA also are about to release a new manual on the safe reopening of buildings. This publication now is under review, and should be released very soon, Lohr said.

Site references:

- IAPMO/AWWA: [Responding to Water Stagnation in Buildings With Reduced or No Water Use, A Framework for Building Managers](#)
- IAPMO: [WE Stand: Water Efficiency and Sanitation Standard for the Built Environment](#)

DISINFECTING THE AIR WITH LIGHTS

Prior to COVID, UVC lighting served a very niche market.

Today, it's helped many businesses, schools, doctors' offices, and restaurants reopen and re-engage with customers inside their facilities, said Jennifer Mercer, National Co-op Sales and Marketing Manager with Facility Solutions Group.

"Germicidal UVC light is not new," she said. "It's been around for 100 years, mostly in the health care environment."

UVC lighting and technology like needlepoint bipolar ionization are 99 percent effective with disinfecting and killing germs. These also are easier and more cost effective to strategies like chemical sprays, which constantly need to be purchased.

There are many ways to deploy UVC or needlepoint ionization. These include mounting in the HVAC system, ceiling-mounted fixtures, and portable units that can be moved from room to room.

Portable units, for example, are popular in schools and can be activated in the evening, when there's no one in the building.

The concept of ionization goes a step further than disinfection.

"Ions will circle around a pathogen and suffocate it, so it can no longer spread," Mercer said, adding that this method does not create any ozone.

Site references:

- Facility Solutions Group: [Electrical & Lighting Contractors](#)
- FSG Disinfection Videos: [www.uvvideos.com](#)

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THE NEW NORMAL WILL BE DRIVEN BY SAFETY

When it comes to reentry into offices, many organizations are leaning toward a hybrid workforce, said Greg Walker, Director of Research with Continental Automated Buildings Association (CABA).

"The new normal is driven by safety," he said.

Cleaning and sanitation will include pathogen detection, air quality and air management, recalibrating HVAC systems, intermittent checks of new standards, and recertification checks. Organizations also are looking at no-touch systems like touchless fixtures in restrooms, nonthermal to antimicrobial paints that some companies are providing, non-contact infrared sensors, and mobile platforms.

Walker outlined the nine criteria and key foundations of healthy buildings. They include ventilation, thermal health, moisture, lighting and views, acoustics, water quality, safety and security, indoor air quality, and addressing dust and pests.

He also shared a technology radar, showcasing building technology from 2020 through 2025, as determined by consulting firm Frost & Sullivan.

Walker closed highlighting the first commercial building to be designed, constructed, and commissioned for a post-COVID-19 environment – Fulton East in Chicago. Fulton East spans 12 stories and includes 90,000 square feet of office and retail.

Site references:

- Continental Automated Buildings Association: [The Continental Automated Buildings Association | CABA International](#)
- CABA Research Reports: [Research Reports Archives - CABA - The Continental Automated Buildings Association](#)

