

Epidemic Task Force Update

Building Readiness Guidance Addresses Flushing, More

ATLANTA—ASHRAE’s Epidemic Task Force (ETF) has updated its reopening guidance for HVAC systems to help mitigate the transmission of SARS-CoV-2. The Building Readiness Guide now includes information and clarifications that help designers and commissioning professionals.

Major updates include pre- or post-flushing strategy methodology, flushing time calculator, heating season guidance and adjustments to align with core recommendations.

“The Building Readiness Guide includes additional information and clarifications to assist designers and commissioning providers in performing pre- or post-occupancy flush calculations to reduce the time and energy to clear spaces of contaminants between occupancy periods,” said Wade Conlan, P.E., Member ASHRAE, leader of the ETF’s Building Readiness team.

People can now download the new flushing time calculator as a view-only Google Sheet. The calculator can help determine the available equivalent outdoor air changes and time to perform the flush. This sheet is based on a typical mixed-air air-handling unit with filters, cooling coil, with potential for in-AHU air cleaner, and in-room air cleaning devices.

Download the guidance: <https://tinyurl.com/lkgokipc>
Visit www.ashrae.org/covid19 for more information. ■

Industry Roundup

Study: Framework Could Reduce Building Energy Demand for Heating, Cooling

BERKELEY, CALIF.— Some researchers are concerned that lowering building energy demand only through energy-efficient technology and design will reach its practical limits. In a study researchers from Lawrence Berkeley National Laboratory, the National Renewable Energy Laboratory and University of California, Berkeley make the case for calculating the theoretical minimum thermal load. By calculating this baseline, researchers are identifying the point at which fur-

ETF Chair Testifies Before Congress

ATLANTA—ASHRAE Epidemic Task Force Chair William Bahnfleth, Ph.D., P.E., Presidential Member/Fellow ASHRAE, provided witness testimony in a congressional hearing on COVID-19 risks and response in transportation systems.

Bahnfleth was one of six witnesses who testified before the U.S. House Committee on Transportation and Infrastructure on February 4. The hearing examined COVID-19 safety gaps in the protection of transportation workers and passengers.

Bahnfleth spoke about the need to take an “end to end” approach in assessing the exposure risks related to transportation, including ground facilities associated with travel. He shared a perspective on HVAC system upgrades, design strategies and safety measures.

“For the safety of those who must travel, it may be possible to upgrade the HVAC systems of some modes of transportation by improving ventilation, increasing filter efficiency and adding air cleaning technologies where applicable,” said Bahnfleth in a press release.

View the hearing at <https://tinyurl.com/1a42dukl> ■



William Bahnfleth, Ph.D., P.E.,
Presidential Member/Fellow ASHRAE

ther reduction in thermal energy would cause occupant discomfort, which could dramatically lower the energy required for heating and cooling buildings.

Source: Tech Xplore

Starbucks Builds Modular Store in 6 Days

ABBOTSFORD, BRITISH COLUMBIA, CANADA—Starbucks has built in six days a drive-thru location using an energy-efficient modular system with near-zero construction waste. The building’s insulated panels are coated on both sides with a material made of sand and other materials, creating a waterproof, fire resistant building system. *Source:*

Construction Dive ■

Industry 4.0

Using Off-Site Construction Strategies in the Real World

ATLANTA—Off-site construction has evolved to deliver value to various stakeholders and can increase quality and reduce costs, says 2020–21 ASHRAE President Charles E. Gullledge III, P.E., HBDP, Fellow ASHRAE.

Gullledge talked with *ASHRAE Journal* about the evolution of off-site construction and how to use them.

Why is now a good time for the HVAC&R industry to adopt off-site construction strategies?

The holistic off-site narrative has evolved as a response to delivering value in the design, construction and operation of built solutions. Off-site construction can help various stakeholders differently:

- Owners are seeking experiences that deliver working solutions, have connected knowledge, exhibit cost/schedule certainty, eliminate change orders and avoid conflicting narratives.
- Constructors are looking to increase productivity, remove waste in delivering built solutions, eliminate rework, provide higher quality and minimize on-site overhead costs.
- Engineers desire design intent to become reality when built—not disputed across decoupled contractual interests.
- Commissioning/testing, adjusting and balancing (TAB) resources seek coordinated systems that do what they are supposed to do.

With the evolution of virtual precision, those engaged in the delivery of built solutions are recognizing that off-site strategies can deliver value for all stakeholders. When applied correctly, this equates to high quality, reduced overall project costs and improved schedules.

What are some ways people can use these strategies?

With digital precision, off-site strategies can be used across a myriad of solutions:

- Individual facility services: elements can be pre-assembled at the shop and delivered to the field. This can take the form of plumbing batteries, coil hookups, ter-

minal units with duct in/out transitions, control panels and power panels. What is built in the shop will interface seamlessly to the requirements of the field.

- Increasing scale: equipment can be fully configured for field drop in. Let's use an air-handling unit, for example:

- A base frame can be fabricated to accommodate all unit modules, support for services and height to facility drainage provisions.

- Modules can be assembled with appropriate elements to support airflow, filtration, thermal and moisture performance provisions.

- Piping systems can all be configured to hookup points.

- Control devices can all be mounted in the air, hydronic and steam transport paths. All I/O wiring can be factory installed and integrity checked.

- All power wiring for equipment, controls and service can be installed and integrity checked.

- Duct and piping systems can all be pressure tested to demonstrate project leakage parameters.

- Fully configured units can be operated to demonstrate proper performance of system features. All sequences of operation can be simulated on the shop floor.

The possibilities do not end with equipment and skid options. Rooms and floor plates can be delivered via off-site methodologies. Complete central energy plants can be configured in modules for shipping to the jobsite.

With the advent of digital precision, we can virtually design an entire building, fabricate the building off-site in modules, prepare the site to receive the modular solution, ship the modules to the site staged for just-in-time flow and assemble the modules in sequence to form a complete solution. ■



Charles E. Gullledge III, P.E., HBDP, Fellow ASHRAE, 2020–21 ASHRAE President

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