November 2020

Pile of Bones

Published by the Regina Chapter of ASHRAE

President's Message

By Cailin Noll(MacPherson)

Sending warm greetings to all ASHRAE Regina Chapter members.

As some might have guessed, the ASHRAE Winter Conference has been moved to a virtual setting. You can find more information and sign up here: https://www.ashrae.org/conferences/2021-virtual-winter-conference

As a new-ish engineer, one of the key benefits I found when attending the ASHRAE Regina Chapter meetings was getting to know everyone in the industry. Since moving to a virtual format we have been able to continue providing programming, however, we have lost the networking aspect to our meetings. If anyone has any ideas on how we could do better in terms of networking with members, please reach out. I feel strongly that this is an important part of our meetings that shouldn't be lost.

Wednesday, November 18, 2020

ASHRAE Regina Chapter Meeting

Topic: Focused on Healthcare Ventilation and Increasing Patient Safety through HVAC risk mitigation, **Don MacDonald** will share the challenges, innovative designs, and overall visualization of these environments. Including the use of alternative airflow control technology versus VAV boxes, hospital applications for airflow control and pressurization in isolation rooms, pandemic ready rooms, intensive care units, operating rooms, and pharmacy cleanrooms. Healthcare applications from an HVAC perspective with discussion on the visibility ad control within the HVAC date system.

Meeting Location: **Online**

https://global.gotomeeting.com/join/722809469

Access Code: 772-809-469

12-12:40pm – Presentation

12:40-13:00 – Chapter Meeting

Upcoming Events

December 2020 – ASHRAE Chapter Meeting Location TBD

As always, please feel free to reach out if you have any questions or comments on all things ASHRAE: c.noll@mac-eng.ca

Vice President's Message

By Carla Drager

Happy November everyone! We are just one month away from Christmas. To end off our virtual meetings for 2020, I am very pleased and excited to announce our speaker this month, Don MacDonald, who will be joining us in our Regina Chapter meeting. Don MacDonald is the Northern Regional Manager for Phoenix Controls in Canada and north central USA and has been with Phoenix for over 25 years. Don is involved with healthcare and laboratory design and consultation. As well as an active member in ASHRAE.

Don MacDonald will share the challenges, innovative designs, and overall visualization for healthcare environments. Including the use of alternative airflow control technology versus VAV boxes, hospital applications for airflow control and pressurization in isolation rooms, pandemic ready rooms, intensive care units, operating rooms, and pharmacy cleanrooms. The presentation/webinar will cover the following:

“Focused on healthcare ventilation and increasing patient safety through HVAC risk mitigation. Typical critical healthcare applications will be presented from an HVAC perspective. As a vital component of user information, there will be discussion on visibility and control within the HVAC data system”

- Don MacDonald

The webinar is based on an AIA accredited presentation and instruction on how to obtain a certificate of attendance can be provided. If interested, please send a follow up email to Andrew Gauthier at andrew@aquaair.ab.ca at the end of the presentation.

Look forward to seeing everyone!

Young Engineers in ASHRAE (YEA)

By Tyler Gamble

We've got our first event coming up! Keep an eye out in your inbox, or the YEA Facebook page (search "YEA - ASHRAE Regina Chapter") for upcoming details. We'll be

doing an online escape room! So put on your best pyjamas and get your thinking cap on and we'll see you in November!

Thanks,

ASHRAE Issues Statements on Relationship Between COVID-19 and HVAC in Buildings

ASHRAE leadership has approved the following two statements regarding transmission of SARS-CoV-2 and the operation of HVAC systems during the COVID-19 pandemic.

Transmission of SARS-CoV-2 through the air is sufficiently likely that airborne exposure to the virus should be controlled. Changes to building operations, including the operation of heating, ventilating, and air-conditioning systems, can reduce airborne exposures.

Ventilation and filtration provided by heating, ventilating, and air-conditioning systems can reduce the airborne concentration of SARS-CoV-2 and thus the risk of transmission through the air. Unconditioned spaces can cause thermal stress to people that may be directly life threatening and that may also lower resistance to infection. In general, disabling of heating, ventilating, and air-conditioning systems is not a recommended measure to reduce the transmission of the virus.

ASHRAE Position Document on (webpage):

Building Readiness Intent

The following Building Readiness information is meant to provide practical information and checklists for how your building should be operating and how to practically check its operation. Actual conditions at any specific building will vary, and the adjustments that should be made will depend on many factors such as local climate, complexity of systems involved and the use, occupancy and activities that occur in and around your building.

Building Readiness modes of operation for the building should include the following:

- Epidemic Operating Conditions in Place (ECiP)
- Occupied - at pre-epidemic capacity

- Occupied - at reduced capacity
- Unoccupied temporarily, and
- Operation during building closure for indefinite periods
- Post-Epidemic Conditions in Place (PECiP)
- Prior to Occupying
- Operational Considerations once Occupied

This document will provide some of the practical guidance on operating your building systems in these different modes. The suggested mode of operation during the Epidemic periods are detailed in the Buildings Guidance on the ASHRAE Covid-19 Website

Healthcare
Residential
Commercial
Schools
Transportation

In addition, this document will cover specific recommendations from the Building Guidelines such as:

Increased ventilation
Increased filtration
Energy recovery ventilation systems operation considerations
Building exhaust air re-entrainment

This document assumes that the Owner and Facility Operators have completed their Epidemic Preparedness Plan and are ready to shut down, operate, and re-open their building. This can be done in either mode, ECiP or P-ECiP.

The following guide is to provide practical guidance for the Mechanical Systems for those scenarios.

Keep in mind, that for the P-ECiP mode, there are really two phases to consider;

Prior to Occupying, and Operational Considerations once Occupied.

Building Readiness Team

The Building Readiness Team could include professionals and licensed and certified individuals and companies that can perform the analysis, testing, design, construction, control programming, balancing, commissioning, maintenance and operation services required to make the adjustments and achieve the performance included in these recommendations. The following are the typical service providers that may be required:

Commissioning Provider (CxP) – engage a CxP that has a recognized certification from ASHRAE (BCxP), ACG (CxA), BCA (CCP), NEBB (BSC and RCx), or others. They should also have completed several Retro-Commissioning or New Building Commissioning projects in the building type in question.
Test and Balance Company (TAB) – engage a TAB that has recognized certification from Associated Air Balance Council (AABC), National Balancing Council (NBC), National Environmental Balancing Bureau (NEBB) and Testing Adjusting and Balancing Bureau (TABB) or another certifying body. The TAB agent or service provider should have experience with the building type and systems being evaluated. These certifying bodies require a TAB company operator to have been trained and certified and requires the use of calibrated instruments.
Building Automation Systems (BAS) Company – the Owner should engage the company currently providing service and support for the control system(s) that are installed in the building. If a new service provider is required, finding a local company that has experience working with and operating the building's existing control systems and preferably certified by the manufacturer to provide services for their equipment.
Contractors – the Owner should engage, if necessary, the appropriate contractors to install or repair equipment or systems identified by the CxP, TAB, or BAS. This

could include the following:

- General Contractors (GC)
- Mechanical Contractor (MC)
- Electrical Contractor (EC)

Specialty contractors for fire alarm and smoke control systems and interfaces. Architect and Engineer (AE) – the Owner should engage a design team for any issues that might require permit drawings. It is preferred that the original Engineer or Architect of Record that was involved with the original construction or the latest renovation or addition to the facility be engaged if possible. Those professionals should be most familiar with the building's current operation. Owner's Facility Staff – the Owner should make sure that their facility staff are involved in the process. This allows for the information transfer on how systems might be altered to operate.

Building Readiness Plan

This is a document that should be created to document the mitigation strategies that the facility is going to utilize, whether temporary or permanent modifications, for the facility operators and occupants to understand the plan.

This should include the non-HVAC strategies as well as the HVAC mitigation strategies that are discussed in this document. Non-HVAC strategies could include, but not be limited to, the following items:

- Building Occupancy Levels Allowed
- Face mask requirement or recommendation
- Social distancing between desks, breakrooms, conference rooms, elevator, etc.
- Directional flow for office space
- Personal hygiene

- Cleaning requirements

HVAC strategies could include, but not limited to, the following items:

- Increased Ventilation
- Improved Filtration
- Air cleaning devices (such as UVGI and other newer technologies)

It is crucial to note, that each HVAC system needs to be analyzed for the appropriate engineering controls to utilize to improve its potential to reduce virus transmission in the building.

Epidemic Conditions in Place (ECiP)

Systems Evaluation:

The Owner should consider evaluating their building systems to check that it is operating in proper order (per design conditions or current operational strategies), is capable of being modified to align with HVAC mitigation strategies, and to identify deficiencies that should be repaired. This could be viewed as tactical commissioning of the systems to determine risk areas for the building operating in epidemic conditions.

Systems evaluation should include the following steps:

1. Gather and review building and systems documentation, including but not limited to:

a. Most recent design documents, specifically the HVAC and Plumbing Water systems construction documents
b. Record documents (as-built, marked up drawings and specifications received from the Contractor at the conclusion of construction)
c. Original, approved equipment and system submittal documents
d. Systems manuals or turnover package
e. Controls and Building Automation System (BAS) drawings and sequences of

operation and initial system parameters

f. Equipment control wiring diagrams and troubleshooting guidelines
g. Service contracts and maintenance logs
h. BAS Trend reports and alerts and notifications reports
i. Most recent Testing, Adjusting and Balancing (TAB) reports
j. Most recent Commissioning Reports (if available)

2. Inspect equipment, systems and controls to determine where existing problems may exist. Start with components, then move to systems, finally move to the BAS and integrated, whole building operations.

For example:

a. Components

i. Boilers
ii. Chillers
iii. Air Handling Units
iv. Control Dampers
v. Control Valves
vi. Control sensors
vii. Airflow measuring stations (AFMS)
viii. Fan Coil Units
ix. Grilles, registers and diffusers
x. Variable speed drives
xi. Variable Air Volume terminal units,
xii. Water-to-water heat exchangers
xiii. Water-to-refrigerant heat exchangers
xiv. Water to air heat exchangers
xv. Steam-to-water heat exchangers

b. Systems

i. Chilled water systems
ii. Hot water systems
iii. Condenser water systems
iv. Air handling systems (Air handling equipment and air distribution networks: supply ducts, return ducts, exhaust ducts)
v. Steam distribution systems
vi. Refrigerant systems

c. Building Automation Systems (BAS) and Integrated Systems

i. Graphic user interfaces
ii. Set Points (Temperature, Humidity, Airflow, CO2, etc)
iii. Schedules (Occupied and Unoccupied)
iv. Trend reports
v. Alarm, alert and notification logs
vi. Remote access capabilities
vii. Life safety system interfaces and interlocks
viii. Access control interfaces
ix. Smoke control system interfaces
x. Lighting control interfaces
xi. Electronic security system interfaces

3. The investigators should be considering the HVAC mitigation strategies to reduce the potential bio-burden in the building that could be implemented on the systems.

4. When checking calibration, use the guidance in ASHRAE Guideline 11-2018, Field Testing of HVAC Control Components

5. Prepare a deficiency log and issue work orders to in-house maintenance personnel and purchase orders to qualified service providers to correct any critical issue identified in steps 1 and 2 that would prevent the system(s) from functioning in accordance with the systems' original design intent or the building's current use, occupancy and activity.

6. Prepare a report that identifies the HVAC mitigation strategies for the systems. This should include a brief work order description for the in-house maintenance personnel and qualified service providers. This should detail modifications or additions to components, systems and controls necessary so that the recommendations included in this document may be implemented.

Building Automation Systems (BAS)

Evaluate your BAS:

You need to understand the type of BAS you have in your building. HVAC controls range from simple single zone thermostats controlling a single HVAC unit's heating and cooling modes of operation, to complex BAS that integrate the controls from large building owners and owners' with multiple large buildings in their portfolios, such as school districts, university campuses and large government installations, and everything thing in between.

In addition, there are legacy HVAC systems and BAS that still use electric and pneumatic controls and time clocks that do not have modern, digital communications interfaces and, therefore, do not allow building operators any insight into how their buildings are performing without being physically in the building or at the piece of HVAC equipment.

Remote Access:

If the building is equipped with a Building Automation System (BAS), it should have an existing method for remote access.

If the BAS does not have a method for remote access, the owner should coordinate with buildings IT provider and BAS provider for secure remote access for the required users.

- Cybersecurity must be put at the forefront of this endeavor as to not open the BAS and other building networks to unauthorized access.
- If the BAS is not on its own Virtual Local Area Network (VLAN) consider segregating the building systems (BAS, Fire Alarm, Card Access, Cameras, etc.) into a VLAN to limit remote exposure to the buildings internal networks.
- Consider two step authentication as mandatory for remote access.
- Care should be taken in granting editing access to the BAS to knowledgeable, trained operators only.
- Set up user logging such that a virtual log of all changes are documented.

These remote systems range from the simple to complex communication capabilities.

- The simple could be dial up modems transmitting alerts and notifications to cell phones and/or email addresses.
- The more complex is a BAS system that is connected to local area networks that can be accessed via VPN connections.

Depending on that connection, there are variations to the amount of data access which can range from limited data to a fully web based, graphic user interfaces connected to a host of mobile devices such as smartphones, tablets and stationary PC workstations.

Prior to making any changes:

- Perform a full backup of all BAS software, databases, programs, graphics, trends, schedules, etc. and store off site either physically or in the cloud.
- Consider printing them physically or to a pdf so that values can easily be returned when the epidemic is over.
- Inspect or replace any batteries in building controllers such that databases are not lost during any extended power interruptions.
- If your building is not on a scheduled BAS inspection (either by third parties or self-performed) consider performing a preventative maintenance inspection of all systems to ensure proper operation prior to any changes being made. Consider retaining the services of an independent 3rd party commissioning service provider (CxP) to help you review the scope of work for any control system modifications and who can verify the systems are functioning as intended.
- Review the access requirements with all parties that the owner wants to have remote access during the unoccupied or modified mode of operation period.
- Determine the level of access and permissions each person with access should have such as full access to make changes in set points, schedules and system programming, schedule overrides only, alerts and notification access only and view only access.
- Confirm with company IT departments what requirements may be in place to qualify, screen and approve people for remote access to control systems and company IT networks.
- Set each person up as a unique user having unique usernames and password and permission levels so that access and changes to the system can be monitored and documented.
- Have a trained and experienced operator go over the existing systems remote access features of the system and its interface with anyone who will be given remote access to the system.

- Review all alerts, notifications, event logs and system and control point trend reports prior to making any modifications and download those reports to create a baseline for comparing the effects of any changes that may be made in the future.
- If possible, walk the facility or facilities being controlled and managed by the BAS to become familiar with the location, size and scale of the control network.
- As minimum, review system graphics for all system types and buildings to become familiar with the system(s).
- Make note of any communication issues with components, sensors, controllers, buildings, etc. and develop a list of repairs that may need to be made before the system is placed in extended shut down, unoccupied or partial occupancy modes of operation.
- Review system graphics or text-based reports to determine if temperatures, humidity, CO2, airflows (supply, return, outside air, exhaust), damper positions, control valve positions, motor speeds and status are returning or reporting reasonable values.
- Use test instruments to verify any questionable information and to spot check a representative quantity of points. Start with verifying critical sensors, such as CO2 or airflow measuring stations.
- Collaborate with the building owner, building users and building operators and create a plan for modifications to sequences, set points and system operations.
- Note who was in attendance, what was discussed, and any decisions made and implemented.
- Obtain buy-in and approval from key stakeholders before making any changes.
- Repairs to systems involved in this response should be considered mandatory as any new sequences may not be able to be implemented via the BAS.

Making changes to accommodate epidemic responses:

- After determining what sequence of operation changes are appropriate, make small changes to the system at a time and monitor for a few days or through some varying weather conditions to make sure the system and building(s) is responding to the changes as expected.
- Have the CxP or Control Contractor verify and document the effect of the changes through key trend reports and physical measurements or standalone data loggers.
- Keep good records and document all meetings, agreed to repairs, maintenance and changes with written communication.
- The team should consider making the changes to include an automated response such that you may return to the original sequences (or pre and post pandemic sequences) at the push of "virtual" button.
- Care should be taken to limit access to the initiation of these automated sequences as they may have a large energy and comfort impact on your facility.
- Existing alarm parameters may need to be adjusted during these new sequences as the original "normal" conditions may not be able to be met.
- Ensure that this team follows the guidance for the facilities Systems Manual later in this document.

Increased Ventilation

The Building Guidance clearly encourages building operators to increase their systems outdoor air ventilation to reduce the recirculation air back to the space. The guidance indicates that this must be done as much as the system and or space conditions will allow. It is very important that these overall building systems are evaluated by a qualified TAB firm, Cx provider or design professional to ensure that the modifications for pandemic safety do not create additional issues.

One major concern is the ability to maintain space conditions. Hot and humid climates could struggle to keep the space below acceptable temperature and relative humidity for comfort. Cold climates could struggle to keep the space above acceptable space temperature and relative humidity for comfort. It is important to note that research indicates that maintaining the space relative humidity between 40% and 60% decreases the bio-burden of infectious particles in the space and decreases the infectivity of many viruses in the air. The team should consider adjusting the space comfort setpoints to increase the system's ability to use more outside air.

The ability for a coil to provide additional capacity was evaluated using a typical cooling coil at various percent of outside air. This evaluation shows the additional required cooling capacity and gpm required[1] if the same exact coil experiences the different entering air conditions while achieving constant leaving air conditions. The following shows the impact of increasing the percent of outside air:

Percent OA	EAT DB / WB	CHW GPM	Coil Pressure Drop (Ft H2O)	Total Capacity (MBH)	Sensible Capacity (MBH)
20	78.43 / 69.31	88.64	7.06	541.29	292.45
30	79.64 / 70.80	95.82	8.14	596.98	306.33
40	80.84 / 72.64	107.15	9.99	671.74	320.33
50	82.04 / 73.64	113.49	11.10	712.95	333.99
60	83.24 / 75.00	121.01	12.49	768.22	347.89
70	84.44 / 76.30	131.79	14.61	826.98	361.82
80	85.63 / 77.57	139.60	16.24	881.63	375.69
90	86.81 / 78.80	151.96	18.99	941.36	389.49

The unit was selected to be 10,000 cfm with a constant 44°F chilled water supply with a 12°F chilled water rise to make a consistent coil leaving air temperature of 52°F dry-bulb and 51.5°F wet-bulb. This assumes a return air condition of 76°F

and 60% RH from the space. The outside conditions are the Orlando WB with MCDB which is 88 °F dry-bulb and 80 °F wet-bulb. The coil was locked in at an 8-row coil with 126 fins per foot that is 20.45 square feet of coil face area.
Another way to potentially increase the quantity of outside air is to clean your cooling coil to recapture lost heat transfer from fouling.

Studies indicate that dirty coils reduce the capability for heat transfer.
Please follow the appropriate maintenance for coils.

Visit ASHRAE's website for more information.

ASHRAE's GUIDANCE FOR RE-OPENING BUILDINGS

ASHRAE is a global professional society of over 55,000 members committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration and their allied fields. ASHRAE has established a Task Force to help deploy technical resources to address the challenges of the COVID-19 pandemic and possible future epidemics as it relates to the effects of heating, ventilation, and air-conditioning (HVAC) systems on disease transmission. Guidance and building readiness information for different operational conditions have been developed for several building types, including commercial; residential; schools and universities; and healthcare facilities, as well as general guidance for re-opening buildings.
ASHRAE's reopening guidance provides practical information to help your HVAC system mitigate the transmission of SARS-CoV-2. Some general recommendations are provided below. Please consult the full guidance for important details and consider reaching out to qualified design professionals for additional analysis as needed.
• Systems Evaluation: Inspect equipment, systems, and controls to check for existing issues. Evaluate outdoor air ventilation for compliance with design requirements. Make note of existing filters' MERV rating. Analyze each HVAC

system for appropriate engineering controls to improve its potential to reduce virus transmission. Check calibration per the guidance in ASHRAE Guideline 11-2018, Field Testing of HVAC Control Components. • Inspection and Maintenance: Verify HVAC systems function per design intent using ASHRAE Standard 180-2018, Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems, or equivalent. Ensure that energy recovery devices can be operated safely.

- Ventilation and Filtration: Confirm systems provide required minimum amounts of outdoor air for ventilation and that the filters are MERV 13 or better filters for recirculated air. Combine the effects of outdoor air, filtration, and air cleaners to exceed combined requirements of minimum ventilation and MERV-13 filters.
- Building Readiness Plan: Create a plan to document the intended operation for the building, highlighting the mitigation strategies, temporary and permanent, to be implemented for the facility.
  - o Non-HVAC Strategies: Note if face masks are required or recommended; implement social distancing, establish occupancy levels, and establish cleaning and handwashing requirements.
  - o HVAC Strategies: Increased ventilation, improved filtration, and/or air cleaning technologies.
- Pre- or Post-Occupancy Flush with Outdoor Air: Focus on removing bio-burden pre-or post-occupancy of the building. Flush building for a time required to achieve three air changes of outdoor air (or equivalent, including effect of outdoor air, particulate filtration, and air cleaners).
- Modes of Operation for the Building: Operate in Occupied Mode when people are present in the building, including times when the building is occupied by a small fraction of its allowable capacity.
- Water Systems: In general, building water systems should be flushed before they are reopened. Refer to EPA Guidance on this topic here and ASHRAE Standard 188-2018, Legionellosis: Risk Management for Building Water Systems, and Guideline 12-2020, Managing the Risk of Legionellosis

Associated with Building Water Systems.

• Energy Savings: During Evaluation and Inspection, determine optimized control strategies that can be implemented per ASHRAE Guideline 36-2018, High-Performance Sequences of Operation for HVAC Systems.

HVAC&R systems play an important role in minimizing the spread of harmful pathogens, and ASHRAE is ready to provide technical resources and answer questions.

The most up-to-date ASHRAE COVID-19 guidance can be found here.

The most up-to-date information on building re-opening can be found here.

For further assistance, please contact GovAffairs@ashrae.org.

Indoor Air and Coronavirus (COVID-19) – *Environmental Protection Agency* (EPA)

COVID-19 is thought to spread mainly through close contact from person-to-person. However, some uncertainty remains about the relative importance of different routes of transmission of SARS-CoV-2, the virus that causes coronavirus disease 2019 (COVID-19). There is growing evidence that this virus can remain airborne for longer times and further distances than originally thought. In addition to close contact with infected people and contaminated surfaces, there is a possibility that spread of COVID-19 may also occur via airborne particles in indoor environments, in some circumstances beyond the 2 m (about 6 ft) range encouraged by social distancing recommendations. See Science and Technical Resources related to Indoor Air and Coronavirus (COVID-19) or Indoor Air and COVID-19 Key References and Publications for technical information.

However, there are straightforward steps that can be taken to reduce potential airborne transmission of COVID-19 and the focus of this material is on those measures. The layout and design of a building, as well as occupancy and type of heating, ventilation, and air conditioning (HVAC) system, can all impact potential airborne spread of the virus. Although improvements to ventilation and air

cleaning cannot on their own eliminate the risk of airborne transmission of the SARS-CoV-2 virus, EPA recommends precautions to reduce the potential for airborne transmission of the virus. These precautions include increasing ventilation with outdoor air and air filtration as part of a larger strategy that includes social distancing, wearing cloth face coverings or masks, surface cleaning and disinfecting, handwashing, and other precautions. By themselves, measures to reduce airborne exposure to the virus that causes COVID-19 are not enough since airborne transmission is not the only way exposure to SARS-CoV-2 could potentially occur.

Making Polling Places Safer

As election season continues throughout the nation during the pandemic, the ASHRAE Epidemic Task Force is offering HVAC and water supply system guidance for polling places.

ASHRAE's Building Readiness guidance provides practical information and checklists to help minimize the chance of spreading SARS-CoV-2, the virus that causes COVID-19.

"Protecting our voters and poll workers from increasing the spread of COVID-19 at polling places is essential to protecting the health, welfare and safety of the entire population," said Dennis Knight, ASHRAE Epidemic Task Force vice chair. "Many different HVAC system types are used in polling places, so adaptation of these guidelines to specific cases is necessary."

Here is a summary of key general recommendations related to HVAC and water supply systems for polling places:

Space Selection: Select a space with larger area for people to spread out, and if possible, a high ceiling to provide more volume for dilution. Consider space with

operable windows if there are potential ventilation issues.

Inspection and Maintenance: Consider assessing the condition of systems and making necessary repairs. All building owners and service professionals should follow ASHRAE Standard 180-2018 “Standard Practice for the Inspection and Maintenance of Commercial HVAC Systems.”

HVAC Operation: The HVAC and toilet exhaust systems should be running when the space is occupied. If the HVAC system cycles on/off with the thermostat, consider running the fan constantly during occupied hours. If toilet exhaust is controlled by manual switches, leave the fan running for 20 minutes after use, or consider setting the switch to “on” and use signage that directs not to change the setting.

Ventilation: A good supply of outside air, in accordance with ASHRAE Standard 62.1-2019, to dilute indoor contaminants is a first line of defense against aerosol transmission of SARS-CoV-2. Pre- and post-occupancy purge cycles are recommended to flush the building with clean air. If the polling place is not ventilated or poorly ventilated and filter efficiency is not good, consider opening doors and windows, and consider re-locating all voting to the outdoors.

Air Distribution: Air flow distribution should not cascade air from the face of a person onto others, so take care in using personal fans.

Filtration: Use of at least MERV-13 rated filters is recommended, if it does not adversely impact system operation. If MERV-13 filters cannot be used, including when there is no mechanical ventilation of a space, portable HEPA air cleaners in occupied spaces may be considered. Also consider portable air cleaners in locations with more vulnerable staff.

Air Cleaning: Air cleaners such as germicidal ultraviolet air disinfection may also be considered to supplement ventilation and filtration. Technologies and specific equipment should be evaluated to ensure they will effectively clean indoor air without generating additional contaminants or negatively impacting space air distribution by creating strong air currents.

Temperature and Humidity: It is desirable to set the thermostat at the higher end of the comfort zone, 75-78°F and maintain relative humidity between 40-60%.

Energy Use Considerations: In selecting mitigation strategies, consideration should be given to energy use as there may be multiple ways to achieve performance goals that have greatly different energy use impact. Control changes and use of energy recovery to limit or offset the effect of changes in outdoor air ventilation rate and filter efficiency may reduce or offset energy and operating cost penalties.
Water System Precautions: Buildings that have been unoccupied could have stagnant water, and water systems should be flushed to remove potential contaminants. Utilizing ASHRAE Standard 188 and Guideline 12 can help minimize the risk of water-borne pathogens such as legionella.
The complete Epidemic Task Force Guidance document for polling places can be found here.

"The task force's approach to protecting indoor air quality in polling place is practical, and can help safeguard voters, poll workers and other building occupants as most sites are shared locations that serve many different purposes," said Luke Leung, ASHRAE Epidemic Task Force commercial/retail team lead.

ASHRAE's Epidemic Task Force has developed guidance and building readiness information for different operating conditions and several building types, including commercial, residential, educational, and healthcare facilities.

To view complete guidance on HVAC and water supply systems in polling places, along with other COVID-19 resources, visit ashrae.org/COVID-19.

2020-2021 Meetings and Events

Wednesday November 18, 2020

Time – 12:00 – 12:40 presentation
12:40 – 1:00 Regina Chapter

Presenter – **Don MacDonald** | Phoenix Controls | Northern Regional Manager

Topic – Focused on healthcare ventilation and increasing patient safety through HVAC risk mitigation, Don MacDonald will share the challenges, innovative designs, and overall visualization of these environments. Including the use of alternative airflow control technology versus VAV boxes, hospital applications for airflow control and pressurization in isolation rooms, pandemic ready rooms, intensive care units, operating rooms, and pharmacy cleanrooms. Healthcare applications from an HVAC perspective with discussion on the visibility ad control within the HVAC date system.

Location: GoTo Meeting

https://global.gotomeeting.com/join/722809469

Access Code: 772-809-469

December
2020
Topic: TBD
Date & Time TBD

Other Chapter Meetings will be announced in future newsletter

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