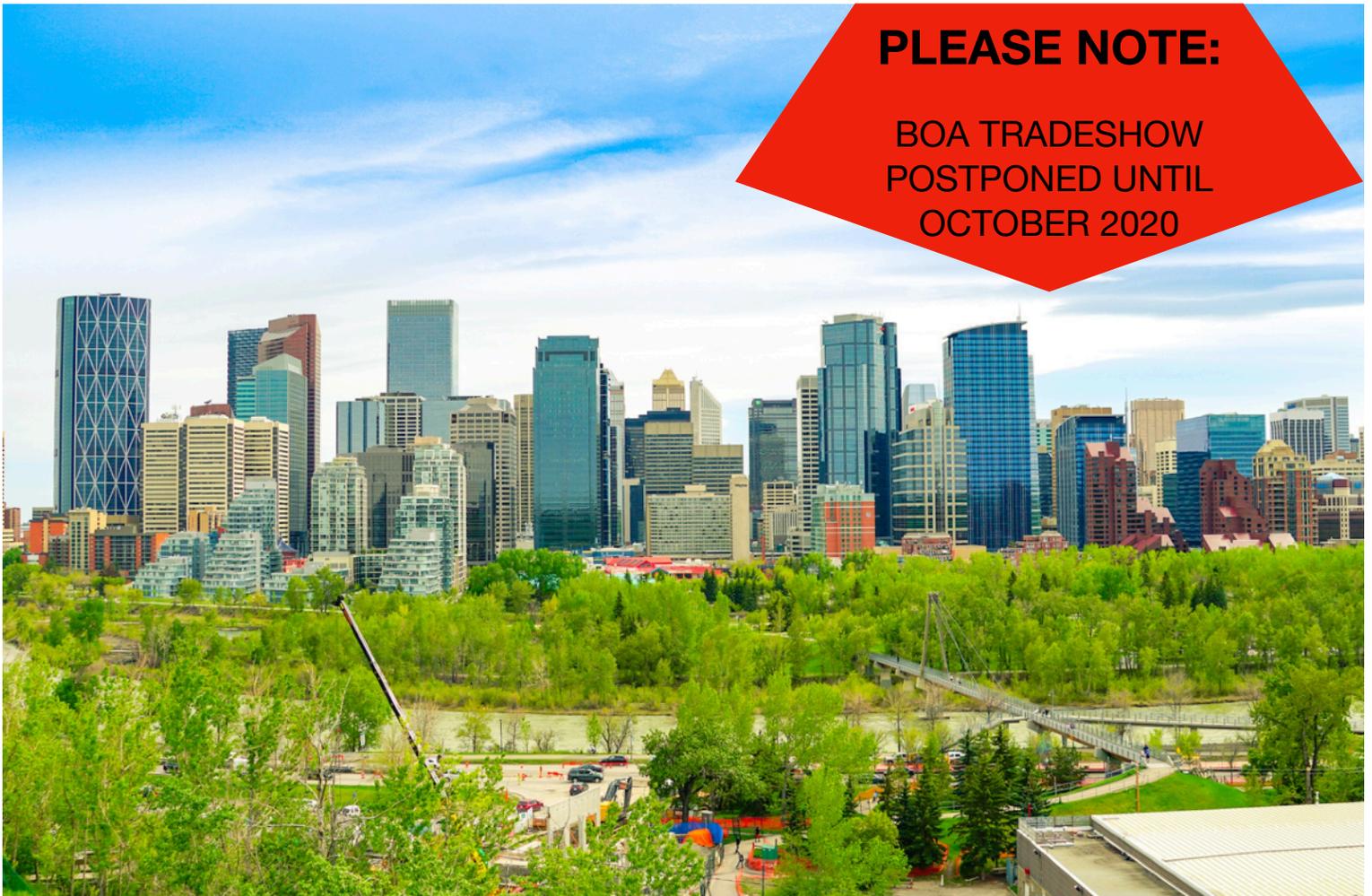


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# PRESIDENTS MESSAGE



## I hope this message find you and yours well and in good health

We have had over the last few months many changes in our lives. The psychology of change is that it is felt as loss, and with the feeling of loss comes anger. I am a person who believes that change can be a good thing. A procedure that can be modified or made better by reviewing the process with new eyes, new knowledge and modifying it to make it better/safer is good. Even to look at the procedure and in the review say the process works well, no changes needed in view of safety, efficiencies or effectiveness is always required. We see that in our "safe work procedures" at the work site on a regular schedule. It is accepted for work so, now why not in our personal lives as well.

The Building Operators association is undergoing change too. The Rock Steady people we have come to depend on are retiring from their current positions. **Casey Kok** is relinquishing the roll of Webmaster and Co-Chairman and **Vicki Gibbs** is moving on from our Editor to pursue other tasks. They have been over the years our face, our "Best Foot Forward" in the communication of our commitments to our industry.

Casey has always worked tirelessly in the interests of Building Operators. Late hours, long weekends, no pay. Our website was always interesting and active, and Casey was an award-winning Webmaster recognized for his superior work in the Webmaster world. He is always quick with a humorous story of a quirky joke and at every meeting had an amusing story. Casey worked at many rolls with-in the association. Welcoming committee, Trade Show Organizer, Chairmanship and going to building handing out invites, his many rolls will be missed by us. He was willing to lend an ear and offer information

Vicki Gibbs changed the face of the Building Operators Association. I recall when Hugo Sprenger rolled out our magazine it was cheap paper (usually light green) folded, stapled and mailed out to the members. Vicki made it so that our associates felt good when they viewed the logos and advert in the pages. She had an eye for apportioning the articles that made the reading enjoyable. The articles were short, informative, and relevant. Vicki was relentless in keeping the deadline on getting it out on time



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and driving the executives to their commitments to prepare for the printing and mailing. Vicki you will be missed by us.

It is not a loss; it is a change.

Let me re-introduce you to **Mike Thompson** and **Monika Bandari**.

Mike was formerly on the activities committee and will be now looking after the Website. The website will be under change over the next couple of months. We are now using Go-Daddy as the server and we are going to try our best to maximise the potential of the site. We now will be able to post videos, both informative and educational. Our mandate has always been to educate the operators and promote safety at the worksite. I hope the new website will do both better.

Monika held the position as scribe and now will be putting the magazine together for publishing. We have been working toward the magazine issues to be as most associations are doing, electronic. Monika will still assemble a superior magazine and the posting and mailing out will be electronic through the new website. The BOA, over the next couple of months, will work toward getting the September issue out to members in time for the next meeting. September 8, 2020 (hopefully).

There have been so many Associate companies that under their policies have cancelled the attendance of any gathering for entire 2020 year. The executive will have to discuss the option of holding in 2021 the new date for the BOA Trade show. We said we would look to October 13 as the new date. We will reach out to the associates who have committed to attend with any information we receive, or they care to share.

Thank you for your patience in these trying times. Look after the ones you love. Have fun, I hope to see you soon.

Les Anderson PE, RPA



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# Test Your Operator IQ!

Are you equally adept at troubleshooting problems in the boardroom and the boiler room? As the resident facility guru, there's a lot riding on whether or not you know the difference between sounds control and a sound investment.

If you're ready for 21st century challenges, then you are ready for our monthly Operator IQ challenge...answers on page 17.

- 1. Relative to personal protective equipment it is the employer's responsibility to:**
  - a) supply, ensure usage, and maintain
  - b) wear, care for, and maintain
  - c) supply and ensure usage
  - d) supply only
  - e) supply, ensure usage, care for, and maintain
- 2. Respiratory equipment that is not used routinely but is kept for emergency use must be inspected:**
  - a) monthly
  - b) yearly
  - c) semi-annually
  - d) weekly
  - e) daily
- 3. Safety meetings should routinely be held:**
  - a) daily
  - b) weekly
  - c) bi-weekly
  - d) monthly
  - e) bi-monthly
- 4. Shatter resistant glass or plastic applies to:**
  - a) face shields
  - b) goggles
  - c) welding goggles
  - d) safety glasses
  - e) welding helmet lenses
- 5. The filter type respirators will effectively protect from:**
  - a) all poisonous gases
  - b) toxic vapors
  - c) hydrogen sulfide
  - d) mineral dusts
  - e) chemical fumes

# Chiller Replacements: Out With the Old, In With the New

*By James Piper*

*When properly researched and planned, chiller replacements can deliver long-term benefits to departments and facilities*

The time has come to replace one of a facility's main chillers. It is nearly 25 years old and has been overhauled at least once. Maintenance and engineering department technicians have done all they can to keep it running, but it is becoming increasingly unreliable. It has had to be shut down for emergency maintenance twice in the last 90 days, resulting in outages that lasted at least four hours. Service calls are becoming more expensive, and parts more difficult to get. It is just a matter of time until it fails. Then the facility could face a prolonged outage. It is time for a replacement chiller.

Deciding to replace a chiller is hardly the end of the challenges. Installing the new chiller will be a problem. They are expensive. Installation will be disruptive and most likely will result in a relatively long period when chilled water will not be available to the facility. Managers will have to make temporary arrangements to supply chilled water to critical loads. Even the task of getting the old chiller out of the building and the new one in will be a challenge.

When facing tough problems, however, managers also can take advantage of opportunities. If the replacement project is carefully planned and implemented, operations can benefit from the improved energy efficiency of a new chiller. The new technology can eliminate refrigerant supply and cost issues. Chiller plant reliability and occupant comfort can improve significantly. The move also can reduce overall chiller plant maintenance requirements and costs, and managers can reconfigure chiller plants to better meet current conditions in the facility.

## **Eye on efficiency**

New chillers offer improvements in full- and part-load operating efficiencies over those found in most

operating chiller plants. When new, water-cooled chillers from 20 years ago offered full-load operating efficiencies of 0.75-0.85 kW per ton. Comparably sized chillers today are available with full-load efficiencies of under 0.50 kW per ton.

Remember though, the efficiency of the existing chiller will have decreased over time, so that figure of 0.75 kW per ton most likely is much higher. Simple wear and tear on components, along with fouling of heat-transfer surfaces, most likely have hampered performance, even with the best maintenance.

While improvements in full-load efficiencies are good, a typical chiller operates at full-load less than 2 percent of the time. Nearly 85 percent of the time, a typical chiller operates at 50-75 percent of full-load capacity. The part-load performance characteristics of new chillers provide the greatest financial benefits.

One way manufacturers have improved part-load efficiencies is through the use of variable-frequency drives (VFD). A typical chiller operating at 60 percent of full load might use 0.48 kW per ton. That same chiller equipped with a VFD operating under the same conditions would use about 0.27 kW per ton. VFDs also offer the advantage of soft starting the chiller's drive, which reduces stress on the motor windings.

Magnetic-drive bearings in chillers are replacing standard chiller bearings. These levitating bearings reduce friction within the chiller, improving operating efficiency. Magnetic bearings also do not require oil to operate, producing additional savings by eliminating potential oil fouling of heat-transfer surfaces. The lack of a need for lubrication oil eliminates the cost of oil changes and analysis.

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# KENKEN PUZZLE

How to solve the Kenken puzzle: (answer on pg. 21)

- Fill in the numbers from 1 -6 (in this case 6, because the kid is 6x6).
- Do not repeat number in any row or column.
- The numbers in each heavily outlined set of squares, called cages, must combine (in any order) to produce the target number in the top corner using the mathematical operation indicated.
- Cages with just one square should be filled in with the target number in the top corner.
- A number can be repeated within a cage as long as it is not in the same row or column.

2-		11+		3÷	
5-		5+	2÷	3-	
15x				4	48x
3-	1	1-			
	12x	5	8x	5-	
6				8+	

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# Grease Guns Buyers Guide

Proper lubrication is essential to maintaining the life of your equipment. Grease guns and grease fittings are widely used in today's industry and offer a simple means to lubricate machinery. The origin of this innovation goes back to the early 1900s.

## Backtracking Through History

Arthur Gulborg was a son of a co-owner of a small die-casting plant in Chicago. His job was to relubricate the die casting machines by refilling their oil cups several times a day.

This labor-intensive task led him to invent the grease gun (screw type) and grease fitting in 1916. He invented the fitting, a braided metal hose having a special end connection, and screw-type grease gun.

Arthur Gulborg and his father named it "The Alemite High-Pressure Lubricating System" after the Alemite Die Casting and Manufacturing Company where the idea was first formed.

In 1918, the Gulborgs approached the U.S. Army with this invention. Several test installations were made on white trucks in army service. Gulborg's invention vastly simplified the task of lubricating army trucks. On July 10 of that year, it became standard equipment.

By 1922, Alemite introduced the "Button-Head" system to serve on a more rugged, heavy-duty lubricating system for many industrial applications.

The "Junior Button-Head" system was used to lubricate motorcycles and "Standard" and

"Giant" versions of the button-heads were used in a wide range of industry including heavy construction equipment. The automobile industry, however, was the greatest immediate potential for sales.

Within five years of Gulborg's patent, the passenger car became equipped with an Alemite hand grease gun and hose assembly. Grease guns became familiar to the general public, and most automobile lubrication was performed by the car owners. In 1924, the Allyn-Zerk Company of Cleveland, Ohio was purchased by Alemite, and the Zerk line of lubrication fittings and hand grease guns was added to the Alemite line.

The Zerk design, named after Oscar Zerk, used a fitting much smaller than the Alemite pin-type and did not lock the hose coupler or hand gun and fitting together. Instead, the seal between them was maintained by the pressure of a pushing action when the operator applied the coupler to the fitting. This became known as a push-type system.

In 1930, Alemite introduced new hydraulic fittings. Today's hydraulic fittings are very similar to the original version and remain the most popular grease application system in the world.



Continued on next page...

## Grease Guns

Today, several technologies exist for regreasing machine components. A grease gun is one of the most common. Without proper training, however, the use of a grease gun can lead to over- or underlubrication.

There is also a higher risk of contamination if great care is not taken when applying grease with a grease gun. However, with proper training, grease guns are easy to use, allow the technician to inspect the equipment during lubrication, and are relatively inexpensive.

A number of different manufacturers offer grease guns (see Table 1 and contact information), and grease guns are manufactured for a number of different applications. The most common styles of grease guns include the lever, pistol-grip, hand-grip, air-powered and battery-powered styles.

The lever style is the most widely used. Most manufacturers will indicate the maximum pressure and strokes-per-ounce. One problem with grease guns is that the strokes-per-ounce vary from one manufacturer to the next. Because this is not consistent, it is important to know how much grease the gun delivers to avoid under- or overlubrication.

Another important factor to consider is that high-pressure grease guns can deliver grease at pressures greater than 10,000 psi, however most bearing lip seals are unable to withstand more than 500 psi. Also consider where grease is needed. Some points are easier to reach with a pistol or hand-grip grease gun rather than a lever type.

## Grease Fittings

The proper grease fitting to use is another important consideration. To prevent dirt and other contaminants from entering, most fittings have a ball check in the head. This also provides a connection between the fitting and the coupler of the grease gun.

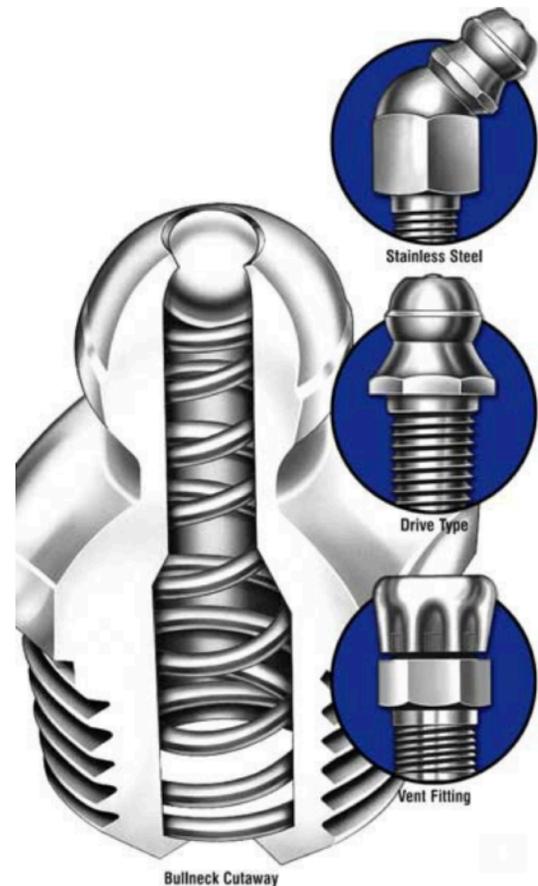


Figure 2. (Courtesy of Lincoln Industrial Corp.)

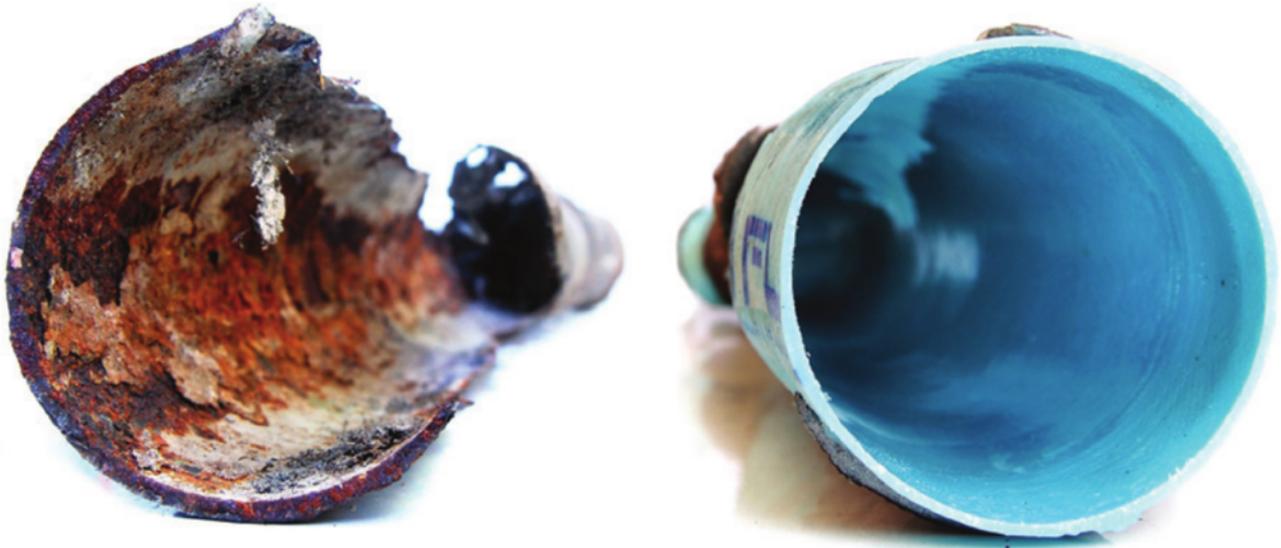
There are a number of different fittings available from grease suppliers to meet specific needs. Fitting styles come in different angles and lengths to make it easier to lubricate.

Marine and some industrial applications may require stainless steel fittings that are non-corrosive and rust-proof. There are some fittings that shut off at specified pressures to prevent overlubrication and blowing out seals. In some instances, like on revolving bearings, protruding fittings cannot be used; fittings that are flush with the surface are available for these situations.

If a standard size or style is not available, some manufacturers will allow customization of desired size or style.

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# Healthy Buildings Are More Important Than Ever

*As the coronavirus pandemic rages, smart updates and thoughtful safety measures focused on health and wellness will be needed to help people feel good about returning to work.*

By Amy Malmstrom

The healthy building movement has changed the way facility managers evaluate their buildings, but the coronavirus pandemic is bound to change it even more. As people return to their office buildings, there will be new concerns about safety and sanitizing. Complicating matters, it could be challenging to draw people back to the workplace after the convenience of working at home, where the dress code is always “casual.”

Most facility managers have long since expanded their evaluation checklists to include features like indoor greenery and water bottle filling stations, along with inspections of the HVAC systems and lighting fixtures. Now, it becomes even more important to take a thoughtful approach to well-being concerns. It's a good time to retool those

building checklists and evaluations to make sure facilities are not just operating efficiently, but also helping people feel safe, welcome and healthy, especially as they return to work.

## Build on current practices

Ideally, the effort to enhance health and well-being will not be something that's brand new. Rather, it's another layer added to what's already being done to keep the facility humming—an evaluation process that's ongoing daily, weekly, monthly and annually.

For example, there are regular inspections for wear and tear on internal areas that are heavily used, such as entrances, dining spaces and common meeting areas. There's similar scrutiny of external areas, such as loading docks and sidewalks. It's understood that a

well-maintained facility matters to everyone who walks the halls, occupies a workspace or visits the building to attend a meeting.

In addition to aesthetic impressions of the facility, issues related to sustainability and well-being have become increasingly important to corporate tenants as well as to employees. Therefore, such issues also have become more important to facility managers; they are expected to have expertise on the more



Combined indoor and outdoor space can promote occupant happiness and productivity.

psychological as well as the practical aspects of the buildings they oversee.

Not surprisingly, heightened concerns about [buildings' health-related features](#) in the wake of the worst pandemic in recent memory exist. Naturally, people will be wary. There also will be greater awareness that the maintenance of unseen systems such as ventilation and cleaning protocols could be just as vital for safety as, say, a leaking ceiling or a crack in a sidewalk.

## Certification programs

A good way to enhance evaluations of a facility is by using one or more third-party certification programs, such as LEED, Fitwel or WELL. [LEED](#) is a global platform, whose certification emphasizes building efficiency and sustainability. [The U.S. Green Building Council promotes its LEED certification](#) as a competitive edge as well as a selling point for prospective tenants.

[Fitwel](#) is another widely used certification program in the healthy building movement, emphasizing health-promoting design. The Centers for Disease Control and Prevention (CDC) is a research and evaluation partner for Fitwel.

[WELL Certification](#) also offers a detailed framework for building projects that promote health and well-being. The Green Business Certification Incorporation, GBCI, which certifies the WELL Building Standard, also administers the LEED rating system, and WELL and LEED are complementary, not competitive.

## WELL building guidelines

Here's a closer look at the WELL building standards, which have a focus on the health and well-being of building occupants. They draw on medical research, detailing numerous points that fit into a facility management audit. Consider some of these main target areas:



**HVAC practices.** This is likely to be top-of-mind as people return to their office buildings once the coronavirus crisis eases. Indoor air quality can have major effects on people's productivity, alertness and absenteeism. The Environmental Protection Agency [links indoor air pollution](#) to a number of serious diseases, including asthma. A regular cleaning and replacement strategy for all systems and filters, along with evaluation of the outdoor air intake, will help to maintain optimal air quality.

**Cleaning protocols.** Consider a transition to products with safer ingredients. Most commercial cleaners contain harmful chemicals that can be hazardous to the cleaning staff as well as other building occupants. A focus on proper training and cleaning schedules will also be top of mind for employees returning to the office environment.

**Drinking water quality.** This amenity is important to employers because it is important to their employees. As companies have encouraged the use of reusable water bottles, they've also started

offering bottle filling stations and ice/water dispensers. Regular cleaning and filter maintenance of this equipment are needed to ensure that drinking water is not only accessible, but of the highest quality.

**Smoking bans.** Restrictions in buildings have helped to [improve Americans' health](#), according to the CDC. Many corporate companies have enacted full smoking bans for their buildings and campuses. Facilities that do allow for smoking locations should position them well away from building entry points, to keep smoke out of the facility and safeguard people from having to walk through them.

**Pest management practices.** These can be improved with an emphasis on low-hazard pesticides. [The integrated pest management](#) approach aims to balance monitoring, prevention and control efforts to limit harmful effects on people.

**Recycling programs.** Standard in some facilities, more controversial in others, recycling programs are another way to promote more sustainable practices in our throw-away society. Some facilities might even be able to include composting collection points, recycling food waste for practical purposes such as landscaping.

Also, worth noting is the WELL Building Core & Shell certification, an approach that might be particularly useful to some facility teams. The program's emphasis is on base building design and operation. It is similar to the LEED certification process; in that it aims to offer incentives for all a building's tenants to adopt a health and well-being emphasis for their independent spaces.

## Encouraging healthy behaviors

While it's vital to evaluate building systems that have a short-term, direct impact on health. It's also good to take the long view. Over time, certain enhancements can not only promote

healthful behaviors, but inspire positive feelings about people's surroundings.

These are not esoteric concerns, but measures with real, bottom-line impact. [WELL standards](#) and other green building initiatives have been shown to boost productivity, reduce health care costs and help attract and retain employees. In turn, keeping current employees rather than having to hire and train new ones has a positive impact on an organization's ROI. [According to the Center for American Progress](#), replacing a single employee may cost an organization up to 30 percent of that person's annual salary.

Research shows that indoor environments can promote happiness and productivity through things like lighting, greenery, outdoor access and window placement. Other enhancements can promote wellness by encouraging fitness. These include:

- Features such as walking trails encourage people to get outside for exercise and fresh air.
- More open, inviting and accessible stairways can prompt people to take more steps during the workday.
- On-site fitness centers make it easy and convenient for people to use a treadmill, work out with weights or perhaps take a stress-reducing yoga class.

Upgraded amenities could be a valuable tool to welcome people back to buildings that were emptied out by the pandemic — especially those employees who have rather enjoyed cocooning at home. Again, these measures can have significant impact as strategies to shore up engagement by offering people tangible quality-of-life features. Consider these possibilities:

- Well-planned gathering places that encourage interaction and camaraderie, albeit with timely "social distancing" considerations, when appropriate.
- Décor that nods to the trend of less institutional, more homelike surroundings. This could include creative use of finishes, spots that offer quiet and

privacy, and places where with seating choices allowing the user to adapt their posture, such as couches rather than the standard office chairs.

- Spaces that demonstrate openness to a more agile workplace. These might include locations where people who work from home part of the time can come in, set up their computers and interact with their full-time on-site colleagues.

## Role of communications

Amid the nuts-and-bolts concerns, system audits and checklists, don't overlook the need for communications. Post-pandemic, they will become more important than it has been in the past. Facilities managers will need to educate people about the health and well-being strategies that are being enacted and how these measures contribute to a more efficient workplace that's also more healthful for them. Communications should explain the efforts to safeguard people's security and safety, and hopefully will inspire confidence and peace of mind.

Communications can include emails, text messages and signage, including digital signs. If possible, it also can be helpful to provide FAQs and a way for tenants and employees to have their questions and concerns addressed. Communications efforts should make use of data, when available, to back up explanations about what's being done and why. This will help keep people informed, engaged and reassured.

## Vital role of facility managers

The healthy building trend is bound to accelerate and deepen as people return to buildings that they hope are safe and healthy. Facility managers can play a vital role by updating the way they evaluate their buildings — including enacting additional safety measures and sharing information with tenants and employees.

Sustainability and well-being are increasingly integral to how people think about what a building should be. Through careful evaluation and

thoughtful updates, the buildings where so many people spend so much of their time can be better places in which people live, work and learn.

Amy Malmstrom is a lead architect, as well as LEED AP BD+C and WELL AP, for BHDP Architecture. BHDP, an award-winning international architectural firm, is recognized for intelligent, innovative and inspiring design solutions in architecture, planning, interior design, project management, strategic consulting, and spatial analytics. BHDP services five core markets: workplace, retail, higher education, science, and integrated industrial design. The firm has offices in Cincinnati and Columbus, OH; Atlanta, GA; Pittsburgh, PA; and Charlotte and Raleigh, NC.

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In the picture, from left to right, are Dilawer Memon - Building Operator, Paul Thompson – Operations Manager, Jake Grimaldo – Senior Building Operator and Mike Gerald – BGE

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### SEPTEMBER AGENDA BOA CALGARY GENERAL MEETING

Agenda to be announced.

### GENERAL MEETING ATTENDANCE

Since General Meetings have been cancelled, there has been no attendance to record.

### Kenken Puzzle Answer

<sup>2-</sup> 4	2	<sup>11+</sup> 6	5	<sup>3÷</sup> 3	1
<sup>5-</sup> 1	6	<sup>8+</sup> 4	<sup>2÷</sup> 3	<sup>3-</sup> 2	5
<sup>15×</sup> 3	5	1	6	<sup>4</sup> 4	<sup>48×</sup> 2
<sup>3-</sup> 5	<sup>1</sup> 1	<sup>1-</sup> 3	2	6	4
2	<sup>12×</sup> 3	<sup>5</sup> 5	<sup>8×</sup> 4	<sup>5-</sup> 1	6
<sup>6</sup> 6	4	2	1	<sup>8+</sup> 5	3

### TEST YOUR OPERATOR IQ ANSWERS:

- 1) C    2) A    3) D    4) D    5) D

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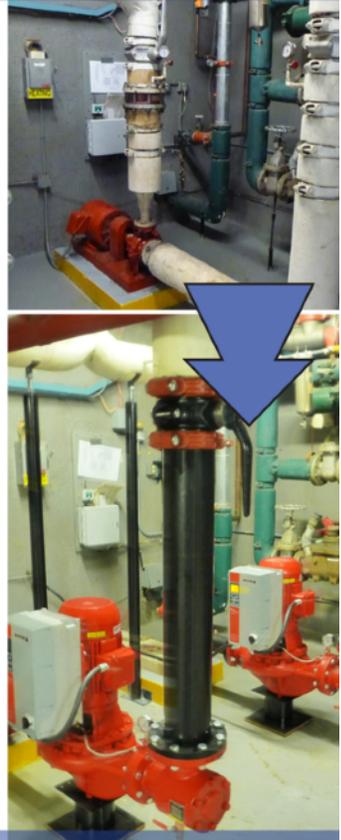
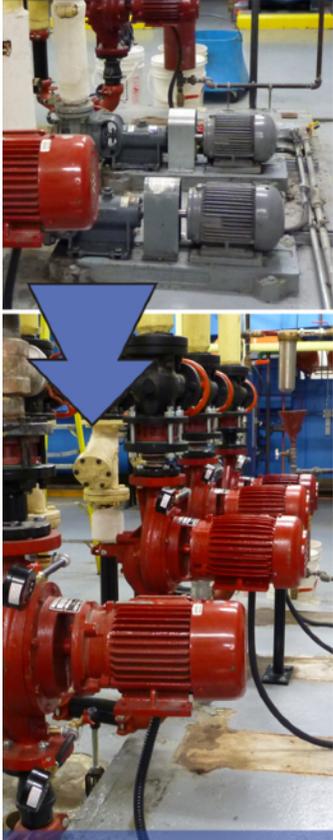
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