

BOA

Building Operators Association of

Canada

Official Publication of the Building Operators Association (Calgary)

February 2026



Thornciffe Greenview Community Association

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Front Cover:

Tony Wang

Important Phone Numbers

Emergency	911
Alberta Boiler Safety Association	403 291 7070
Alberta Labour (Emergency)	403 297 2222
Buried Utility Locations	1 800 242 3447
City Of Calgary (All Departments)	311
Dangerous Goods Incidents	1 800 272 9600
Environmental Emergency	1 800 222 6514
Poison Centre	403 670 1414
Weather Information (24hr)	403 299 7878

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President's Message

I hope this message finds you & yours well and in good health



BOA is offering to management companies, a corporate membership that will allow their property management staff access to the association.

BOMA Calgary will put out a notification to their members via the electronic newsletter, BOA meeting times and dates along with who will be the guest speakers and the topics presented. Hopefully this will encourage operators to attend the monthly educational sessions.

The Building Operators Association is looking to have a **trade show** this year. It has been a while since the last one and some interest has been shown to have another. We will reach out to companies that in the past, had a booth to see if they would be interested in having another one this year as well. If you did not attend with a booth the last trade show and would like to participate, please contact me at president@boacalgary.com and we will arrange to have a table set aside for you. The prices for the afternoon show are very reasonable, and there are limited booths. The last show we had was pre-covid and had 35 booths. The Trade Show is a very intimate affair, I think much better than the other types from our industry. It will be held at the **Thornccliffe Community Centre**. It is a

great venue for our monthly meetings and there is sufficient room to accommodate our Trade show of any size. The cost of the tables will be **\$350 for a regular sized** and **\$550 for a corner booth**. There is a lot of foot traffic expected; in the past we have had approximately 750 attendees. Coffee and finger food will be available and there will be plenty of door prizes to go around for the attendees. It has been 5 years since our last trade show, and we are now due for another!

If you would like to volunteer to assist in the organization of the trade show please, reach out; many hands make light work.

The monthly meeting with a guest speaker and times will remain the same: **second Tuesday of each month. Meetings from 5-7 PM at the Thornccliffe Greenview Community Association 5600 Centre Street North**, there is plenty of parking available. **We look forward to seeing you there!**

Smiles))

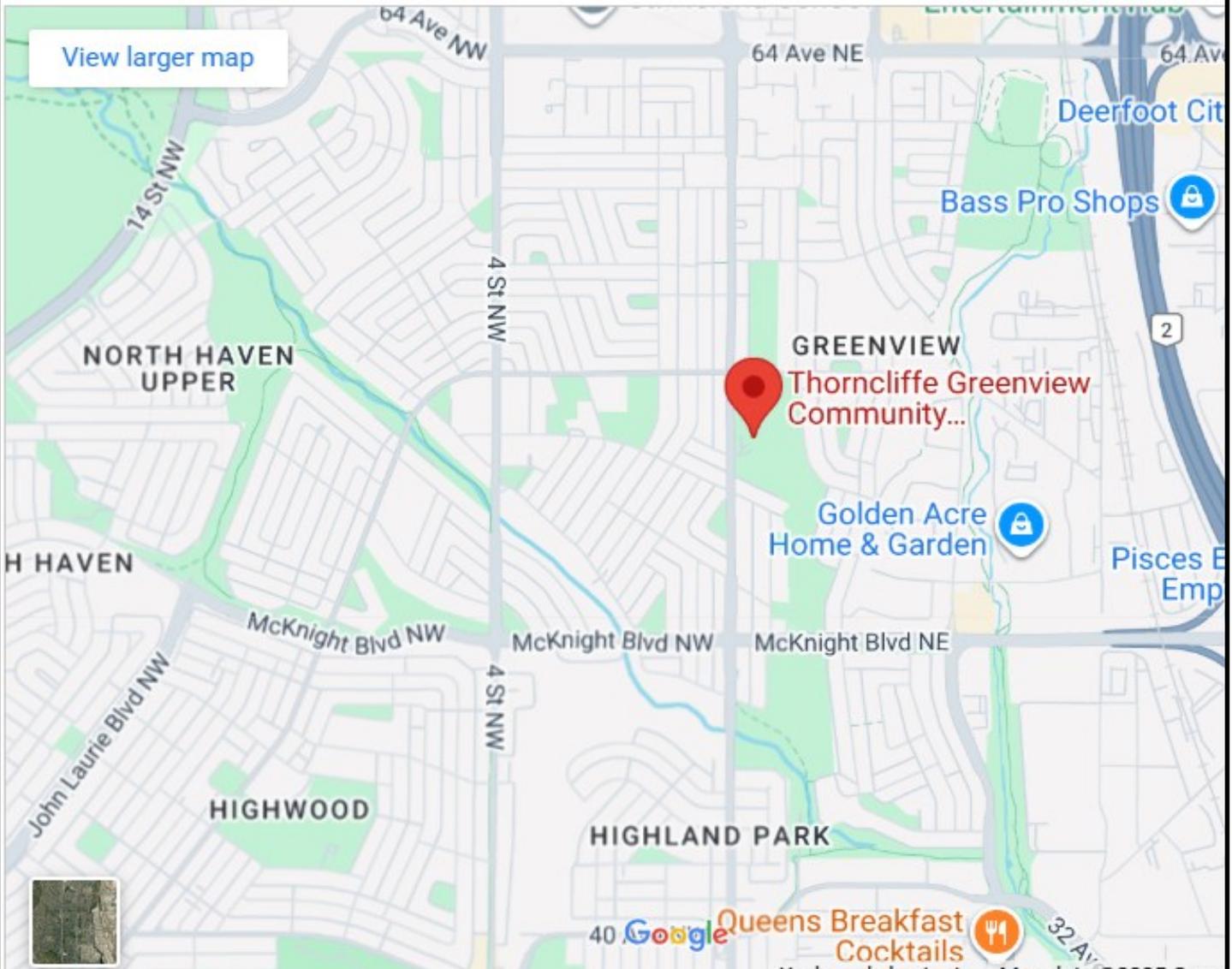
Les Anderson
BOA Calgary President



**Join us at our Monthly Meeting on
Tuesday February 10th, 2026**

at our new location:

**Thornccliffe Greenview Community
5600 Centre St N, Calgary, AB T2K 0T3**



**Meeting starts at 5pm to 7pm
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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.

Try our monthly Operator IQ challenge...answers on page 32

- 1) Any leakage occurring through the surfaces of a mechanical seal will:
 - a. not be visible to the operator
 - b. result in an audible sound and be readily noticed
 - c. be indicated by pump vibrations
 - d. be axial to the shaft
 - e. be radial to the shaft

- 2) Centrifugal pumps convert rotating mechanical energy into kinetic energy then:
 - a. discharge the kinetic energy
 - b. back to mechanical energy
 - c. absorb the energy
 - d. into potential energy in the form of pressure
 - e. into centrifugal force

- 3) Flexible couplings will compensate for:
 - a. overheating of packing
 - b. axial shaft misalignment
 - c. bearing failure
 - d. shaft eccentricity due to a badly bent shaft
 - e. impeller imbalance

- 4) If a pump is running and has no discharge pressure, then:
 - a. close the suction valve a little
 - b. open the lubrication valve
 - c. check the lubricant level
 - d. check to see if the suction valve is open
 - e. close the discharge valve

- 5) If a stuffing box is to prevent the ingress of air, it is equipped with a/an:
 - a. vacuum breaker
 - b. seal cage
 - c. bushing
 - d. thrust collar
 - e. anti air siphon

- 6) If pump speed is too high:
 - a. the driver may be overloaded
 - b. discharge pressure will be below normal
 - c. no liquid will be delivered
 - d. the pump will lose its prime after starting
 - e. there will be air or gas in the liquid



Mastering the Air We Breathe: How Smart HVAC Training Saves Lives and Cuts Costs

[Juan Carlos LaGuardia Merchán](#)



When was the last time your team confidently adjusted your building's HVAC system without calling engineering? If you hesitated, you're not alone, and that pause might cost you more than you think. In facilities management, HVAC systems are often treated as the invisible heroes of comfort. But without proper training, these systems can become costly liabilities or even safety hazards.

In this article, I'll walk you through how to transform your team and occupants into informed allies of HVAC safety and efficiency.

Why Training on HVAC Systems Is No Longer Optional

As a facility manager with over 25 years in the field, I've seen firsthand the consequences of overlooking HVAC education. From energy waste to poor indoor air quality, the risks are real, but so are the solutions.

Most building operators focus on compliance, maintenance, and emergencies. But if your occupants and junior staff are in the dark about HVAC basics, they're unintentionally sabotaging efficiency and safety. Whether it's someone propping open fire doors for air flow or fiddling with thermostats in sealed rooms, the lack of awareness can compromise your building's entire performance.

Let's stop firefighting and start future-proofing.

Step-by-Step: How to Train Occupants and Staff on HVAC Controls and Safety

1. Start with a Clear HVAC Training Policy

Develop a policy that outlines who gets trained, how often, and what topics are included. This should be part of your overall Facilities Management Strategy and regularly reviewed with Health & Safety stakeholders.

2. Segment Your Audience

Not everyone needs to know how to balance air handling units, but they all need *some* level of understanding. Divide your training into:

- **Occupants (e.g. office staff, tenants):** Basic comfort controls, do's and don'ts.
- **Non-technical staff (e.g. receptionists, cleaners):** Emergency protocols, airflow considerations.

Technical staff (e.g. junior engineers, contractors): Full system overview, troubleshooting and safety procedures.

3. Use Real-World Scenarios

Don't bury them in manuals. Use case studies, building-specific examples, and previous incidents. A real example of overheating due to blocked vents will be remembered far longer than a theoretical chart.

4. Leverage Digital Tools and Building Management Systems (BMS)

Your BMS is not just for engineers—it can be an educational tool. Set up dashboards with clear icons and colour-coded alerts so users understand airflow, temperature and humidity levels. Consider QR codes at key locations that link to quick explainer videos or manuals.



5. Conduct Regular Walkthroughs

Quarterly walkthroughs are gold. Walk your staff through mechanical rooms and rooftop units. Let them hear the fans, smell the filters, and feel the difference between conditioned and unconditioned air. Familiarity breeds confidence.

6. Make Safety Non-Negotiable

Train everyone on what to do in case of HVAC failures—especially if your building supports labs, server rooms or healthcare. Teach about carbon monoxide alarms, blocked return ducts, and how to report leaks. Include HVAC safety in your emergency response drills.

7. Gamify the Learning

Inject some fun into it. Quizzes with prizes, “spot the fault” challenges, or leaderboard competitions can make HVAC education stick, especially with younger staff.

8. Create an HVAC Champions Network

Identify a few “HVAC Champions” across departments who get more advanced training. These individuals become peer educators and your go-to contacts when issues arise, boosting your building’s internal support network.

9. Feedback and Continuous Improvement

After every training session, collect feedback. What was clear? What confused them? Use this insight to refine your next session. A facility that learns is a facility that leads.

10. Align Training with Sustainability Goals

People engage more when they know they're part of something bigger. Show how HVAC efficiency contributes to your Net Zero commitments or ISO 50001 certification. Let them take pride in the role they play.

Real Benefits, Real Fast

When your occupants and staff understand HVAC systems, magic happens:

- **Reduced Helpdesk Calls:** Fewer "it's too cold" complaints that stem from incorrect usage.
- **Lower Energy Bills:** Proper usage means no overcooling, overheating, or unnecessary airflows.
- **Increased Lifespan of Equipment:** Preventing misuse extends the life of fans, filters, and chillers.
- **Improved Safety:** Early detection of issues, fewer shutdowns, and no accidental exposures.

Empowered Culture: Staff feel confident, respected, and engaged in building operations.

I once implemented this training model in a 400,000 sq. ft. pharmaceutical facility. In just six months, reactive maintenance calls dropped by 40%, and energy savings hit 17%. Not because we bought new equipment, but because our people became part of the system's success.

The Bottom Line: People First, Systems Second

It's easy to forget that HVAC systems don't operate in isolation. They respond to how people interact with them. Training isn't just a tick-box—it's a game-changer for operational excellence.

If you're serious about creating a high-performing building, don't just maintain your HVAC systems; **teach them** to your people.

Are your people educated or just enduring your HVAC systems? Start today. Schedule an HVAC awareness workshop. Create a digital

guide. Assign HVAC Champions. Your budget, your equipment, and most importantly, your people will thank you.



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tall achievements
stay determined.



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**“February is
short and
very sweet.”**

CHARMAINE J FORDE

Preparing for the Unexpected: The Role of Facility Managers and Building Operators in Blackout Scenarios: How to Lead Your Site Through Power Failures

[Juan Carlos LaGuardia Merchán](#)

A Test of Leadership in the Dark

Blackouts are rare, but when they happen, the effects are immediate and widespread. The most recent event in Spain plunged entire districts into darkness, halting critical operations, trapping occupants in lifts, compromising HVAC systems, and disrupting data centre continuity. For facility managers, this is the ultimate test not of routine maintenance but of foresight, leadership, and emergency planning. Whether managing a corporate office, healthcare facility, manufacturing site or data centre, our responsibility is clear: ensure the safety of people, the

continuity of operations, and the protection of assets. That requires far more than knowing the layout of the building. It demands strategic coordination, rigorous inspection schedules, and thorough drills.

The Facility Manager's Role Before, During and After a Blackout

Before the event:

- **Develop a blackout-specific contingency plan:** Your emergency response plan must detail protocols for short-term and prolonged power outages, identify vulnerable systems, and define chains of command.



- **Schedule generator maintenance:** Generators are often neglected until they fail. Ensure weekly automatic test cycles are logged and quarterly load tests are executed.
 - **Train building operators and evacuation brigades:** A blackout is not the time for on-the-job learning. Everyone involved must know their role.
- Update UPS inventories:** Many systems now depend on short-duration power holds; audit and replace ageing batteries regularly.

During the event:

- **Initiate communication protocols:** Clear, concise updates prevent panic and reduce misinformation. Use radios, internal networks (if powered), or SMS-based systems.
- **Deploy the evacuation brigade if needed:** Especially in high-occupancy buildings, controlled evacuation may be required. Keep stairwells lit using emergency battery packs.
- **Monitor generator load distribution:** Building engineers should ensure that backup systems are not overloaded, prioritising critical systems like security, fire detection, and IT.

After the event:

- **Debrief and update protocols:** Every blackout is a learning opportunity. Conduct an after-action review involving all stakeholders.
- **Inspect all systems for power surge damage:** Especially important for sensitive equipment like servers and BMS controls.
- **Replenish emergency stocks:** Replace used batteries, first aid supplies, and restock generator fuel reserves.

Inspection & Maintenance of Emergency Power Systems

While standard operational maintenance is part of any FM's responsibility, emergency power systems require *predictive* and *preventive* strategies.

Generator checks must include:

- Fuel quality and levels (especially for diesel units)
- Oil and coolant levels
- Transfer switch function
- Battery health and charge status



- Exhaust system integrity
- Load test results at least quarterly

Uninterruptible Power Supplies (UPS):

- Check battery age, replace after 3–5 years, even if unused
- Confirm the inverter and rectifier function
- Test response time to simulate power loss
- Validate runtime under real load conditions

Building Management Systems (BMS):

- Ensure BMS can operate in limited mode during power loss
- Configure automatic shutdown of non-essential services
- Integrate emergency lighting and HVAC override capabilities

Coordination of Emergency Response and Evacuations

When the lights go out, confusion rises. That's when coordinated response becomes invaluable.

Your emergency response plan must define:

- Roles and responsibilities across FM, security, and HR
- Primary and secondary communication channels
- Decision thresholds for partial vs full evacuation
- Pre-designated safe zones and access to torches and emergency kits

Evacuation brigades must be:

- Trained quarterly with live drills
- Equipped with high-lumen flashlights, emergency radios, and hi-vis vests
- Familiar with routes, stairwell lighting points, and disabled access

Coordination tools include:

- Floor marshals with floor-specific authority
- Central command via mobile devices or a generator-powered control room
- Up-to-date contact lists of all on-site personnel

Treat It as Inevitable, Not Improbable

Treating blackouts as “once in a generation” events is dangerous. As our infrastructures grow more interdependent, the effects of regional failures ripple further and faster. The risk may be low, but the *impact* is high, and that's exactly the kind of scenario facility managers are paid to anticipate.

It is not acceptable to blame “unexpected conditions” when business continuity fails. Nor should a facility manager ever be seen fumbling in the dark. The profession demands we anticipate the worst, train for the improbable, and lead without hesitation when systems collapse.

Preparedness Is Not a Project, It's a Mindset

No building system is perfect. But our planning, our people, and our preparation must be. As site leaders, facility managers are the difference between chaos and calm, between minor disruption and disaster. When the power goes out, you either *have a plan*, or *you are the plan* and if that's the case, it better be a damn good one.

Have you pressure tested your facility's blackout readiness this year? Review your emergency power maintenance schedule, update your evacuation protocols, and conduct a full blackout simulation. Your future self and your occupants will thank you.

Article reprinted with permission

IMPORT UPDATE: LOCKBOX PROGRAM



Honeywell has discontinued the TRACcess (Supra) lockbox product line along with all support and services. Because this change comes directly from the manufacturer, any Supra lockbox lids currently installed on business premises will need to be replaced or retrofitted to remain compliant with the National Fire Code.

To maintain secure emergency access and code compliance, all existing Supra lockbox lids must be retrofitted with the approved Knox Lift-Off Retro Lid before **December 31, 2026**. Orders should be placed through the Knox website before **October 30, 2026**, and installations must be completed by CFD. Non-compliance fees will apply after the deadline.

We've also implemented several cost-saving measures for businesses, including removing third-party lockbox inspection requirements, waiving key-add fees during retrofit, and eliminating the need for locksmith/provider contracts.

If you're able to distribute the notice below to your members, it would be extremely helpful in ensuring building operators are aware of these requirements and timelines.

If anyone has questions or needs clarification, they can visit calgary.ca/lockboxes or contact lockbox@calgary.ca.

Best regards,

Michael Garner

Fire Inspections Coordinator

Calgary Fire Department

28
DAYS IN THE MONTH
*Except for
Leap Year

Leap Day
Every 4
Years



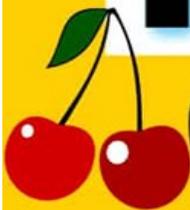
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Violets + Primrose
February Flowers

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FEBRUARY



National
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Month



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Golden
Retriever
Day

Random Act of
Kindness Week

KINDNESS



National
Tater Tot
Month

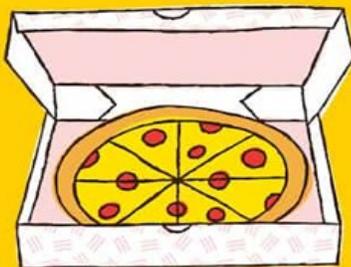
Most
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Super Bowl
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Day



Make a
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Astrology Signs



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2nd Month
of The Year

Groundhog
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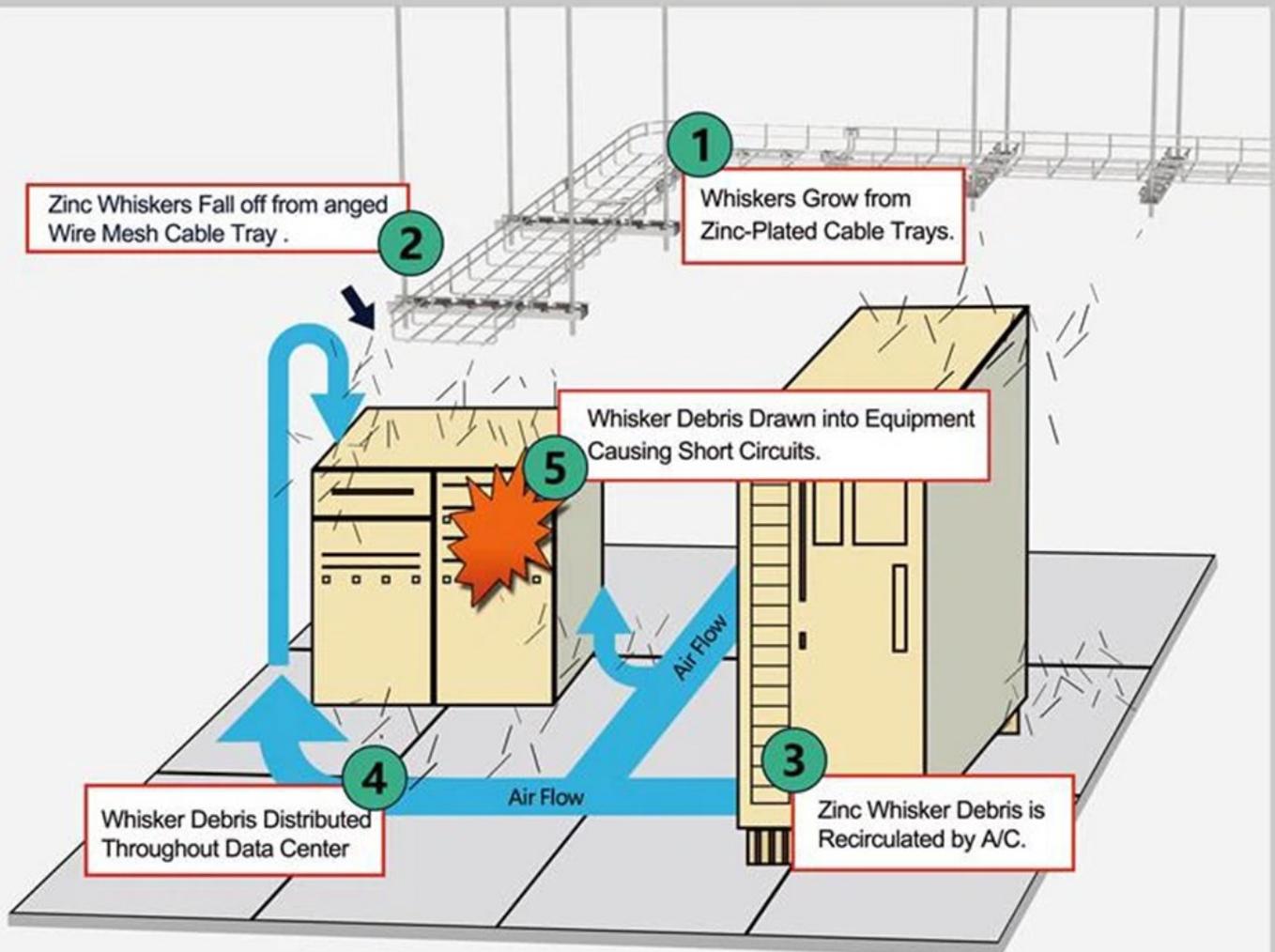
Raising Your Zinc Whisker IQ

In recent years zinc whisker induced electrical short circuits have been cited as the root cause of costly computer system failures world wide. So what are zinc whiskers and why are they and the problems they cause getting more attention now than ever before?

What IS a Zinc Whisker?

Most people wouldn't recognize a zinc whisker if it came up and ... but it may have nothing to do with most people and lots to do with zinc whiskers.

How Do Zinc Whiskers Induce Failures?



※ Dimensions are Not to Scale



Zinc whiskers are tiny (as in microscopic) conductive filaments or crystals of zinc that are typically less than a few millimeters long and only a few thousandths of a millimeter in diameter. The hair-like crystals literally erupt from the surface of the metal adding material from the base pushing the whisker outward.

The incubation period for whiskers varies tremendously from a few months to, more typically, years and even decades. Once incubation has occurred growth rates can be as much as one millimeter per year.

Where do they COME from?

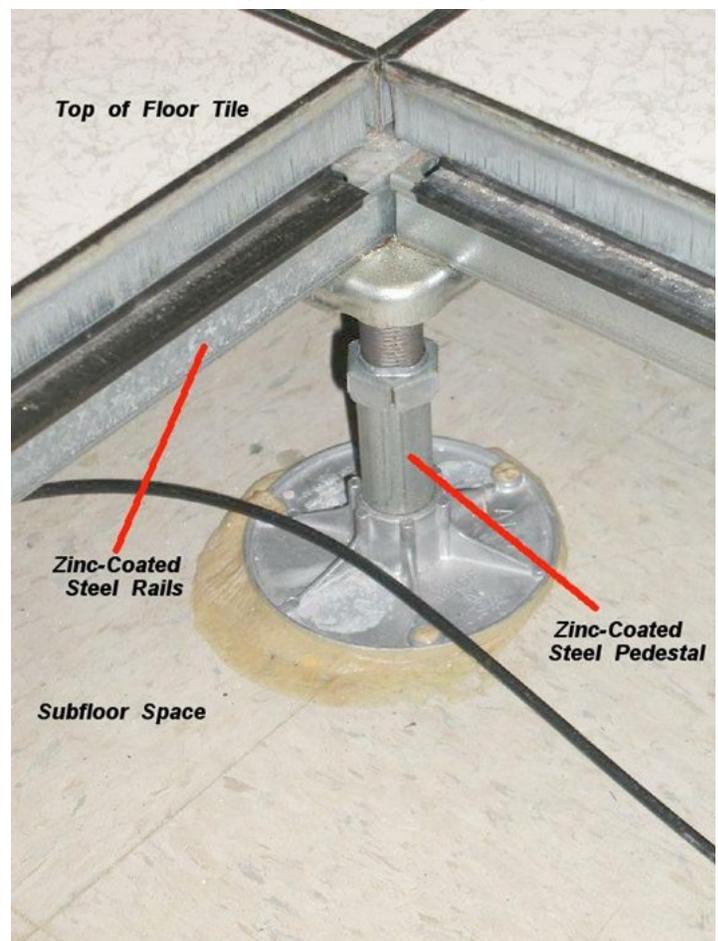
Potentially, any metal objects that have been electro-plated with Zinc can produce zinc whiskers but the most frequently reported source is certain types of raised floor tiles that have a zinc electro-plated coating. It should be noted that researchers are in general agreement that tiles manufactured using Hot Dipped Galvanization as the plating process do not grow whiskers.

The two tiles are relatively easy to identify. Electro-plated tiles have wood or wood-composite cores with a flat sheet steel underside. The metal cladding has a uniform dull gray appearance although some may be slightly shiny due to the addition of brighteners. The undersides of HDG tiles are shiny with an irregular triangular pattern on the surface.

Raised floor tiles are used in computer rooms to create an easily accessed space under the floor for routing power and network cabling. Most importantly though is that the under-floor space is also used to circulate conditioned air to cool component filled cabinets and racks.

What PROBLEMS do they cause?

Whiskers that remain attached to their host are not a problem. They become a



contaminant only after they have broken off to circulate through the under-floor air space and migrate into the electronics.

Zinc Whisker contamination is not always immediately diagnosed. In fact, whisker related failures are often mistakenly attributed to things like manufacturer defects and power surges.

Problems that may signal a zinc whisker problem are frequent power source failures (especially after floor tiles have been disturbed), equipment reports of faulty conditions, system resets and intermittent failures or abnormalities.

NOT a NEW problem

The people at Bell Laboratories initiated the first comprehensive studies of the zinc whisker phenomenon in 1951. Their interest in zinc whisker research stemmed from equipment failures experienced by Bell

Telephone in 1948 which were eventually traced to shorts caused by whiskers originating from electro-plated components in their system.

For the next fifty years interest in metal whiskers was limited to a select handful of industries most notably Telecommunications and Aerospace. However, the 21st century has experienced a renaissance in whisker research fueled by new regulations aimed at improving electroplated metals for increasingly sensitive and critical applications.

In the computer industry whisker issues have become more prominent as technology requires more circuitry in less space. Reduced geometrics (spacing between conductors) in modern electronics makes zinc whiskers a greater hazard than in older electronics where spacing was wider

Human Hair vs. Metal Whisker



Metal Whiskers are commonly 1/10 to < 1/100 times thinner than a human hair!!!



and the same whiskers were not able to bridge. Today's electronics also use lower circuit voltages that may be too low to melt whiskers creating permanent shorts.

Other reasons for increasing concern about zinc whisker problems have to do with the

facilities in which the electronic components are housed. Computer facilities are aging to ten, twenty and thirty years which means that zinc whiskers have had sufficient time to incubate and grow to lengths where they have the potential to become a problem.

These same facilities are also experiencing more frequent maintenance and upgrading requiring that whisker prone structures be moved dislodging zinc whiskers and releasing them into the IT environment.

Determining if you HAVE them

The easiest way to determine if zinc whiskers are present in your computer room is to do a visual inspection of the "usual suspects." This can be done by tilting a suspect tile on its edge and viewing it against a dark background using a flashlight to highlight the shiny filaments.

If visual inspection reveals the presence of zinc whiskers, the next step is to do the requisite science. This is done by providing surface samples for testing in an environmental lab.

Samples can be obtained with wipes or tape lifts. The method will be stipulated by the lab you choose to do the sample assessment. Samples should be taken from a variety of locations throughout the room and great care must be exercised in handling tiles. If in doubt, ask your lab's personnel for their advice.

Once you HAVE them, can you GET RID of them?

The answer to that question is one of those "good news, bad news" answers. The good news is, YES, you can rid yourself of zinc whiskers. The bad news is it usually isn't an

easy problem to solve.

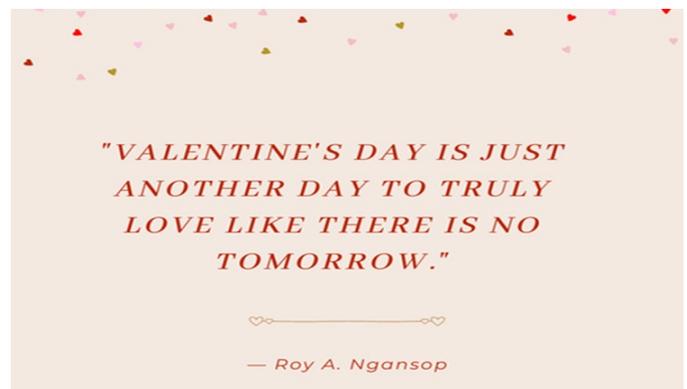
The first thing to do is nothing. So long as you don't disturb the structures that are producing the whiskers, the likelihood of dislodging them is greatly reduced. This is only a short-term solution however because sooner or later you'll need to do something that will require you to move a tile.

One solution that has been tried without success is to paint the undersides of tiles suspected to have zinc whiskers. Researchers who have experimented with this technique have shown that the zinc whiskers will eventually grow through the layers of paint.

Some facility managers tip toe into the problem by replacing a few tiles that they think are the culprits. This approach is doomed since the assumption that there are only a few bad tiles is usually wrong and the problem worsens as tiles are mishandled releasing more of the whiskers.

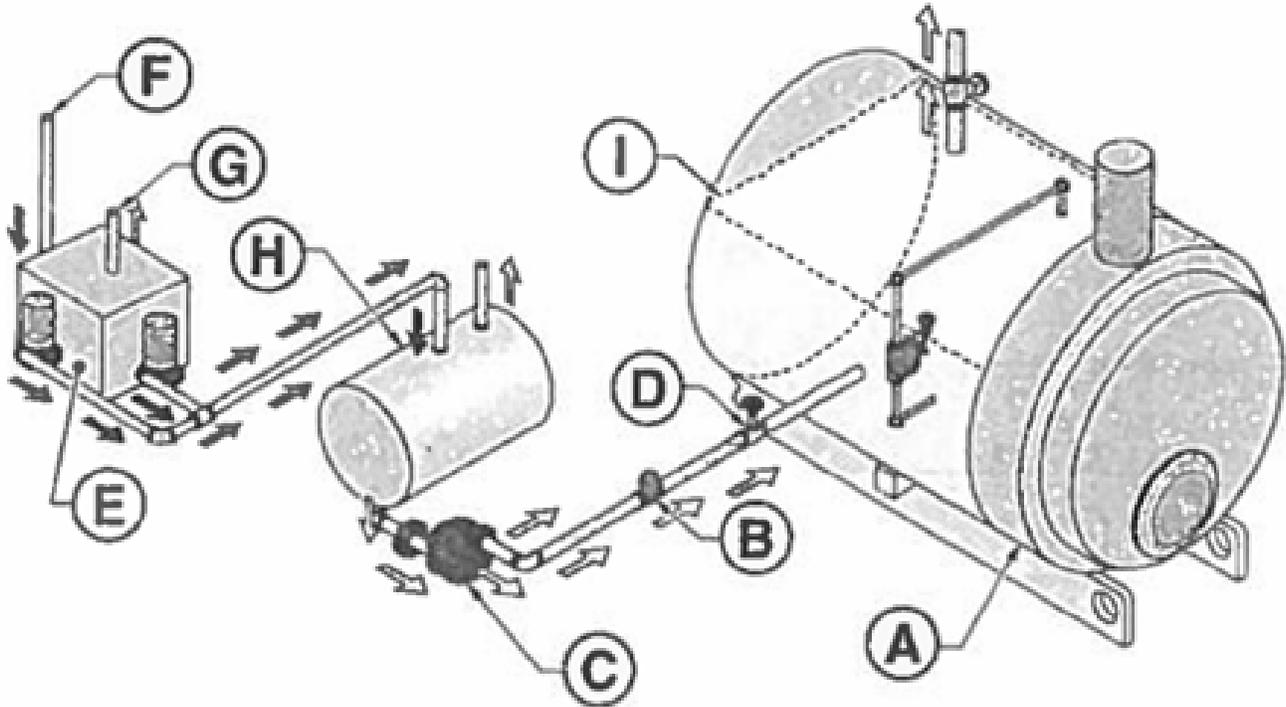
The only "final solution" is to remove the contaminant producing materials altogether and properly clean the entire sub-floor plenum. Removing an old raised floor, replacing it with new understructure and tiles and thorough decontamination of the plenum is a job for professionals.

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Feedwater Control

Label the diagram:



- _____ 1. Boiler
- _____ 2. Check valve
- _____ 3. Condensate return line
- _____ 4. Condensate return tank
- _____ 5. Feedwater pump
- _____ 6. NOWL
- _____ 7. Stop valve
- _____ 8. Surge tank
- _____ 9. Vent

Answers on page 32

Routine Maintenance Assures Satisfactory Valve Performance



DON'T OVERLOOK LEAKS...

Big or small

A leak in a valve often can be remedied simply and, in a hurry, if caught in time. Stem leaks normally can be fixed by slightly tightening the packing nut or gland. Bonnet and flange leaks can be caused by bolts loosening under service strain. If tightening the joint doesn't stop the leak, then inserting a new gasket probably will.

DON'T SPARE THE OIL CAN

Wear on stem packing is due mainly to the rising and turning motion of the valve stem, combined with deteriorating effects of service conditions. A few drops of oil on the stem, now and then, help to reduce friction—and wear. Don't forget to lubricate exposed stem threads.

PERIODIC INSPECTION...

The best preventive maintenance

Most valves are designed to permit periodic inspection without seriously interrupting service. Without removing the valve body

from the line, the complete bonnet and disc assembly can be removed for cleaning and inspection. Seating surfaces in the body can be checked at the same time.

"PULL UP" EVENLY ON PACKING GLAND...

Repack when it's necessary

Stuffing box leaks usually can be stopped by merely "pulling" up the packing nut. On bolted glands, care must be taken to tighten bolts evenly ... as severely cocking the gland will bind the stem. If the stuffing box must be repacked, it usually can be done while the valve is in service.

DON'T GET CAUGHT WITH Your pipe hangers down

Merely having your system equipped with pipe hangers is not enough. Pipe hangers must function not only before, but after, a system is put into service. It is good piping practice to check hangers as well as valves. If a line seems to be settling, or sagging in spots, a few turns on the hanger adjustment will restore the pipe to proper position.

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Stopping Fire Where It Starts



By preventing the spread of fire throughout a facility, firestop technology and products aim to minimize damage

Picture this. Your building has a transformer substation in a concrete room remote from operations. Computer operators on the night shift smell smoke and run to the area, only to find that the source is an electrical fire in the substation raceway penetration through the wall into the building.

The location is too remote and too hot for anyone to enter and use the portable CO2 extinguishers located nearby. By the time firefighters arrive, damage is extensive and spreading, an explosion has occurred that released toxic gases, and the firefighters have a difficult time extinguishing the blaze.

A nearby generator also was damaged, so the distribution system, lighting and computer network are without power for days while very costly repairs are made.

Firestops: A closer look

A very different outcome could have resulted if firestop systems had been in use. Firestops effectively fill the spaces around such elements as conduit, cable ways and piping where they pass through fire-rated walls or floors. They provide an important adjunct to portable, manual extinguishers and fixed automatic sprinkler systems.

National statistics show that a fire breaks out in a structure every 60 seconds and that damages cost more than \$8 billion a year — certainly a substantial risk management and cost-reduction opportunity that needs maintenance

and engineering managers' thoughtful attention.



Firestop products detect heat or fire and automatically discharge or expand at specific locations they were designed to protect. They can be connected to a fixed fire-alarm system so that they trip an alarm and identify a location even while fighting the fire. In this latter respect, they work like the stationary building sprinkler system.

Code considerations

The current construction codes now require firestops for all wall and floor penetrations and joints. While older, existing construction is not included in the codes, many managers are retrofitting their facilities to reduce risk to life and property of fast-spreading fire and smoke and also to gain advantage of lower premiums.

Some standards are used for performance testing of firestop products. An important distinction is that testing authorities like Underwriters Laboratories (UL) test only

complete systems.

An example of a complete system is the fire-rated wall or floor, an item or means passing through it, and the sealant or other means to prevent smoke or fire from passing through it.

Some key firestop system testing standards for through penetrations and membrane penetrations are: ASTM E 119; UL 263; NFPA 251; ASTM E 814; and UL 1479.

Standards for joint penetrations are: ASTM E 119; ASTM E 1966; ASTM 1399 for cycling; ASTM C 719 or UL 2079 for adhesion or cohesion; and NFPA 96 for grease ducts.

In new construction and remodeling, the design architects are responsible to the owners for recommendations that meet existing standards and codes, and the general contractor is responsible for installation according to the accepted standard.

These groups usually will employ a specialty firestop subcontractor to examine the specifications, develop appropriate product recommendations — including detailed designs — and coordinate with building owners and managers, architects, general contractors, fire marshals and building inspectors for that part of the work because it is so specialized.

There remain many system combinations that have not been tested and for which there are no existing standards. In such cases, specialty firestop contractors and laboratories can assist the owner by developing a suitable testing method and standard for approval by the

regulatory organizations.

The Firestop Contractors International Association’s Manual of Practice, Section 07840, contains an example of important code information and lists of approved products. Generally, firestop material must be the equal in fire rating to the fire-rated wall or floor that is penetrated. Submittals for listing includes product data and specifications, certification of the testing agency as to the testing results, evaluation reports and backup documentation.

Other parts of this section cover product storage and handling and execution. The

execution practices include installation techniques, such as masking identification of the penetration seal, and cleaning.

Quality assurance requirements include the experience of the installer — five years — a manufacturers’ representative present at the beginning of the installation for training and guidance, and verification of compatibility of the firestop material with the substrate to which it is applied and the penetrating items.



Section 01340 of the manual contains procedures for submittal of products for testing. Firestops are meant for short-cycle applications and are not appropriate for furnace fire doors or other locations where high levels of heat are continuous.

New technology

Managers have access to more than 3,000 tested firestop products. No single firestop product will work in all cases. Some firestops work by intumescence, or the ability of the product to expand in the presence of heat. Some of these products sense heat as low as 115 degrees.

Polymerized tubing can be directed to four different points from one portable source of automatically released foam, dry powder for electric power distribution, or clear gas for computer systems and other sensitive electronics such as telephone switchgear.

Of particular interest are firestop product offerings for two key applications — through penetrations and in remote areas of facilities. Among the technology options for wall and floor penetrations are these:

- o **Fire putty sticks.** These products are designed for molding around cables, conduit and pipes. They maintain pliability and can be reused if some of the penetrating items are changed, removed or added to.
- o **Firestop caulk.** This product is applied with hand caulk gun. It will not sag and can stand some movement. Some grades have high intumescent characteristics that work well with insulated or plastic pipe and meet UL specs for four-hour rating.
- o **Firestop pillows.** These products are designed for large openings, many without

wire reinforcement required, around cables, cable trays, blank openings or several penetrating items. They meet UL tests for systems up to three hours.

- o **Fire putty pads and inner stops for electrical boxes.** The pads surround electrical boxes and maintain the fire rating of walls for one to two-hour rating with 1&Mac218;8-inch thickness. The stops are mounted into the inside back wall of an electrical box and form a hard char when exposed to heat, lowering the temperature of the protected parts and openings. They also are sound absorbent.

Receptacle and switch

firestops. These gaskets are used with either plastic or metal, single or double wall-plug receptacle and light-switch cover plates.

They expand and seal openings with a hard char in the presence of heat. They are UL classified to a one- to two-hour rating.



Among the options for firestop technology in remote areas of facilities are portable fire extinguisher firestops. These products are automatic extinguishing firestops similar to portable manual fire extinguishers for buildings or outside use. These automatic extinguishers have an attached hose that is permanently under pressure instead of the usual sealed hand valve and nozzle.

A hose — as many as four different hoses on

one tank — is fastened into a fixed location from 12-40 feet away and aimed at a possible fire source.

If a fire or 115-degree heat reaches the hose, it detects the source and automatically releases the extinguishing fluid at the same time. A connection to the building's stationary sprinkler system electrical circuit can simultaneously energize a light signal or audible alarm.

The product can supplement conventional water sprinkler systems. For example, where flooding from a building's sprinkler system would damage computer closets, the portable device charged with clear gas can be used. It will not affect the electronics because it is a dry gas and doesn't require any cleanup. A dry powder version can be installed in critical areas near a gas- or oil-fired boiler.

In addition to proper installation methods, there are code requirements regarding frequency of checking and recharging to ensure this system maintains its proper functional capability.

There are many applications for this automatic extinguishing firestop product. Among them are HVAC equipment rooms, air-compressor rooms, elevators, telephone exchanges,

transmitters, towers, combustible storage areas, paint lockers, boiler rooms, off-road landscape and construction equipment, bank safes, safe deposits, ATM machines, and waste stores.

Finally, for building joint openings, managers might consider firestop spray, which is used for large openings between the inside of the exterior walls and the floors. These materials must meet the tests for fire resistance of building joint openings.

With rewards that include increased occupant safety, continued gainful use of building space and enhanced property values, firestop products give managers good reason to take a serious look at a building's original structure, as well as past and future upgrades, for proper firestop specifications. Such investigations and investments almost certainly will have a tremendous payback.

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KenKen Puzzle

How to solve the KenKen puzzle:

(Answers on page 34)

- Fill in the numbers from 1–6
- Do not repeat the 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 in the same row or column

2		6	3			5		1
8				5			7	2
		4	7	1		3		
3				4	6		2	9
7	6			3	8			
		9				8		3
		7		6		9	3	5
	5		4	9				7
3	1	2	7			6		



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Kenken Puzzle Answer

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8	1	3	6	5	9	4	7	2
5	9	4	7	1	2	3	8	6
3	8	5	1	4	6	7	2	9
7	6	2	9	3	8	1	5	4
1	4	9	5	2	7	8	6	3
4	2	7	8	6	1	9	3	5
6	5	8	4	9	3	2	1	7
9	3	1	2	7	5	6	4	8

TEST YOUR OPERATOR IQ ANSWERS

Answers: 1)e 2)d 3)b 4)d 5)b 6)a

FEEDWATER CONTROL PICTURE ANSWERS

1)A 2)B 3)F 4)E 5)C 6)I 7)D 8)H 9)G

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Do you have a date
for Valentine's Day?

Yes, February 14.



RD

Did you hear the joke
about the germ?
Never mind.
I don't want to spread
it around.



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What kind of sandals do
frogs wear?

Open-toad.

TODAY

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PRESENTER: Ian Macintyre
Victaulic

LOCATION:



Thorncliffe Greenview Community
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About Ian MacIntyre:

Ian MacIntyre, works with Victaulic in Engineering and Business Development. Ian specializes in owner and engineer relationships. He has worked for Victaulic for 8 years and lives in Calgary with his wife and triplet daughters.

Ian will be talking about key schedules, biting charts, lock cylinders, and all that kind of exciting & mysterious stuff for buildings. Yes, some of us need to deal with such things!

TOPIC:

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- Simplifying access to equipment
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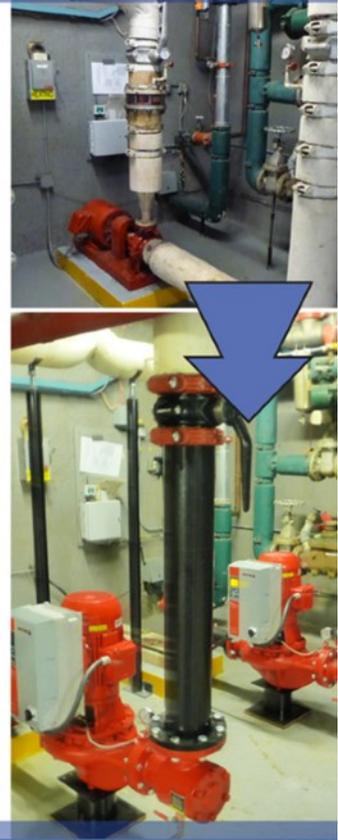
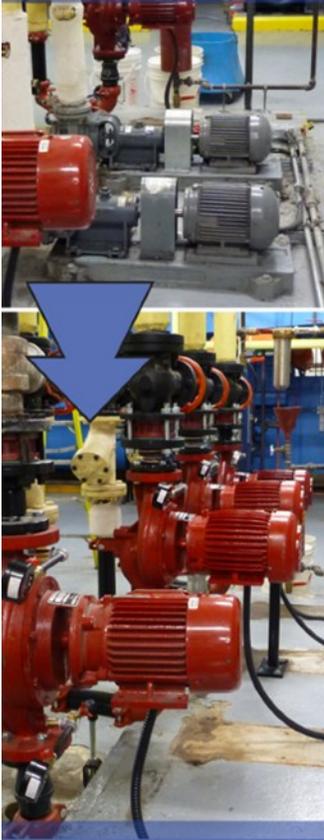
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