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What's Inside?

Executive & Committees.....	3
Important Phone Numbers.....	3
Presidents Message.....	4
Test Your Operator IQ.....	6
Do You Know How to Refuse Dangerous Work? Alberta OH&S.....	7
Kenken Puzzle.....	8
Hold the Salt? Sustainable Snow Removal Strategies Heat Up.....	9
November Executive Meeting Minutes.....	12
November General Meeting Minutes.....	13
Calgary Lighting Products Scholarship.....	15
BOA Calgary Sponsors.....	16
Kenken Answers.....	17
Test Your Operator IQ Answers.....	17
November General Meeting Attendees.....	17
November General Speaker Information.....	14
Agenda.....	17
Advertising Rates.....	17
Advertisers Directory.....	18

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| Alberta Boiler 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 |
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PRESIDENTS MESSAGE



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

The meeting in December is proving to be a lively one. The topic is the "Gig Economy", I inquired as to what this means and how it can pertain to

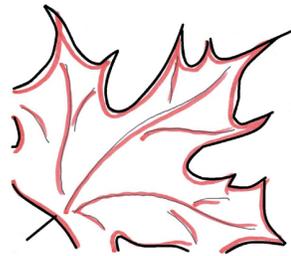
the Building Operators Association. In my search, it seems that about 30 percent of the Canadian workforce is involved in some short-term work of one kind or another. "Gig" meaning short term, can be a form of a defined contract to perform work for a period or to perform a certain task ending employment when complete. That employers are looking to minimize their cost by contracting out forms of employment. In some fashion it has been in our industry for a while. That employers will engage people who have an expertise that is only needed for a short period of time. That employers maintain a steady work force but use contractors to do work out of the skillset or competence of their regular workers. I say today that shows up as, but not limited to electricians, plumbers, instrumentation and controls and various consultants who perform work for a defined job or period.

We have as a guest speaker Jean Darius who will speak on the "Gig" topic at the meeting. Is it the way of our future? We already engage it in some fashions such as holiday relief, term illness, temporary vacancies, so where else will it show up? The stats say within 5 more years that 40 percent of the workforce will be engaged in this form of employment whether part time or full. When I was overseas, I saw many examples of this very thing. Is it the way of our future, I can't say to any certainty? I was over there on a short-term contract.

It is worth coming down to hear this man's thoughts. You are invited and if you want, bring a friend, all are invited. Meeting begins at 5 PM, come 15 minutes early to get a good seat.

I am also reminding you that in May, we have the biennial trade show. If you had a table two years ago you will be contacted soon.

I hope to see you there,
Your friend, Les Anderson



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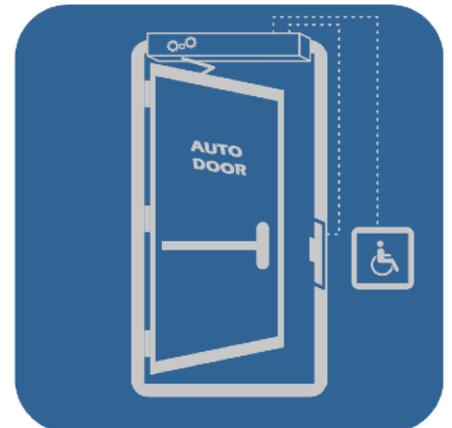
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Test Your Operator IQ!



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1. Large capacity burners:

- A) require high flow on ignition
- B) are very safe relative to puff-back
- C) require only a small pilot flame
- D) should have minimum flow on ignition
- E) are too hazardous and not recommended

2. The amount of pre-mix air to an atmospheric burner should be:

- A) 10 to 12%
- B) 5 to 8%
- C) 20 to 30%
- D) 30 to 40%
- E) 40 to 50%

3. The main function of a gas burner is for the:

- A) atomization of the fuel
- B) a source of ignition
- C) provision of O₂-fuel contact
- D) regulation of the fuel flow
- E) air flow control

4. The main function of a gas burner is to:

- A) regulate the gas flow into the furnace
- B) shoot the gas into the furnace
- C) provide intimate mixing of gas with combustion air
- D) regulate the amount of excess air
- E) consume the combustion air

5. When a gas fired burner is burning fuel properly:

- A) it will have a blue flame with short yellow tips
- B) the furnace will pulsate
- C) there will be no turbulence
- D) it will have a long bright yellow flame
- E) the induced draft fan can be shut off

Do You Know How to Refuse Dangerous Work?

STEP 1

Speak up and report the dangerous work or condition to your supervisor, employer or person in charge.

- your employer must investigate and take action to protect you from the danger if it exists.
- if your employer eliminates or controls the hazard, you can resume work. If the danger still exists, proceed to step 2.

STEP 2

Work together.

- when it is safe to do so, your employer must inspect the danger and allow you to come along for the inspection.
- a health and safety committee (HSC) member or the health and safety (HS) representative must be involved in the inspection. If there is no committee or representative, you can choose another worker to join the inspection.
- unless your employer fixes the immediate danger, your employer must prepare a written report outlining the refusal, investigation and actions taken. Your employer must give you a copy of the report.
- if your employer does not agree there is a danger or you can't agree on a way to fix the problem, proceed to step 3.

You can not be fired or lose pay for refusing dangerous work.

Dangerous work includes:

- **work you are not adequately trained to do.**
- **work without proper safety equipment.**
- **work involving health and safety hazards not normal for the job.**

Your employer can assign someone else to do the work if they determine that no dangerous condition exists.

- **the employer must advise replacement worker(s), in writing, of the refusal, the reason for it and their own right to refuse the work.**
- **you may be assigned alternate work until the problem has been investigated and fixed.**

STEP 3

If the dangerous condition is not remedied after the previous steps, call the Occupational Health and Safety (OHS) Contact Centre.

- an OHS officer will follow up and make a decision about what action to take.
- both you and your employer must comply with the officer's decision.
- if, however, you or your employer disagrees with the decision of an officer, you can request that a Director of Inspection review the matter.



Scared to or unsure if you can or should refuse dangerous work? Concerned about immediate harm or injury from work?

Call the OHS Contact Centre. Calls are confidential.

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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.

60 x			3 +		2 ÷
3 -	5 -	2 -	2 -		
			15 x		
10 +	11 +	7 +		20 x	
		1 -			5
		6	24 x		

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Hold the Salt? Sustainable Snow Removal Strategies Heat Up

Alternative approaches make it possible to minimize damage to facilities, bodies of water, and plant life while ensuring safety.

As another winter approaches, snow and ice removal likely will be top of mind. These days, the environmental costs of traditional snow and ice removal methods are a growing concern. The chemicals often used to melt snow and ice can damage buildings and pavement, and the run-off can harm plants and bodies of water.

To be sure, the chlorides or salts currently used by many facility professionals to melt snow and ice likely will remain around for some time. Many are familiar with their use. In addition, salt typically requires less upfront investment than some other options.

At the same time, more facility managers are considering ways to adjust traditional snow and ice removal methods to reduce their impact on the environment. They're also looking into new options that are entering the market. "As buildings have become more sustainable, facilities professionals now are thinking more about their environmental impact outside the building," says Nate Clemmer, chief executive officer with [SynaTek Solutions](#).

One starting point sounds rather obvious: measuring the amount of salt used to avoid over-applying it. Another option is replacing granular salt with salt brine, which can dramatically cut the amount of salt needed to melt snow and ice. Facility managers can also consider potassium formate, rather than chlorides, to de-ice.

These snow removal methods require different techniques and offer different cost/benefit equations than more traditional approaches. While it may be some time before they fully catch on, as the environmental costs of traditional snow and ice removal tactics become more apparent, more facility managers likely will consider alternatives.

Of course, old-fashioned shoveling also can remove snow and ice with minimal impact to the environment.

How we got here

One reason for the growing concern about current snow and ice removal techniques is simply their ever-expanding use, which makes it more difficult to ignore their impact. "Over last three decades, society's level of expectation for snow and ice management continued to

increase at a rapid pace," says Phil Sexton, founder and chief executive officer with [WIT Advisers and the Sustainable Winter Management \(SWiM\)](#) program. Thirty years ago, white, hardpacked roads were somewhat expected and tolerated during winter months, he says. Now, the expectation is for "all blacktop, all the time."

In addition, facility owners are understandably concerned about potential slip-and-fall accidents that can result from snowy parking lots and sidewalks. Indeed, many snow removal firms are compensated according to the amount of salt they put down, under the theory (not always accurate) that disbursing ever-greater amounts of snow removal chemicals will reduce this risk. "Contractors say, 'We're required to make it crunch,'" says Lee Gould, executive director with [Smart About Salt](#), an organization dedicated to protecting freshwater from winter salt. To be sure, safety must be a priority, Gould adds. He notes that Smart About Salt hasn't advocated eliminating salt as a chemical snow removal method. Instead, the goal is to use the least amount necessary to be effective.

Shortcomings of current methods

When chloride products, including sodium chloride (rock salt) and calcium chloride, run off into the water bodies, the compound breaks apart into ions as it dissolves, says Brie Welzer, environmental scientist with [Green Seal](#). The increased presence of chloride ions changes the density in patches of the water, which alters the way the water moves. "There are many effects of the increased amount of chloride ions, and one of them is that the water doesn't circulate as well, and this leads to anoxic patches where fish and other wildlife can't survive," Welzer says.

Moreover, the problem grows worse each year. "There's essentially no way or no fast and cheap way to reduce the levels of salt in our rivers," Welzer says.

In fact, Gould notes that the Ontario River in Canada has been home to a population of marine crabs normally found in salt water. "It gives you an idea of salinity of the river," he says.

Somewhat counter-intuitively, safety also can be a concern when salt is over-applied in an effort to melt snow. Outside buildings, the overapplication can keep some granules from disintegrating. "It becomes like marbles on the pavement," Gould says.

What's more, Clemmer says he's hearing of a growing number of slip-and-falls inside, rather than outside, buildings. The reason, he says, is an overuse of

magnesium chloride or calcium chloride, also salts used to melt snow. They tend to have an oily residue that can stay on peoples' shoes and make glossy floors even more slippery.

First step: Measuring

One starting step to a more environmentally friendly snow removal program is to better calibrate the equipment that spreads the salt, so only the amount needed is actually used. Sexton estimates that maybe 20 percent of snow removal professionals are able to measure how much they're using. The others may use up to four times the amount needed.

To be sure, this is an emerging practice. One obstacle is the expense. The truck-based salt spreaders that incorporate sophisticated controllers to measure salt application, not surprisingly, tend to cost more than those without, sometimes by a factor of four or five, says Daniel Gilleland, training manager with [SnowEx](#).

However, software is coming on the market that, while not as robust as the tools built into the machines themselves, also will be less expensive, Gilleland adds.

Heated Piping, Snow Mats Offer Non-Chemical Options for Snow Removal

Though prices vary widely, experts suggest these options can help minimize damage to both the facility and the environment rock salt may cause.

Another option for keeping snow and ice from accumulating, without relying on chemical de-icers, is to install heating elements below walkways, parking lots and other areas. The systems, which have been around since the 1940s, pump heated fluid through plastic pipes in a closed-loop system located below the sidewalks or other areas that need to remain clear of snow and ice, says Lance MacNevin, director of the engineering, building, and construction division with the [Plastic Pipe Institute](#).

Sensors on these hydronic systems measure moisture and temperature to determine when to activate. The sensors can turn on the boiler and pump to heat and circulate the fluid, a mix of water and antifreeze. MacNevin recommends propylene glycol anti-freeze, as it's non-toxic.

If environmental impact is a major consideration, facility managers should consider using ethylene glycol in lieu of propylene glycol, says Dave Guzlecki, senior project engineer with HGA. "The propylene glycol is more harmful, if leaked, to groundwater and to natural plant life due to its low biodegradation and high chemical oxygen demand," he says in an email.

Just like an air conditioning system, a hydronic deicing system needs to be sized correctly. The optimal size will depend both on the climate and the types of snowfall the system must handle. For instance, a system for a school probably doesn't need to handle every potential snowfall, given that classes often are canceled in extreme weather. On the other hand, the walkway in front of an emergency room likely will need to handle all levels of snowfall.

Ideally, the piping is placed over a layer of insulation. That way, the heat is directed up to the concrete, rather than to the earth below, MacNevin says.

The price tags for the systems can vary dramatically. The expenses for the boiler, the pump, and the controls tend to be relatively fixed. That's why a smaller system can cost, on a per square foot basis, more than a larger one. The payback versus traditional snow removal methods tends to range from about five to seven years, MacNevin says.

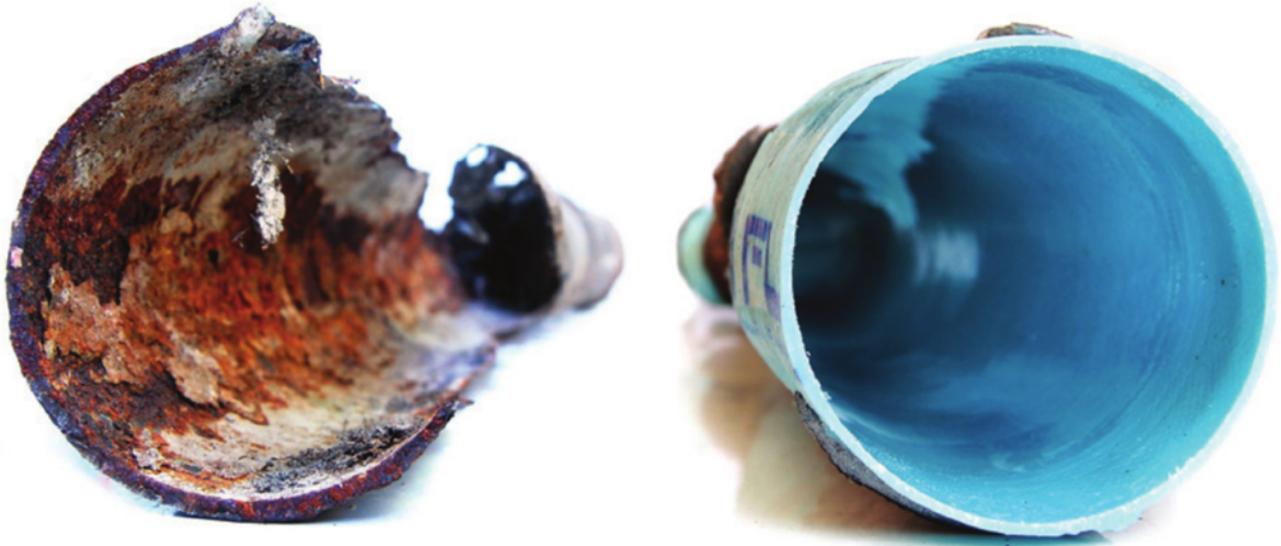
Another option is snow-melting mats. "These mats consist of two layers of slip-proof rubber, a central heating element, and a fully grounded power cord," according to literature from Heat Trak, a manufacturer of snow-melting mats. The mats can melt snow at a rate of up to two inches per hour, can be driven on, and are designed to be left outdoors all winter, according to [Heat Trak](#). The mats can be turned on only during and following a storm to save energy, or can be left on longer to evaporate melt-off. Programmable external thermostats and remote controls can turn the mats on or off based on temperature and moisture levels.

The methods of snow and ice removal are likely to shift over the next few years, given the harm traditional approaches can cause structures, bodies of water, and plant life. The good news is that changing to a different method of snow and ice removal "can be a win/win," Gould says. "You can minimize damage to the facility and achieve a safe environment, while keeping costs in line."

Karen Kroll, a contributing editor for Building Operating Management, has written extensively about real estate and facility issues.

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November Executive Meeting Minutes

November 6, 2019, Co-op, 11th Ave SW, AB, 5:05 pm

Attendance: Carrissa S, Mark A, Mike T, Les A, Mike G, Shawn M, Casey K & Monika B

Agenda:

Christmas Party

Trade Show

Guest Speakers

Promotional Material

Christmas Party:

- November 28th at 4pm at the Unicorn Super Pub, 223 – 8th Avenue SW; to be shared through LinkedIn
- No charge: appetizers will be provided with cash bar; RSVP required, check website for more information
- Looking for corporate sponsors

Trade Show:

- Will take place May 12, 2020 at Danish Canadian Club
- Approximately 30 booths capacity, cost: \$350, will be offered to Exhibitors from last Trade Show starting in March 2020, will open to all other Exhibitors in April

Next Meeting:

- On December 10 at Danish Canadian Club
- Guest speaker will be Jean Darius of KPI Staffing, speaking about "Gig Economy", "A new way of working that offers flexibility through project-based work"
- To be shared on LinkedIn, Facebook advertisement,

Promotional Material:

- BOA Banner to show how to connect with us, Facebook, LinkedIn, etc.; cost approximately \$300, to be used for promotions, to indicate monthly meetings, how to connect, social events, tours, to promote BOA and be informative

Meeting adjourned: 5:50pm

November General Meeting Minutes

Chaired by: Mark Arton **Minutes by:** Monika Bhandari
Call to order: 5:15pm **Location & Date:** Danish Canadian Club, November 12, 2019

Introduction of Attendees

Guest Speakers:

Shawn McLean from WestExcel Automation Ltd.

Topic: ProLon is an application-specific, configurable control system entirely designed for retro-fits as well as new buildings and can be easily implemented in small to medium sized commercial buildings. The controllers are designed to monitor and control mechanical equipment such as packaged roof tops units, split systems, air handlers, VAV's, heat pumps, boilers, pumps VFD's, valves, exhaust fans and much more.

Presentation of cheque from Calgary Lighting Products to Johann for 50% scholarship towards 5th Class Course

Safety Talks! Get The Edge On Grinding Wheel Safety

New Business:

James Electric Gift card \$200 draw at the end of the year for those Operators attending 4 out of 9 meetings in the year

Christmas Party on November 28, 2019 at the Unicorn Superpub at 4pm

Corporate Sponsorships available for Christmas Party; please let Carrissa know

Guest Speaker for December 10: Jean Darius, "Gig Economy", "A new way of working that offers flexibility through project-based work."

Bi-annual Trade Show will take place in May 12, 2020; first pick given in March to those who had a table last Trade Show; open to everyone in April,

50/50 draw: \$11 Winner: Shawn MacLean, WestExcel

Snowball: \$326.00 Winner: Kevin Craig from Spectra Fans. Not present: carried over to next month

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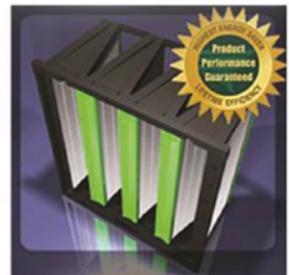
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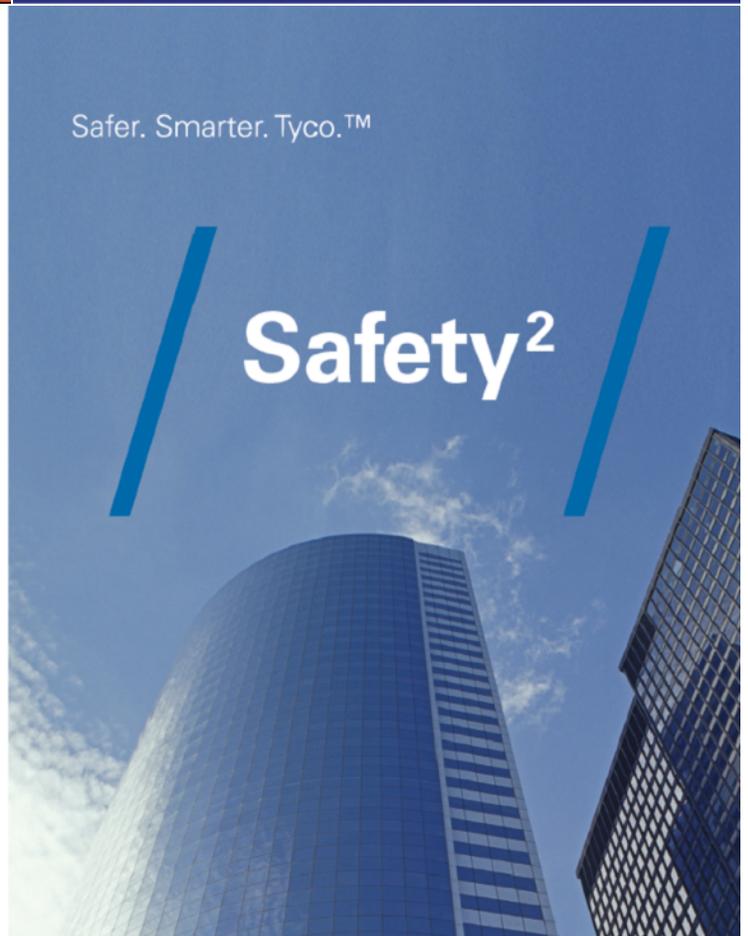


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DECEMBER AGENDA
BOA CALGARY
GENERAL MEETING

- Approval of Agenda
- Approval of Minutes
- Guest Speaker
- 50/50 Draw
- Snowball
- Safety Talks
- Old Business
- Executive Reports:
 - Activities
 - Education
 - Treasurer
- Membership & Promotions
- Technical Concerns
- New Business
- Adjournment

NOVEMBER GENERAL MEETING ATTENDANCE

Karim Panjwani	Calgary Lighting Products
Les Anderson	BOMA
Amber Boisvert	Strategic Group
Johann	
Ricardo Sanabria	Colliers International
John Rutherford	Quality Combustion
Soroush Solook	Johnson Controls
Gordon Waugh	Specified Technical Sales
Joel MacDonald	Specified Technical Sales
Trevor Sincovich	Crestview Group
Ed Smid	Belimo
Shawn Maclean	WestExcel Automation
Daniel Kerwin	ProLon Controls
Mark Arton	Westcorp PM
Geonoffrey Pader	Westcorp PM
Grace Tian	Chinese Cultural Centre
Monika Bhandari	CCIS Building Operator Training Program

DECEMBER GENERAL MEETING GUEST SPEAKER

Our next **General Meeting** will be on December 10, 2019

Location: Danish Canadian Club, 727 - 12th Ave SW

Time: 5:00pm ~ Coffee and Sandwiches will be served

Guest Speaker: Jean Darius of KPI Staffing

Topic: Gig Economy", "A new way of working that offers flexibility through project-based work."

Bio: Jean Darius is a Calgary raised, entrepreneur with an impressive track record. As the Principal Recruiter for KPI Staffing, he is known for his unique, thorough, consultative approach. His reputation as a leader in Recruitment & Staffing has earned him the exclusive mandates with some of the largest institutional and multi-national firms in the world. Jean places his fiduciary responsibilities at the fundamental core of his business. His ability to consistently source suitable top-performers that made him an ally to a number of firms.

Kenken Puzzle Answer

60x	4	3	5	3+	1	2	2+	6
3-	5	5-	2-	2-	4	6	3	
	2	6	4	15x	5	3	1	
10+	3	11+	7+	1	6	20x	5	4
	6	4	3	1-	2	1	5	
	1	5	6	6	24x	3	4	2

TEST YOUR OPERATOR IQ ANSWERS:

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

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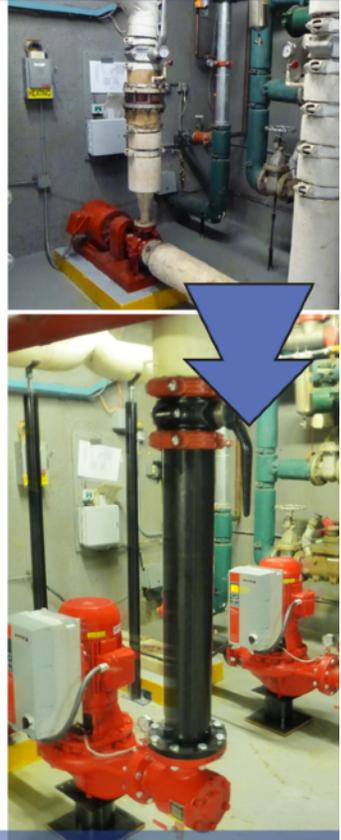
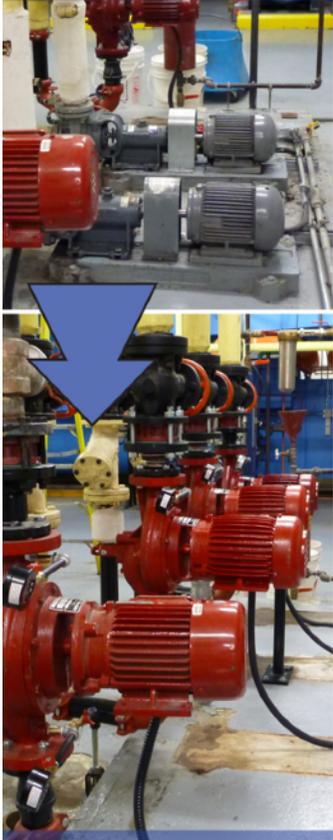
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