Volume 31 - Issue 7 – March 2025

BOA

Building Operators Association of Canada

Official Publication of the Building Operators Association (Calgary)

March 2025

What's Inside?

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

Executive & Committees

President Les Anderson	president@boacalgary.com C: 403 921 0648
Vice President Mark Arton	chairman@boacalgary.com (c) 403-305-7029
Associate VP Vacant	associate.vice.president@boacalgary.com
Chairman Mark Arton	chairman@boacalgary.com (c) 403-305-7029
Treasurer Carrissa Speager	treasurer@boacalgary.com (c) 403-969-0329
Secretary Monika Bhandari	secretary@boacalgary.com (c) 403-470-4169
Education Committee Vacant	education@boacalgary.com
Membership Committee VACANT	membership@boacalgary.com
Promotions Committee VACANT	promotions@boacalgary.com
Activities Committee Samson Isowode	403-874-0850
Technical Concerns Kyle D'Agostino	chairman@boacalgary.com
Webmaster Les Anderson	webmaster@boacalgary.com

President's Message

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

It is with a heavy heart that I inform you of the passing of Casey Kok, one of the Building Operators Association's longest-serving executive members. Throughout his many years with the Association, Casey held numerous positions, including Welcoming Committee member, Treasurer, Editor, and Chairman.

I first met Casey when he was the editor of our magazine, "The Oper8tor." He tirelessly gathered articles and information, assembling the magazine for printing. In those days, when it was produced using a photocopier, Casey would staple the copies into book form and mail them to our membership. He must have licked countless stamps over the years! Casey's dedication to the Building Operators Association was unwavering. He authored our by-laws and kept us informed with monthly "Safety Talks" readings. For many years, he also served as our "Webmaster," spending countless evenings updating our online presence.

Casey brought humor to every meeting, sharing jokes—some funnier than others—that never failed to lighten the mood. In recent years, his illness prevented him from attending many meetings. Mark Arton and I would meet him for coffee near his home to update him on our progress. Throughout his involvement, Casey's wife, Debbie, was a steadfast supporter of his commitment to the Association.

A Red Seal Electrician by trade and a Class A Building Operator for 60 years, Casey earned the respect of all associates in our industry. He was the kind of Building Operator who would visit a struggling colleague, offering not just advice but also hands-on assistance, rolling up his sleeves to resolve any issue. Casey's passing leaves a void in our hearts that can never be filled. His unique, "old school" dedication to all Building Operators shaped our past and will continue to influence our future. Words feel inadequate to sum up his immense contributions to the Building Operators Association.

Thank you, Casey and Debbie.

We will miss you, dear friend.

Warm regards,

Les Anderson

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 26*

1 Natural draft is produced in a boiler furnace when:

a. gases are heated because they tend to contract so that each cubic meter has more mass
b. gases in the stack have less mass than an equal column of outside colder air
c. gases in the stack have more mass than an equal column of outside colder air
d. hot flue gases are condensed
e. the dampers are fully closed

2 Primary air:

a. is supplied in the combustion zone
b. is the same as excess air
c. is supplied on all types of burners
d. is pre-mixed with the fuel before being admitted to the furnace enters the furnace before the fuel

3 Proper draft is important to the plant operator because it:

a. produces efficient combustion
b. delivers the products of combustion to a high altitude
c. reduces the volume of ash and slag
d. prevents toxic gases from leaking out of the system satisfies the codes

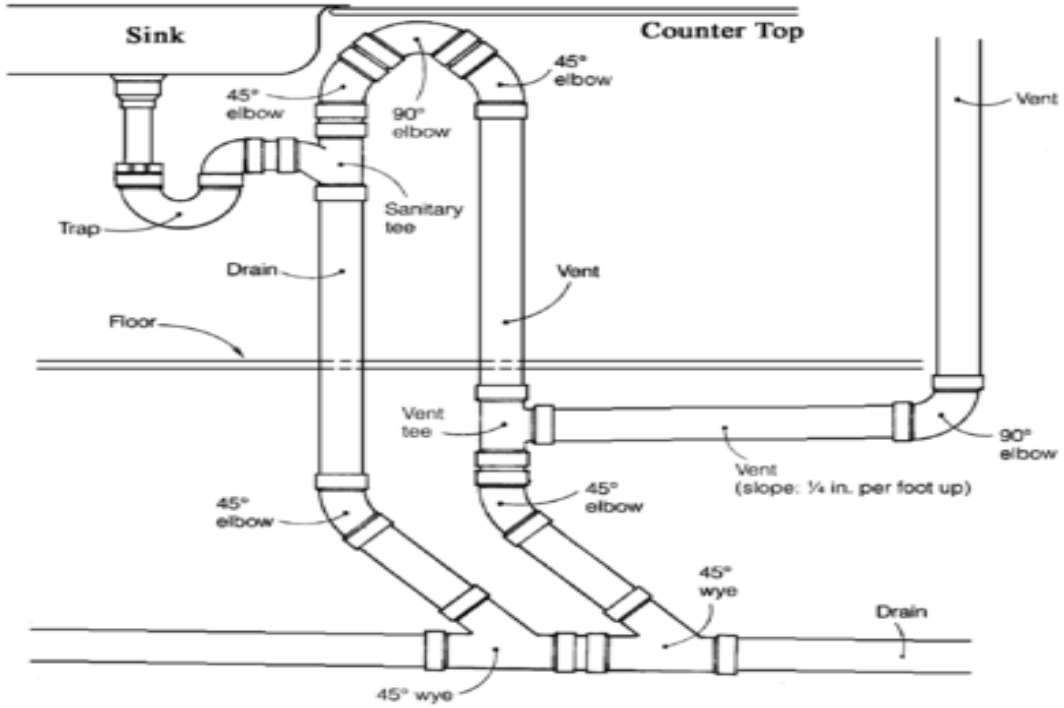
4 In a forced draft system, the furnace pressure is:

a. above atmospheric pressure
b. below atmospheric pressure
c. at atmospheric pressure
d. measured in psi
e. not a factor

5 Relative to draft, a steam jet is very popular:

a. on railway steam locomotives
b. as a fuel atomizer
c. as a forced draft unit
d. for increasing furnace pressure
e. for decreasing draft during cold weather

Strategies That Aim To Keep Plumbing Systems Flowing



Maintenance and repair of a facility's numerous plumbing system components is especially important because according to health and safety codes, buildings must not be occupied without functional plumbing.

Plumbing systems are constantly in operation, maintaining pressure, temperature and water seals between the occupied spaces and the septic or sewage disposal system.

Starting a plumbing maintenance program

The first step in beginning a maintenance program is a complete audit of the various systems and a count of all fixtures and plumbing apparatus, such as pumps, water heaters, pressure regulators and filters.

A set of the building's plumbing plans and specifications is helpful to have, as are operating and maintenance manuals, valve tag charts, parts lists and manufacturers' cuts. All of these materials are usually readily available from the architect or the plumbing contractor for a recently constructed building.

Part of initiating the maintenance program is to make decisions pertaining to service, such as how much will be performed in-house and how much will be contracted out to a plumbing contractor or professional service organization. It is imperative that these decisions be made before an emergency arises.

Emergencies such as broken water pipes, backed up drains, gas leaks, and lack of hot water have to be addressed immediately. As with HVAC equipment, when plumbing emergencies occur during non-work hours, telephone numbers should be available so custodians or security personnel can contact building maintenance people.

Preparing a Maintenance Log

Maintenance managers then will have decide how best to respond. The goal of any response will be to have all systems functioning as soon as possible without disrupting facility operations.

A log should be kept of all plumbing fixtures, appliances and ancillary equipment.

The log should indicate the age and condition of each item, as well as its history of operation and repair. It also should list any spare parts, along with their location.

In larger facilities, rather than log each individual plumbing fixture, a log page can suffice for each toilet room, as it can in the case of a motel/hotel or nursing home, individual or patient rooms.

If the plumbing systems contain pumps or shell and heat tube exchangers, keep records showing inlet and outlet pressure and temperature readings. Changes in these readings might indicate air accumulation in the lines or the need to punch tubes in the exchanger coil. Also record the electrical current drawn by the pump motor.

The log can be used as a checklist, as well as a repair record for the various items, noting those requiring excessive repair. From this, a proper maintenance schedule can be determined.

Equipment inspections

The simplest form of inspection of plumbing systems is observing the daily use of the equipment and its reliability. Questions to be answered during inspection include the following:

✦ Are adequate water pressure and temperature being maintained?

✦ Is the design or set water temperature being maintained?

✦ Do all faucets or flush valves close completely, or do they continue to drip or dribble after closure?

✦ Do any fixtures show discoloration? This may rust or other water borne minerals, as well as the need for a water treatment or filtration program.

✦ Are any of the fixtures' drains noisy or slower to empty that what is desirable? This

might indicate that fixture traps need to be emptied or cleared out, or perhaps a more aggressive action is necessary. A chemical drain cleaner can break up clumps of hair or other forms of build-up inside traps or on the interior walls of the drainage piping system. Using any chemical cleaner can be hazardous, so follow manufacturer's directions strictly.

- Are odors present? Check for dry trap seals in floor drains or fixtures.
- Does exposed pipe coverings or insulation appear moist, indicating a possible leak or condensation?

In addition to the daily "inspection by use" of these systems and fixtures, janitorial crews should be alerted to notify maintenance personnel of any perceived malfunctions.

During a heavy rainstorm, observe area drains for slow operation, indicated by a backup of standing water or water cascading from the roof down the exterior walls, roof hatches or into ducts serving exhaust fans or other rooftop HVAC equipment.

Check screens or strainers on roof and areas drains periodically for blockage.
Continual occurrences of any of the above should alert the maintenance department to the possibility of a defect in the system design or a malfunction of a mechanical device within the system.

Common repair items
The most frequently needed plumbing repairs typically involve flushometers on water closets and urinals and seals on faucets or other water outlets.

The need for repairs is identified by routine inspections or in the course of daily use of plumbing fixtures by the building's occupants. If the cleaning crew is part of the facility's in-house maintenance department, they are a good source of information on any problems and needed repairs.

Some modifications required by the Americans with Disabilities Act also may be included in the repair upgrade category. Major remodeling of rest rooms, hallways, for example, may be categorized as capital improvements, but smaller adaptations of such as pipe covering insulation may be considered maintenance and repair items.

Unlike HVAC and fire protection, plumbing maintenance generally does not involve regularly scheduled maintenance procedures. Instead, it relies chiefly on regular inspections to reveal problems or potential problems. The observations of building users and the cleaning crew are also a primary source of information as to fixture condition.

An effective reporting and response system prevents minor maintenance issues from developing into long-term nuisances or costly major repairs, thereby protecting the maintenance department and its reputation.

Specialized Systems
Certain specialized plumbing systems in some facilities may require additional attention in terms of maintenance and inspection. These include:

✦ Hospitals, which have medical gas systems carrying oxygen, vacuum, nitrogen, nitrous oxygen and compressed air. Hospitals and laboratories also have acid waste systems, bed pan washers, autopsy tables and therapeutic baths.

✦ Schools, gymnasiums, athletic facilities, and hotels/motels, which have specialized swimming pool and filtration systems.

✦ Restaurants and other food preparation facilities, which use various plumbing systems to serve dish, utensil and tray washers; pot washers; coffee urns; ice makers; and refrigerators.

✦ Dental offices, which require cup sinks and vacuum and compressed air.

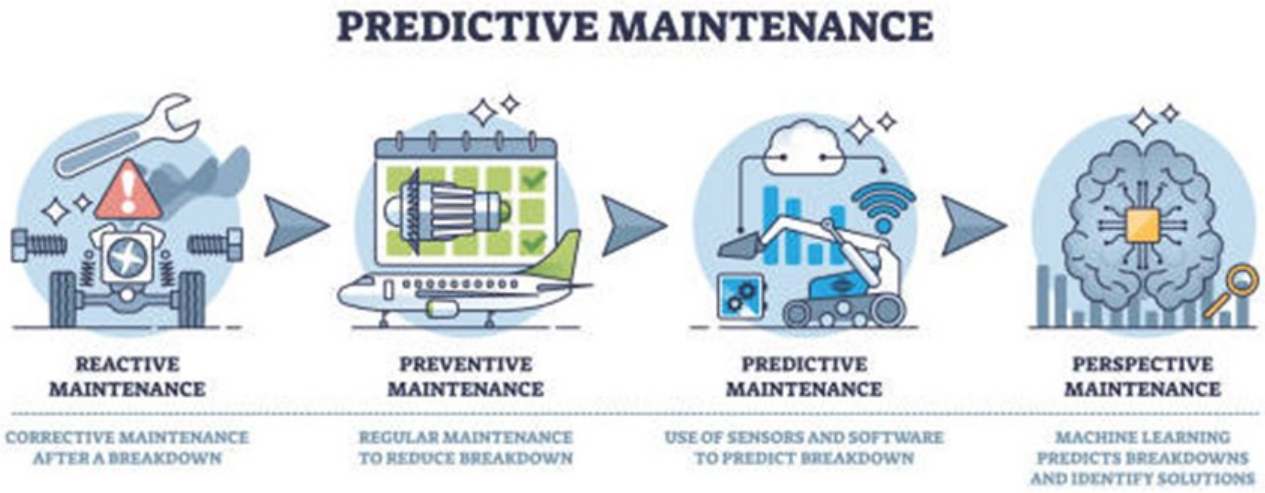
Article reprinted with permission

Let's Talk Building Ops: Mastering Preventative Maintenance

Paolo Cordovado

Preventive and predictive maintenance are essential for outstanding building operations. While it can feel like a monumental task, breaking it into manageable steps makes it much more achievable. Starting small and staying organized will not only help the building but also save your sanity as an operator.

Date	Monday		Tuesday		Wednesday		Thursday		Friday	
OAT (C) / RH (%)										
AHU - 1										
VFD (Hz)										
Supply Fan										
Return Fan										
Pa										
Heat Wheel VFD										
VFD (Hz)										
Fresh Air Fan VFD										
VFD (Hz)										
MAU-1										
VFD (Hz)										
Pa										
Heat Pumps	PC-1	PC- 2	PC-1	PC-2	PC-1	PC-2	PC-1	PC-2	PC-1	PC-2
VFD (Hz)										
Suction (PSI)										
Discharge(PSI)										
Filter										
Boilers	B-1	B-2	B-1	B-2	B-1	B-2	B-1	B-2	B-1	B-2
On/ Off										
Supply Temp										
Supply PSI										
Return PSI										
Main PSI (middle)										
Temp on Controller										
BTU/h										



Getting Started

I like to begin with a clipboard, some blank paper, and a camera. Start at either the top or bottom of the building, moving through rooms. Snap photos of all equipment and nameplates in the order you're documenting them. This step makes it easier to reference the information later. Be thorough—capture model and serial numbers, installation dates, horsepower, voltage, PSI, temperature limits, and anything else relevant. The more detailed your initial documentation, the better.

Preventive and predictive maintenance are essential for outstanding building operations. While it can feel like a monumental task, breaking it into manageable steps makes it much more achievable. Starting small and staying organized will not only help the building but also save your sanity as an operator.

Building the Inspection List

Once you've gathered the equipment details, create a separate list for inspections and tasks. For daily inspections, focus on visual checks that don't require interrupting system operations. For example:

- **Pumps:** Check suction and discharge pressure, filter cleanliness, and temperatures.

MAUs: Monitor CFM, temperature, differential pressures, and filter conditions.

Monthly inspections often build on daily tasks but include additional work, like greasing motors or replacing filters. Quarterly tasks may mirror monthly tasks, while semi-annual and annual maintenance, like power washing cooling towers or cleaning coils, might require contractors. If you're considering doing these tasks yourself, make sure you're properly trained and comfortable. Always prioritize safety and follow manufacturer guidelines.

Organizing and Tracking

Once your equipment list and tasks are complete, input them into your CMMS (Computerized Maintenance Management System). Organize tasks by room or floor to streamline daily rounds and make it easier to track inspections and repairs.

Even with digital tools, I prefer to keep a physical log, like an Excel sheet, for major changes, alarms, and

services. Having a single document by the BAS computer ensures you can easily track trends and recurring issues year after year. A simple note about a floor setpoint adjustment or an alarm pattern can provide valuable insights down the line.

Schedules

Filter

ID	Schedule	Equipment
7714...	6th floor primer lines	Trap Primer Lines
9712...	6th Mech. Rm. COOLING	6th FLR Mechanical Room
9712...	6th Mech. Rm. HEATING	6th FLR Mechanical Room
9712...	6th Mechanical Room Inspection	6th FLR Mechanical Room
1083...	Annual ATS inspection #1	Automatic Transfer Switch #1
7767...	Annual BFP Testing	Backflow Preventor (DCW)
7275...	Annual Filter & Bag Change	Air Handling Unit
1293...	Annual Fob Audit	Access Control
9940...	Annual Roof Inspection and Cleaning	Roof
1293...	Annual Stainless Steel Cleaning	Stainless Steel
1293...	Annual Underground Pressure Was...	Underground Parking Garage
7714...	Basement Primer Lines	Trap Primer Lines
9712...	Basment Mechanical Room Inspection	Basement Mechanical Room (canop...
7767...	Cabinet Heater Inspection	Cabinet Heaters
7767...	Catch Basin Cleaning	Catch Basins
7767...	Clean Pump Strainers	Pumps
7767...	CO Sensor Calibration	CO2 Sensor
7767...	Cooling Tower Cleaning	Cooling Towers
7767...	Cooling Tower Start Up	Cooling Towers
7767...	Cooling Tower Winterize	Cooling Towers
7740...	Daily Electrical Meter Reading	Main Building Electrical Meter
7714...	Daily Inspection of Humidification bo...	Humidification Boiler
7767...	Damper Lubrication	Dampers
7767...	Day Light Savings Time	Day Light Savings Time
7767...	Elevator Inspection PE1	Elevator 1
7767	Elevator Inspection PE2	Elevator 2

Starting Small

If you're tackling a large building, focus on one area at a time. I typically like to start with all Fire and Life Safety requirements (Daily, Weekly, Monthly, Bi-monthly, etc.) If you're building isn't already equipped with inspections or rounds this will be the first thing insurance will be looking for. Then I move into Mechanical rooms to begin on equipment. Documenting just a few pieces of equipment during your daily rounds or dedicating time to one room each day can make the process manageable without overwhelming your schedule.

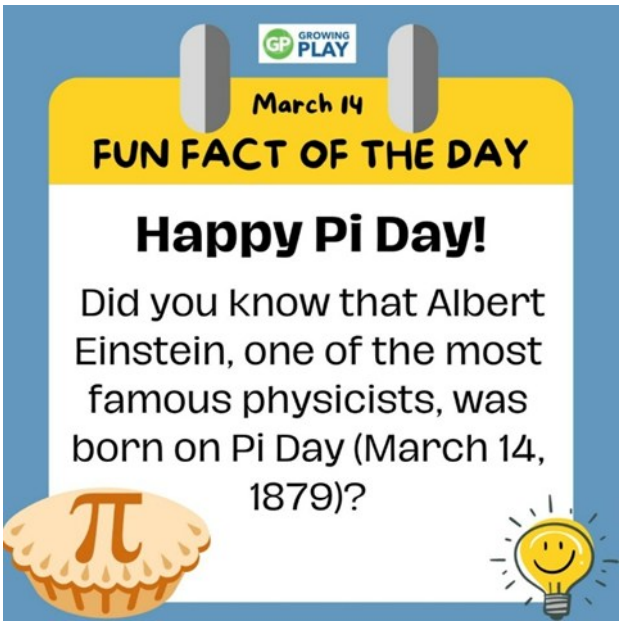
Final Thoughts

A solid maintenance plan takes time to build but pays dividends in the long run. Before starting, make sure you've discussed the project with your manager and have their approval, as it can be time-intensive. Remember, you're not alone—lean on your team, ask questions, and prioritize safety at every step.

With the right plan and approach, preventive and predictive maintenance will become a cornerstone of your building's success.

Connect with us:
Follow us on Instagram: @BuildingOperations
Join our LinkedIn community: Building Operations Group
Email us: buildingoperationsgroup@gmail.com

Article reprinted with permission



Mastering Inventory Management: Optimising Resources Without the Excess

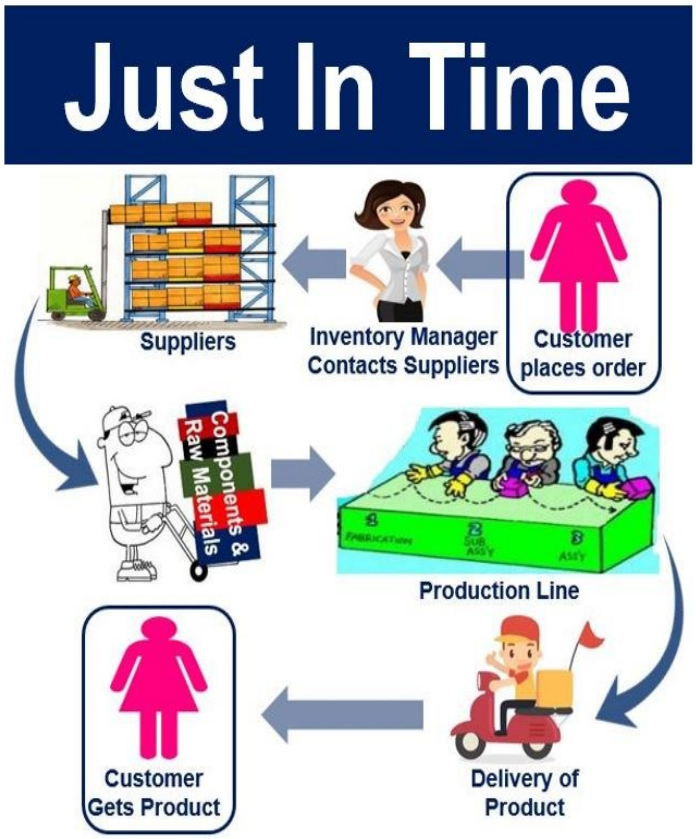
Juan Carlos LaGuardia Merchán

Managing inventory efficiently is critical for facility managers, especially when balancing availability with cost-effectiveness. In my years overseeing facility operations, logistics, and resource allocation, I've seen firsthand how easily poor inventory management can lead to shortages, wastage, or unplanned costs. Facilities across the globe are under constant pressure to perform with the resources at hand. Yet, we must manage our inventories to keep operations running smoothly without falling into the trap of overstocking or, worse, running out of essential items.

Inventory management, in its simplest form, might seem straightforward keeping enough supplies on hand to meet demand. However, experienced facility managers know that achieving this balance is anything but simple.

Inventory represents a substantial financial commitment, tying up capital that could otherwise be invested elsewhere. In addition, excess stock risks obsolescence, damage, or loss. Meanwhile, inadequate stock levels threaten operational continuity, resulting in emergency orders, delayed maintenance, and increased downtime.

Over the years, I've seen that effective inventory management for facilities boils down to three primary approaches: **Just-in-Time (JIT), Economic Order Quantity (EOQ), and ABC Analysis**. These methods offer unique advantages and can be tailored to fit various facility types, operational needs, and budget constraints. Here's a high-level overview of each, with a promise to explore them in greater depth in upcoming articles.



The J.I.T. approach centres on minimising inventory by aligning orders with immediate operational needs. As facility managers, we understand that unused inventory represents tied-up capital and added storage costs, especially for large-scale facilities with expensive equipment and replacement parts. J.I.T. solves this problem by ordering supplies precisely when they're needed, keeping stock at a minimum and freeing up storage space. This method is particularly effective for managing high-value or bulky items that don't need to be on hand at all times.

However, while J.I.T. can reduce costs significantly, it demands a close relationship with reliable suppliers and a robust logistics network. If one link in the supply chain fails, J.I.T. facilities risk critical shortages. This is a risk we, as facility managers, need to weigh carefully, and effective communication with suppliers becomes non-negotiable. I've found that JIT is most successful in facilities where demand patterns are predictable and where suppliers can be counted on to deliver consistently and promptly.

Economic Order Quantity (E.O.Q.)

E.O.Q. focuses on finding the optimal order quantity to minimise total inventory costs. These costs include not only the purchase price but also the expenses associated with holding, ordering, and potential stockouts. The E.O.Q. model uses a mathematical formula to determine the ideal order size, factoring in annual demand, order costs, and holding costs.

For facilities with fluctuating demand and significant variations in order costs, E.O.Q. provides a structured, cost-effective approach to inventory. It avoids the pitfalls of both overstocking and understocking by calculating the quantity that balances ordering frequency and holding costs. By using E.O.Q., facilities can plan their purchases more accurately, reducing waste while ensuring availability. In my experience, E.O.Q. works best in facilities with stable demand and known lead times, though it requires accurate data to be effective.

ABC Analysis

ABC Analysis categorises inventory based on its value and usage frequency, allowing facility managers to allocate attention and resources where they're needed most. The 'A' category represents high-value items with lower demand frequency, while 'C' items are low-cost but often used in large volumes. 'B' items fall somewhere in between. ABC Analysis is highly practical in facilities where a small percentage of inventory items account for the majority of spending or usage.

By segmenting inventory this way, we can focus our resources more effectively. High-value 'A' items are closely monitored to prevent stockouts, while 'C' items are managed in bulk to reduce costs. This approach lets us prioritise our time and budget, concentrating on the items that impact operations the most. ABC Analysis is particularly useful in diverse facilities, where the range of required inventory varies widely in terms of both value and frequency of use.

These three methods (J.I.T., E.O.Q., and ABC Analysis) offer unique strategies for managing inventory efficiently. Each has its place in facilities management, and choosing the right method depends on factors like facility size, budget, and operational goals. In future articles, I'll dive deeper into each of these approaches, sharing specific techniques and practical examples that have proven effective across different types of facilities.

Mastering inventory management isn't about simply avoiding shortages or excess stock; it's about creating a resilient, adaptable system that can respond to changing demands and support seamless facility operations. Inventory, after all, isn't just a back-office function. It's the lifeline of every facility, affecting maintenance schedules, operational efficiency, and even financial performance. As facility managers, we have the responsibility and the privilege to ensure that our inventories support the bigger picture.

Whether you're managing a small warehouse, a complex data centre, or a large-scale industrial facility, taking control of your inventory is essential. Let's continue the conversation on how we can leverage these methods to create smarter, leaner, and more effective inventory systems.

Article reprinted with permission

Maximising Efficiency in Maintenance through the 5S Methodology

Juan Carlos LaGuardia Merchán

In the fast-paced world of facilities management, where the smallest inefficiencies can have ripple effects, a systematic approach to maintenance planning is crucial. Among the various methodologies that have proven effective, the 5S method stands out.

Originating from Japan and rooted in lean manufacturing principles, the 5S method focuses on creating an organised, efficient, and safe working environment.

I will explore how the 5S method can be applied specifically to maintenance and facilities management, highlighting the importance of adhering to each of the five steps: Sort, Set in Order, Shine, Standardise, and Sustain.

Sort (Seiri)

The first step, Sort, involves evaluating all tools, materials, and equipment in your maintenance area and identifying what is necessary and what is not. This process is about removing clutter and ensuring that only the essential items remain in the workspace. In a facilities management context, this could mean eliminating outdated equipment, disposing of unnecessary spare parts, or even digitising records to reduce physical storage needs.

For maintenance planners, sorting helps streamline processes by reducing the time spent searching for tools or documents. It also prevents the accumulation of obsolete items that could take up valuable space. The result is a more efficient work environment where everything has a purpose and a place.

Set in Order (Seiton)

Once the unnecessary items have been removed, the next step is to organise the remaining ones. Set in Order, or Seiton focuses on arranging tools, equipment, and materials in a manner that maximises efficiency. This step

involves assigning specific locations for each item, ensuring that everything is easily accessible and logically placed based on its frequency of use.

In the context of facilities management, this could involve reorganising a maintenance workshop so that frequently used tools are within easy reach, or implementing a colour-coded system for identifying different types of equipment. For maintenance planners, a well-organised space translates to quicker response times and reduced downtime, as the right tools and parts are always readily available.

Shine (Seiso)

Shine, or Seiso is about maintaining a clean and orderly work environment. This step goes beyond regular cleaning; it involves routine inspections and upkeep to ensure that the workspace remains in optimal condition. In facilities management, this could mean implementing a regular cleaning schedule for maintenance areas, inspecting equipment for wear and tear, and ensuring that all safety protocols are followed.

A clean and well-maintained environment not only boosts efficiency but also enhances safety, reducing the risk of accidents and equipment failures. For facility managers, Shine is an ongoing commitment to excellence, ensuring that the workplace remains a productive and hazard-free zone.

Standardise (Seiketsu)

After the first three steps have been implemented, the next challenge is to maintain these improvements over time. Standardise, or Seiketsu, involves establishing procedures and guidelines to ensure that the Sort, Set in Order, and Shine steps are consistently followed. This could mean creating checklists, scheduling regular audits, or developing training programmes to instil the 5S principles within the maintenance team.

In the realm of facilities management, standardisation is key to sustaining improvements and preventing a return to old habits. For maintenance planners, having clear standards and procedures in place ensures that everyone is on the same page, leading to more consistent and predictable outcomes.

Sustain (Shitsuke)

The final step, Sustain, or Shitsuke, is about embedding the 5S principles into the organisational culture. This step requires ongoing commitment and discipline to ensure that the 5S methodology becomes a natural part of daily operations. Sustain involves regular training, continuous improvement initiatives, and encouraging a mindset of vigilance and responsibility among all team members.

For facility managers, sustaining the 5S practices means fostering a culture of continuous improvement where everyone is actively engaged in maintaining and enhancing the work environment. By making the 5S principles a core part of the maintenance philosophy, organisations can achieve long-term efficiency gains, reduce waste, and enhance overall productivity.

The 5S methodology offers a powerful framework for improving efficiency, safety, and organisation within maintenance and facilities management. By diligently applying the steps of Sort, Set in Order, Shine, Standardise, and Sustain, facility managers and maintenance planners can create a work environment that not only meets the demands of today but is also well-prepared for the challenges of tomorrow. Embracing the 5S method is not just about tidiness; it is about building a foundation for operational excellence that drives long-term success.

Article reprinted with permission

KenKen Puzzle

How to solve the Kenken puzzle:

(Answers on page 26)

- 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 in the same or column

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

Morning Meetings:

Maintenance Planning And Scheduling

By Christer Idhammar

All over the world, most plants have morning meetings. As a consultant, I have been asked to sit in on many of these meetings, and my conclusion from these experiences is that most of them are not very effective or meaningful to the attendees.

First of all, the focus of the meetings is often on past events. For example, each department reports what happened yesterday, and very little time is spent on today's plans. In addition, even less time is spent on activities that must take place tomorrow and beyond.

The worst-case scenario

Let me tell you a little about the least effective meetings I have attended by describing a generic case. At this meeting, the room is noisy, people have to stand up because there is no place to sit, and there are no visual aids such as an overhead projector, flip charts or a white board.

In addition, the leader of the meeting does not lead the meeting at all and often speaks with a low voice, making it impossible to hear. Attendees receive the latest production report and are asked – one by one – to read the part for which they are responsible. At this point, it is common to see that people do not listen to parts of the production report that do not directly apply to them. In addition, when they read their own parts, others do not listen to them either.

In the very worst scenarios, maintenance craftspeople do not start working in the morning until they have talked with their supervisor. This often causes a delay in work because the supervisor attends the morning meeting at 8 a.m., while the crew arrives at 7 a.m. The crew has learned, from long experience, that job schedules and work assignments are frequently changed as a result of the morning

meeting. Therefore, they wait until the supervisor comes back from the morning meeting around 8:30 a.m. to begin work for the day.

Creating more effective meetings

To improve the effectiveness of your plant's morning meetings, I propose that you ask yourselves some of the following basic questions:

- Why do I attend the meeting?
- Do I attend because our plant has always had those meetings every day at 8 a.m.?
- Do I attend because this is the most efficient way for the organization to receive information about what happened last night?
- What do other attendees expect from me, and what do I expect from them?
- Is there a way I can improve communication at these meetings? For example, could I prepare my part of the presentation with charts and other visual aids and hope that others follow the example?
- Do we need to have these meetings every day, or would it be enough to have them on Mondays and Fridays?
- Do we need to have these meetings in the morning, or could we move it to mid-day and then focus on tomorrow's activities?

Effective meeting characteristics

Some very effective meetings I have attended share some of the following characteristics:

- The leader leads the meeting, and he or she can be distinctly heard throughout the entire room.
- The meeting starts on time and ends on time.
- Visual aids are used, and only information meaningful to the majority of the attendees is presented. Especially effective meetings present all their information using Power Point or other presentation software projected on a large screen.
- The meeting focuses on communicating important information, describing recent results and defining problems that must be solved.
- Each meeting includes a three- to five-minute teaching/ discussion break.

No meetings?

Personally, I believe it is good to have meetings if they are productive, and it is a given that attendees must include operations and maintenance people at a minimum. If the purpose of your meetings is to spread information, you can sometimes accomplish this using internal televisions and computer networks. With those capabilities, you can possibly have fewer meetings.

Article reprinted with permission

UPS Systems Failure Due to Accidentally Touched EPO Switch

Mohsen Abedi P.Eng, PSM.Eng

Introduction:
This case study examines an incident where a UPS systems failure occurred in a data center due to accidentally touching the Emergency Power Off (EPO) switch. The failure resulted in a critical power outage, leading to service disruptions, data loss, and the need for extensive recovery efforts.

Background:
The data center in question was a high-availability facility providing hosting services for various clients, including e-commerce websites, cloud services, and financial institutions. The data center utilized UPS systems to ensure continuous power supply and protect against unexpected power disruptions.

Incident Details:
During a routine inspection of the data center's equipment, a maintenance technician accidentally brushed against the EPO switch located near the main entrance. The EPO switch was installed as a safety measure to allow personnel to quickly shut down power in emergencies. Unfortunately, this accidental touch triggered the EPO switch, cutting off power to the entire data center.

The unexpected power outage caused all connected equipment, including the UPS systems, to shut down immediately. This resulted in a complete loss of power to the data center's servers and networking infrastructure.

Root Cause Analysis:
An in-depth investigation was conducted to determine the root cause of the UPS systems failure:

Accidental Activation: The primary cause of the UPS systems failure was the accidental activation of the EPO switch by the maintenance technician. The EPO switch was not adequately protected or placed in a position that prevented inadvertent contact.

Lack of Safeguards: The EPO switch was not protected by a cover or guard, making it susceptible to accidental

activation.

Absence of Confirmation Protocols: There were no protocols in place to verify the intention to activate the EPO switch, such as requiring multiple-step actions or a confirmation from another authorized personnel.

EPO Switch Placement: The EPO switch was located in a position where it could be easily brushed against during routine activities.

Impacts:
The UPS systems failure due to accidentally touching the EPO switch had severe consequences for the data center and its clients:
Extended Downtime: The power outage led to extended downtime for the data center's clients, causing disruptions to their services and affecting their business operations.
Data Loss and Corruption: The sudden power loss resulted in data loss and corruption for some of the data center's clients, impacting their business continuity and data integrity.
Financial Losses: The data center incurred financial losses due to downtime compensation to affected clients and the need for repairing or replacing damaged equipment.
Reputation Damage: The incident damaged the data center's reputation as a reliable service provider, leading to concerns among existing clients and making it challenging to attract new ones.

Lessons Learned:
The UPS systems failure due to accidentally touching the EPO switch highlights the importance of safeguarding critical infrastructure and implementing verification protocols. Key takeaways from this incident include:
Protective Measures: Install covers or guards to protect critical switches, such as the EPO switch, from accidental activation.
Verification Protocols: Implement protocols that require multiple-step actions or a confirmation from another authorized personnel to activate critical switches.
Proper Placement: Ensure that critical switches are placed in positions where they are less likely to be inadvertently touched during routine activities.
Regular Training: Train maintenance personnel and staff on the location and significance of critical switches and safety measures to prevent accidental activations.

Conclusion:
The UPS systems failure due to accidentally touching the EPO switch underscores the significance of proper safeguards and verification protocols in critical infrastructure management. By prioritizing protective measures and implementing verification steps, organizations can prevent UPS failures caused by inadvertent actions and ensure the continuous operation of their critical equipment and services.

Article reprinted with permission

Kickstart your career as a Building Operator

BOMA Calgary's Building Operator Training Course is designed for those wanting to gain more knowledge on commercial building operations and taught by industry veterans.

If you are looking to begin your career in building operations or are currently employed in the industry but want to further your own professional development, this course is for you.

It teaches to the 5th Class Power Engineering standard, allowing you to take the ABSA exam when the course is complete.

Click Here to Register

The 5th Class power Engineering Course will begin on Thursday February 23, 2023 and will take place every Tuesday and Thursday evenings from 5-8pm
The course will be held online only using Zoom.
The fee for enrollment will cover the cost of the 150 hour course, textbooks, and BOMA certificate upon completion
please note this does not include the ABSA exam
The total cost including GST is $2,199.75
Questions? Email Lloyd Suchet at lloyd.suchet@boma.ca for more details.

BOMA Calgary | Suite 225, 550 11th Ave SW, Calgary, AB T2R 1M7 | info@boma.ca | www.boma.ca

Kenken Puzzle Answer

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

TEST YOUR OPERATOR IQ ANSWERS

Answers: 1)c 2) e 3) c 4) c 5) c

JOIN US:
TUESDAY MARCH 11, 2025 AT 5PM FOR OUR IN-PERSON MONTHLY MEETING

Title: **Rooftop Unit Operational Inspection and Maintenance**

Presenters: **Simon Wojnowski**
Coral Canada Wide Ltd.
Business Development & Outside Sales

Location: **Danish Canadian Club,**
727 11 Ave SW,
Calgary, AB T2R 0E3

Join us for an in-person meeting where Simon will share his expertise on the fundamentals of HVAC operational and maintenance tasks for Rooftop Units (RTUs). This session will provide valuable insights for Building Operators and HVAC Service Providers who collaborate to enhance equipment performance and reliability throughout its life cycle. Packaged RTUs play a critical role in delivering occupant comfort across a wide range of building HVAC applications, often serving as the sole source of heating and cooling for a space.

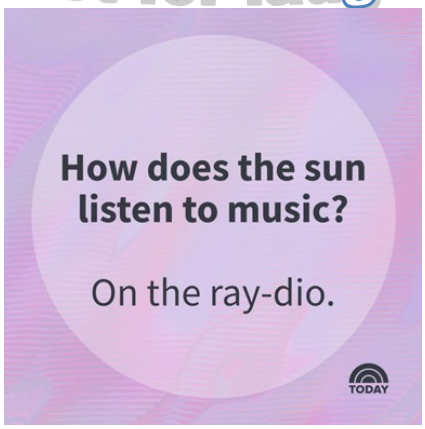
We're grateful to Simon for his willingness to share his extensive knowledge. This is your chance to ask questions, exchange ideas, and learn from both Simon's expertise and the collective experience of your peers.

Bio

Simon brings 15 years of experience in the HVAC industry, including 5 years in management and sales. He currently holds journeyman certifications in both refrigeration and electrical trades, equipping him with a deep understanding of the technical and practical aspects of HVAC systems. His diverse background makes him a trusted resource for improving operational efficiency and maintaining equipment reliability.

BOA Building Operators Association of Canada

Just for laughs!



BOA CALGARY OPERATOR MAGAZINE ADVERTISING RATES:

1/8 page	$200	**Premium Locations:**	
1/4 page	$400	1/2 page inside/outside cover	$850
1/2 page	$775	1/2 page outside cover	$900
Full page	$1000		

Deadline for ads is the 10th of each month. For any questions, please email: advertising@boacalgary.com.

BOA Building Operators Association of Canada

Thank you to our incredible sponsors! Your support of the Building Operators Association is invaluable!!

GOLD LEVEL SPONSORS

Hallmark Housekeeping Services Inc. · REV Engineering Ltd. · James Electric — All the parts. All the time. · REGGIN Technical Services Ltd. · Solutions Water Management Ltd · TMP · AINSWORTH · SERVPRO — Fire & Water - Cleanup & Restoration

SILVER LEVEL SPONSORS

GWL Realty Advisors · CBRE · CCIS · Morguard · Bee-Clean Building Maintenance · ARPI's Industries Ltd.

BRONZE LEVEL SPONSORS

BentallGreenOak · Tamas Hydronic Systems Inc. · Heat Seeking · Life Is On Schneider Electric

Advertisers Directory

Boiler Services **Black & McDonald**	**403-235-0331**
Drain Services **Revive Pipes**	**403-903-4445**
Engineering Services **Building Envelope Engineering**	**403-287-0888**
Filtration **BGE Air Quality Solutions Ltd.**	**403-243-5941**
Fire Protection Services **Constant Fire Protection**	**403-279-7973**
HVAC & Electrical Services **Black & McDonald**	**403-235-0331**
Indoor Air Quality Services **Gasonic Instrument Inc,**	**403-276-2201**
Motor Services **James Electric Motor Services**	**403-252-5477**
Power Systems **Custom Power Products**	**855-948-8810**
Supply Services **DC Sales Corporation**	**403-253-6808**
Power Services **Westcan Power Services**	**877-832-0697**

Support those that support YOU!

Next time you are looking for a product or a service provider, please consider connecting with one of our advertisers & members of the Building Operators Association of Calgary

Alberta Certified Power Engineers Online Directory

Check to see when your power engineer certificate is due for renewal!

www.absa.ca/directories/alberta-certified-power-engineers-directory/

We look forward to seeing you in-person for our meeting at the Danish Canadian Club (727 11 Ave SW) on Tuesday March 11, 2025 @ 5pm

Please visit the Building Operators Association of Canada YouTube Channel to watch the Speakers.

BOA Building Operators Association of Canada