

CONFERENCE
PROGRAM



MAINTRAIN EDMONTON 2019

SEPTEMBER 16-19

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LEARN.
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LOOKING AHEAD TO MAINTRAIN 2020

MainTrain 2020 is coming to Saint John, New Brunswick!

MainTrain 2020 is heading east to Saint John! With a population of just over 126,000, Saint John boasts a treasure trove of cultural, historic, and natural gems. Actors Walter Pigeon and Donald Sutherland were born here, and the city has several art galleries housing the works of many Canadian, Maritime, and local artists.

Our conference hotel is just around the corner from the Museum of New Brunswick—Canada's oldest continuing museum—which hosts the very popular Hall of Great Whales. Before you head to your conference sessions, take your morning constitutional along Prince William Street to view the large number of historic buildings built in the same style. Water lovers can get up close and personal with the Saint John River and the Reversing Falls Rapids with a jet boat tour.

Before or after the conference, you'll find plenty to do in Canada's third largest port and the only city on the Bay of Fundy!

When: September 15 to September 18, 2020

Where: Hilton Saint John

MainTrain has been helping maintenance, reliability, and asset management professionals for decades. Each year, our conference gets better and better because of the contributions you make! So, in 2020, don't miss your chance to contribute again and meet and hear expert speakers—as well as mingle with friends old and new. We look forward to seeing you soon! Each year our conference improves thanks to your contributions. We look forward to what you will have to share in 2020. Join us to bring your ideas, hear the experts speak, and mingle with friends-old and new. Get more details about MainTrain 2020 at maintrain.ca. Stay tuned!



TABLE OF CONTENTS

Welcome to MainTrain 2019	4
Message from PEMAC President Sue Lubell	4
Message from PEMAC Executive Director Cindy Snedden	5
Message from the Conference Chair, Justyna Krzysiak.	6
Our Sponsors	8
Media Partner	11
Media Sponsors.	11
Exhibitors	12
Conference Tours	14
Exhibitor Showcase	16
Networking Reception/ Exhibitor Hall Grand Opening	16
Thank you to our sponsor.	16
Walking Tour	16
Vender Bingo	16
Exhibitor Showcase Hours	16
Conference Floor Plan.	17
Special Features	18
Take the Test	18
Certified Asset Management Assessor Exam.	18
ICML Exam.	18
PEMAC Members' Meeting.	18
PEMAC Awards Dinner	19
MRO Roundtable	19
Career Listings	19
Conference Schedule at a Glance	20
Speakers & Presenters	26
Keynote presenters	26
2019 Content	28
PEMAC Acknowledgements	50
Tell Us How We Did	50

WELCOME TO MAINTRAIN 2019

MESSAGE FROM PEMAC PRESIDENT SUE LUBELL

On behalf of the PEMAC Board of Directors and PEMAC, I would like to extend a warm welcome to the 2019 MainTrain Conference here in Edmonton – the "Gateway to the North"! We hope that you enjoy not only the conference, with its extensive technical programs, workshops, and exhibits, but also all that this wonderful city has to offer. MainTrain addresses a wide range of asset management, reliability, and maintenance topics through speakers, hands-on workshops, sponsors, and attendees' involvement. In keeping with the theme of "Connect, Learn, and Contribute," we encourage you to learn and contribute to the content of the conference while connecting with local and national colleagues. Thank you to the presenters and attendees for your contributions to the conference, to our colleagues on the MainTrain organizing committee, and to our sponsors and exhibitors who have helped to make this conference possible.

*Susan Lubell P.Eng., MBA MMP CAMA,
President, PEMAC*



About PEMAC

Mission

PEMAC is a national not-for-profit association enabling excellence in maintenance, reliability, and asset management through collaboration, applied learning, & leadership.

Vision

Canadian leaders in asset management.

*For more information about PEMAC visit www.pemac.org.
Be sure to follow us on LinkedIn, Facebook, and Twitter
@PEMACexec for the latest updates as well.*



MESSAGE FROM PEMAC EXECUTIVE DIRECTOR CINDY SNEDDEN

On behalf of the PEMAC staff I would like to extend a warm welcome to MainTrain - your annual opportunity to connect, learn, and contribute to the Canadian community of professionals engaged in maintenance management, reliability management and asset management.

We've been working hard to bring this community of contributors together once again. As I'm sure you can appreciate, it takes a lot of coordinated effort. Congratulations to everyone who has played a part – and that really is everyone! Ghaz and her team are at the centre of a wheel that relies on: direction from the PEMAC Board, many hours of meetings with volunteers, individuals who take the chance and submit abstracts, those whose abstracts were accepted who have spent many hours preparing for their presentations, the critical support of sponsors and exhibitors and, of course, all of the delegates who make it meaningful by participating as well.

Based on many years of experience we are confident that all categories of contributors will be edified and encouraged by the results. If there is anything we, the staff, can do to answer a question or remove some difficulty, please be sure to stop by the registration desk to ask for whatever assistance you might need. We don't hope you have a great time. We want to be sure you do!

Sincerely,

Cindy Snedden, P.Eng.

PEMAC Executive Director



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Maintenance & Turnarounds
Fabrication & Modularization
Facility Construction
Pipeline Installation
High Voltage Construction

MESSAGE FROM THE CONFERENCE CHAIR

JUSTYNA KRZYSIAK

On behalf of PEMAC and the MainTrain 2019 Event Committee, I'm honoured to welcome you to Edmonton, Alberta's capital and the centre of the Edmonton Capital Region!

As the northernmost metropolitan area in Canada, the Capital Region is home to more than 1.3 million people and has the largest continuous collection of urban parkland in the country. Located along the North Saskatchewan River and known as the River Valley, the Capital Region has more than 100 kilometres of multi-use trails and seven golf courses, allowing us to enjoy the outdoors year-round during both our long daylight summers and our frosty, chilly winters.

Edmonton is nicknamed "Canada's Festival City" and the "City of Champions." These nicknames speak to our world-class arts and cultural events, and our proud sports history—some of which we get to showcase in our new downtown arena and the Ice District. Known as the "Gateway to the North," Edmonton proudly supports Canada's northern-based oil sands and mining industries, and is becoming increasingly recognized as a leader in AI and machine learning research.

Our conference program reflects that diversity, and it highlights local success stories in maintenance, reliability, and asset management with keynote speakers, presentations, and facility tours. Economic challenges still trouble Alberta, so it's more important than ever to share our best practices—and to "Connect. Learn. Contribute." There has never been a more critical time for our Canadian maintenance, reliability, and asset management professionals to balance cost, risk, and performance; to attain value for all of our stakeholders; and to build on our proud history of resource economies, respond to the complexities of today, and prepare for the uncertainties of tomorrow.

Thank you for participating in this year's conference! We wish you a safe and enjoyable (and snow-free) stay in Edmonton!

Justyna Krzysiak, P.Eng.



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GET THE APP!

PEMAC is excited to offer a MainTrain 2019 Event App this year! Get all the latest details about the conference, the speakers, the sessions, and an interactive map. You can even complete your surveys online—all from your phone or tablet.

- Create your own personal schedule by marking the sessions you want to attend as favourites.
- Complete session surveys online, easily and quickly!
- See what the world is saying about MainTrain in the news feed and join the conversation.

If you haven't already installed the App, be sure to do so now. Visit your App Store and search for **MainTrain 2019**. Once installed, launch the app and create an account for yourself by simply typing in your first and last name. Now you're ready to discover all there is to know about the conference!



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OUR SPONSORS

PLATINUM



Northern Lakes College is a vibrant institution offering quality and timely programming through our unique NLC LIVE Online™ delivery model. Serving over 50 communities including 15 First Nations and four Métis Settlements throughout northern Alberta, NLC distance learning technologies allow us to provide quality educational programming beyond our physical borders. NLC delivers PEMAC's Maintenance Management Professional (MMP) Certificate and Asset Management Professional (AMP) Certificate programs. Imagine the possibilities of networking with maintenance and asset management professionals from across the country and around the world while learning maintenance and asset management best practices and earning your MMP or CAMP designation. NLC LIVE Online: learning from the comforts of home, the workplace, or wherever you go! Start Here. Go Anywhere.

<https://www.northernlakescollege.ca/>



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SKF offers certified repair programs and partnerships for electric motors, pumps, gearboxes, conveyor pulleys and more. Other services include Spare parts optimization, Training, Engineering services for increased speed, load, reliability, root cause failure analysis, etc.

The SKF Enterprise consists of leading powerful brands: SKF, MRC, CR Seals, SKF Cooper Bearings, Kaydon, PEER Bearings. These brands develop tailor-made solutions for countless industries to help customers extend equipment lifecycles, increase uptime, reduce maintenance and cut total operating costs. <https://www.skf.com>



UE Systems manufactures and supports ultrasound instruments used for condition monitoring and energy conservation programs. These portable instruments are used to locate electrical faults such as arcing, tracking and corona, in open access and enclosed equipment, trend the health of mechanical equipment such as motors, gears and pumps, identify early warning signs of faulty bearings, find compressed gas and vacuum leaks as well as test for faulty steam traps and valves. The Ultraprobe 15,000 touch features touch screen technology, on board spectrum analysis, digital camera, laser sighting, and a built in infrared thermometer.
<http://www.uesystems.com/>



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Our customer base covers core sectors of the Canadian economy, including construction, industrial and commercial, transportation, the oil sands, forestry, oil and gas, metal processing, mining and marine.
<https://www.wajax.com>

GOLD



ARMS Reliability is a leading global provider of Asset Strategy Management (ASM) and reliability engineering to companies operating fixed plant, rotating equipment, mobile fleets, power supplies and other infrastructure assets. Since 1995, we've helped companies around the world – and across a broad range of industries – to get more from their assets, avoid unplanned downtime, eliminate repetitive failures, and reduce operating costs. With offices located all over the globe, our experienced team of engineers and trainers will help you make reliability a reality through a unique blend of consulting, software, and training.
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As industry leader, **CARVER PA CORPORATION** has dedicated the last 20 years to helping organizations around the world attain operational excellence, reliability and sustainability from start-up operations to established sites. Carver has one of the most comprehensive, in-house foundation of technical knowledge and experience and provides its clients holistic, scalable solutions that are tailored to their specific requirements. These include Technical Services, Training and Staffing (permanent and contract). <http://www.carvercorporation.com/>



CiM Maintenance is a proud member of the Maintenance Excellence Group, a group of expert consultants in asset reliability. We help our clients address all aspects of their asset management strategy, enabling them to achieve maintenance excellence and get outstanding bottom line results. We offer Visual Planner for SAP and IBM Maximo, the most comprehensive work week management solution to execute routine maintenance work on-time, maximizing asset uptime and labor productivity as well as reducing maintenance costs. <https://www.cimmaintenance.com/>

SILVER



Prometheus Group is a leading global provider of comprehensive and intuitive enterprise asset management software solutions that work within ERP systems and span the full work management life cycle for both maintenance and operations. Our straightforward functionality, graphical visualization, and simple processes enable customers to increase productivity, ensure safety, reduce costs, and improve reporting. <https://www.prometheusgroup.com/>



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BRONZE



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MEDIA PARTNER



Machinery & Equipment MRO magazine offers practical information for maintenance, reliability and asset management professionals in the manufacturing, utilities and resource industries. The award-winning publication has served machinery and equipment maintenance professionals across Canada since 1985. Our comprehensive content mix includes maintenance case studies, technical features on asset performance and repair, best practices in reliability, process implementation trends, as well as field intelligence on the latest industrial and manufacturing products and technological advances. Contributors from industrial plants, supplier companies, columnists and the editorial staff are experts with specialized knowledge and experience in their fields. <https://www.mromagazine.com/>

MEDIA SPONSORS



The International Council for Machinery Lubrication (ICML) is a NFP organization founded to facilitate growth and development of machinery lubrication as a technical field of endeavor. ICML's Machine Lubrication Technician (MLT), Machine Lubricant Analyst (MLA) and Laboratory Lubricant Analyst (LLA), offered global since 2001, are internationally recognized and adopted by ISO as 18436-4 & 18436-5, respectively. www.lubecouncil.org

EXHIBITORS



For more than 25 years, **BHD** has been a trusted provider for the products and services that help you do your job. BHD is backed by industry leading manufacturers including Easy Laser (laser alignment), Metrix (vibration measurement), BKVibro (machinery protection) and Field Services.



Coast Lubricants distributes products that are at the forefront of innovation and technology in the lubrication, bypass filtration, on-line turbine compressor cleaning, and aerosol fire suppression industries. Our products are truly revolutionary in each of these industries. We will continue to create, deliver, and technically support high performance solutions that extend equipment life, reduce operating expense, and help protect the environment.



DMSI combines comprehensive mobile asset health inspections, integrated condition monitoring, powerful AI-based diagnostics and asset management to form the world's most complete APM solution. We also offer the industry's most proven, data-driven solution to reduce the risk of equipment failure along with lower maintenance and operating costs for a more positive bottom line.



As a leading provider of lubrication analysis and asset management solutions, **Fluid Life** uses its software, training, tools and programs to help keep your equipment running at peak performance. From analysis and evaluation to planning and strategy, we have the expertise to help you achieve a higher level of reliability.



Hippo CMMS is a leader in easy to use cloud based maintenance management software. It's a complete solution for businesses needing to manage work orders, preventive maintenance, equipment and inventory, purchasing, and more. Hippo comes with lifetime support and unlimited users. Visit our booth for a demo.



Lubrigard can help you overcome the major hurdles to achieving world-class lubrication by providing you with a specific action plan to improve equipment reliability and rescue your maintenance team from constantly “putting out fires”. Lubrigard has the knowledge and support to provide you with solutions to your current lubrication needs.



METSCO is a leading engineering and analytics firm, providing Generation, Transmission, Distribution, Petrochemicals and Manufacturing companies with system planning and engineering services, where in-field data is converted into decision-making algorithms. Our services range from Advanced Asset Management Analytics, Regulatory, Strategy and Operations Support to Civil/Structural Engineering and Advanced Field Testing.



PRUFTECHNIK, makers of the ROTALIGN, OPTALIGN, and PARALIGN systems, provide solutions for roller, shaft, and geometrical laser alignment, condition monitoring, and onsite service for industrial maintenance. PRUFTECHNIK remains the market leader in alignment and its multiple award-winning systems have become standards in many sectors for reliability and asset management applications.



SDT provides ultrasound solutions that give our customers a greater understanding about the health of their factory. We help them predict failures, control energy costs and improve product quality while contributing to the overall uptime of their assets.



Spartan Controls is the recognized leading provider of industrial automation, valves, measurement, and process control solutions and services in Western Canada. Our best-in-class maintenance, reliability and asset management technologies are used across many process industries including oil and gas, oil sands, mining, pulp and paper, water treatment, and power generation.

CONFERENCE TOURS

PEMAC is pleased to be offering two tours at this year's conference. These off-site tours are a great way to see behind the scenes and learn more about how these organizations are managing their maintenance, reliability, and asset management strategies. To sign up for a tour please visit the registration desk.

Tour 1: **TBD** Check at Registration for more details and to sign up

Date: Monday, September 16

Departure Time: 9:00am

Return Time: 12:00pm

Tour 2: **Rogers Place Behind the Scenes Tour**

Rogers Place is a multi-use indoor arena in downtown Edmonton. Construction started in March 2014, and the building officially opened on September 8, 2016. The arena has a seating capacity of 18,500 as a hockey venue and 20,734 as a concert venue. It replaced Northlands Coliseum (opened 1974) as the home of the NHL's Edmonton Oilers and the WHL's Edmonton Oil Kings.

Date: Tuesday, September 17

Departure Time: 1:00pm

Return Time: 4:30pm

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AUTHOR'S CORNER

PEMAC welcomes a number of authors to the MainTrain conference and invites participants to join each of them one on one in our Author's Corner, featured in the exhibitor showcase at dedicated times.

See the registration desk for the full schedules.



PROMETHEUS GROUP

Visit booth #4



EXHIBITOR SHOWCASE

PEMAC is very excited to welcome a wide range of organizations that will be participating in our exhibitor showcase this year. Be sure to drop by and visit each of them in the Ballroom Foyer to gain some valuable insight for your own organization.

NETWORKING RECEPTION/ EXHIBITOR HALL GRAND OPENING

Join us for this year's networking reception at the exhibitor showcase on Tuesday, September 17, from 16:30 to 18:30 to meet and mingle with fellow delegates, sponsors, and exhibitors. Refreshments will be served. THANK YOU TO OUR SPONSOR



WALKING TOUR

Join us for a walking tour of the exhibits during the welcome reception. Small groups of participants will be guided through the exhibitor showcase, stopping at each exhibit for two minutes to learn more. Listen for the bell to signal your transition to the next exhibit.

VENDER BINGO

Each delegate is given a bingo card (included in your conference bag) with a square corresponding to each exhibitor booth. Delegates are encouraged to visit each booth to acquaint themselves with our exhibitors and get their card signed. Once all of your squares have been signed, turn your completed card into the PEMAC table for your chance to win a prize.

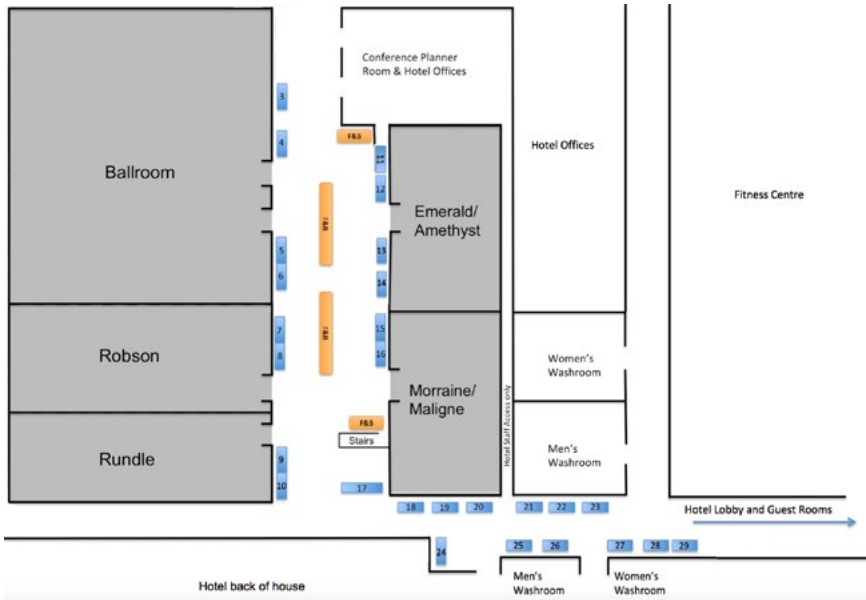
EXHIBITOR SHOWCASE HOURS

Tuesday, September 17, 16:30 – 18:30 Opening

Wednesday, September 18, 07:15 – 17:00

Thursday, September 19, 07:15 – 13:00

CONFERENCE FLOOR PLAN



- | | | | |
|-----------|-----------------------------------|-----|-----------------------------|
| 3. | ICML | 19. | MRO Magazine |
| 4. | Prometheus Group (Silver) | 20. | SDT |
| 5. & 6. | SKF (Platinum) | 21. | Pruftechnik |
| 7. & 8. | UE Systems (Platinum) | 22. | DMSI |
| 9. & 10. | Northern Lakes College (Platinum) | 23. | Lubigard |
| 11. | Schneider Electric (Silver) | 24. | Spartan |
| 12. | Carver (Gold) | 25. | FluidLife |
| 13. | CoM Maintenance (Gold) | 26. | Coast Lubricants LTD |
| 14. | ARMS Reliability (Gold) | 27. | Metsco |
| 15. & 16. | Wajax (Platinum) | 28. | BHD Instrumentation Limited |
| 17. | Registration & Author's corner | 29. | Hippo CMMS |
| 18. | ClearStream (Bronze) | | |



SPECIAL FEATURES

TAKE THE TEST

PEMAC is offering two exams during MainTrain. It is a great opportunity to gain recognized credentials while you're in Edmonton. See the registration desk for more details and to register to write an exam.

CERTIFIED ASSET MANAGEMENT ASSESSOR EXAM

The CAMA Exam was developed by leading not-for-profit asset management organizations* and has been verified through rigorous technical and psychometric testing. The exam complies with the GFMAM's Competency Specification for an ISO 55001 Asset Management Auditor/Assessor, ensuring that successful applicants have the minimum required knowledge to be an ISO 55001 assessor.



Wednesday, September 18, 12:30 to 14:30 in Room: Rundle

To register, go to the registration desk for more information.

*AMC, ABRAMAN, IFRAMI, PEMAC, SMRP

ICML EXAM

The ICML Exam will be available to take during the conference. Pre-registration for the exam is required.



Tuesday, September 17, 18:30 – 22:30 in Room: Rundle

Go to the registration desk for more information and to register.

PEMAC MEMBERS' MEETING

A PEMAC Members' Meeting will be held on-site at the conference. Everyone is welcome to attend. Grab your breakfast and join us for an update on PEMAC activities and plans.



Wednesday, September 18 from 7:15 – 8:00

Location: Ballroom

PEMAC AWARDS DINNER

Join PEMAC for our annual awards dinner taking place off-site at Fort Edmonton Park on Wednesday, September 18. Guests will arrive via shuttle to this fun event that includes an intriguing Keynote speaker, an awards ceremony honouring inspirational professionals, and provides opportunities for networking. Dinner and transportation from the hotel is included for conference participants. We will depart the hotel starting at 17:00. Buses will start returning to the hotel from the venue at 22:00. Extra tickets for guests (who do not have a MainTrain conference pass) can be purchased for \$110.00 online. Keynote sponsored by:



MRO ROUNDTABLE

The MRO Roundtable session is a highly interactive session for the participants to learn and share on designated topics through small group discussions. Insights gathered will be compiled and shared with the conference attendees and a subsequent article will be featured in *Machinery Equipment MRO* Magazine.

Time: Wednesday, September 18, 13:15 – 14:50

Location: Ballroom

CAREER LISTINGS

Did you know that PEMAC has a career listing service and that Corporate and allied members receive 1/2 price on their career listings? To find out about some of the great career opportunities available, be sure to stop by find out about the career listings board near the registration desk or go to www.pemac.org/careers. For more information about posting your career opportunities email admin@pemac.org or call (905) 823-7255 ext 2.

Grand Prize Draw

PEMAC is excited to be offering a grand prize draw this year! Join us for the Conference wrap-up presentation and you will be entered into a draw for a full registration to MainTrain 2020 in Saint John, N.B.! The winner will be announced during the wrap-up.

September 19, 15:45 – 16:00

Location: Ballroom

CONFERENCE SCHEDULE AT A GLANCE

With two days of workshops for deep learning and two days of sessions to provide a wide breadth of content and case studies.

MONDAY, SEPTEMBER 16, 2019 (WORKSHOPS)

07:00 08:00	Registration & Breakfast Room: Ballroom Sponsored by Schneider Electric			
08:00 08:50	Welcome by Platinum Sponsor: Wajax Keynote by Susan Lubell P.Eng. MBA MMP CAMA, National President PEMAC (Introduced by ARMS Reliability) <i>Topic: Conference Welcome & Opening</i> Room: Ballroom			
09:00 09:50	Practical Solutions to Improve Maintenance Performance (Full Day) <i>Paul Casto</i> Room: Rundle	Creating a Risk Management Discipline (1/2 Day) <i>Jeff Robinson</i> Room: Robson	MMP Module 1 – An Integrated Strategy for Maintenance Management Day One <i>Leonard Middleton,</i> Room: Emerald/ Amethyst	Becoming a Certified Asset Management Assessor Day One <i>Suzane Greeman & Dharmen Dhaliah</i> Room: Morraine/ Maligne
10:00 10:15	Break			
10:15 12:00	(Continued) Practical Solutions to Improve Maintenance Performance (Full Day) <i>Paul Casto</i> Room: Rundle	(Continued) Creating a Risk Management Discipline (1/2 Day) <i>Jeff Robinson</i> Room: Robson	(Continued) MMP Module 1 “An Integrated Strategy for Maintenance Management” Day One <i>Leonard Middleton</i> Room: Emerald/ Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day One <i>Suzane Greeman & Dharmen Dhaliah</i> Room: Morraine/ Maligne
12:00 13:00	Lunch Sponsored by Prometheus Group			
13:00 14:30	(Continued) Practical Solutions to Improve Maintenance Performance (Full Day) <i>Paul Casto</i> Room: Rundle	Checklist Manifesto for Maintenance (1/2 Day) <i>James Kovacevic</i> Room: Robson	(Continued) MMP Module 1 – An Integrated Strategy for Maintenance Management Day One <i>Leonard Middleton</i> Room: Emerald/ Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day One <i>Suzane Greeman & Dharmen Dhaliah</i> Room: Morraine/ Maligne
14:30 14:45	Break			
14:45 16:30	(Continued) Practical Solutions to Improve Maintenance Performance (Full Day) <i>Paul Casto</i> Room: Rundle	(Continued) Checklist Manifesto for Maintenance (1/2 Day) <i>James Kovacevic</i> Room: Robson	(Continued) MMP Module 1 – An Integrated Strategy for Maintenance Management Day One <i>Leonard Middleton</i> Room: Emerald/ Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day One <i>Suzane Greeman & Dharmen Dhaliah</i> Room: Morraine/ Maligne
17:00 19:00	Hospitality Suite Sponsored by SKF Room: Connections Cafe			

TUESDAY, SEPTEMBER 17, 2019 (WORKSHOPS)

07:00 08:00	Registration & Breakfast Room: Ballroom Sponsored by Schneider Electric			
08:00 08:50	Welcome by Platinum Sponsor: Northern Lakes College Keynote by Bradley Leeman, City of Edmonton (Introduced by ARMS Reliability) <i>Topic: Edmonton's Asset Management Transformation</i> Room: Ballroom			
09:00 10:00	Asset Information Management (AIM) Workshop (Full Day) <i>Richard Beer</i> Room: Rundle	Building Your Maintenance Business Case - Getting to Yes (1/2 Day) <i>James Reyes-Picknell</i> Room: Robson	MMP Module 1 – An Integrated Strategy for Maintenance Management Day Two <i>Leonard Middleton</i> Room: Emerald/Amethyst	Becoming a Certified Asset Management Assessor Day Two <i>Suzane Greeman & Dharmen Dhaliha</i> Room: Morraine/Maligne
10:00 10:15	Break			
10:15 12:00	(Continued) Asset Information Management (AIM) Workshop (Full Day) <i>Richard Beer</i> Room: Rundle	(Continued) Building Your Maintenance Business Case - Getting to Yes (1/2 Day) <i>James Reyes-Picknell</i> Room: Robson	(Continued) MMP Module 1 – An Integrated Strategy for Maintenance Management Day Two <i>Leonard Middleton & Al Johnson</i> Room: Emerald/Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day Two <i>Suzane Greeman & Dharmen Dhaliha</i> Room: Morraine/Maligne
12:00 13:00	Lunch Sponsored by Prometheus Group PEMAC AMP & MMP Information Session & Participant Reunion Room: Rundle			
13:00 14:30	(Continued) Asset Information Management (AIM) Workshop (Full Day) <i>Richard Beer</i> Room: Rundle	Asset Management Hackathon - Hacking the Traditional Asset Management Plan (1/2 Day) <i>Catherine Dallaire</i> Room: Robson	(Continued) MMP Module 1 – An Integrated Strategy for Maintenance Management Day Two <i>Leonard Middleton & Al Johnson</i> Room: Emerald/Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day Two <i>Suzane Greeman & Dharmen Dhaliha</i> Room: Morraine/Maligne
14:30 14:45	Break			
14:45 16:30	(Continued) Asset Information Management (AIM) Workshop (Full Day) <i>Richard Beer</i> Room: Rundle	(Continued) Asset Management Hackathon - Hacking the Traditional Asset Management Plan (1/2 Day) <i>Catherine Dallaire</i> Room: Robson	(Continued) MMP Module 1 – An Integrated Strategy for Maintenance Management Day Two <i>Leonard Middleton & Al Johnson</i> Room: Emerald/Amethyst	(Continued) Becoming a Certified Asset Management Assessor Day Two <i>Suzane Greeman & Dharmen Dhaliha</i> Room: Morraine/Maligne
16:30 18:30	Networking Reception/Exhibitor Hall Grand Opening Sponsored by Wajax Room: Ballroom Foyer			
20:30 22:30	ICML Exam Room: Emerald/Amethyst			

WEDNESDAY, SEPTEMBER 18, 2019 (SESSIONS)

07:00 08:00	Breakfast & PEMAC Members Meeting (7:15 start) Room: Ballroom		
08:00 08:50	Welcome by Platinum Sponsor: SKF Keynote by Steve Maybee, Vice President, Operations & Infrastructure, Edmonton Airports (Introduced by CiM) <i>Topic: Embracing Technology</i> Room: Ballroom		
09:00 09:45	Offline Mobile Technology - A Case Study <i>Martha Myer & Shauna MacKenzie</i> Room: Rundle	Using RAM Modelling to Drive Value Through Better Business Decisions <i>Dave Stoby & Tanvir Bedi</i> Room: Robson	An Ongoing Journey; Implementing Asset Management <i>Marina Van Koughnett</i> Room: Emerald/Amethyst/Morraine
09:45 10:05	Break (Exhibitors & Author's Corner) Room: Ballroom Foyer		
10:05 10:50	Implementing Self-Reporting Wrench Time Analysis in a Petrochemical Plant in Saudi Arabia and its Effect on Maintenance Efficiency <i>Alaa Al Abdrabbuh</i> Room: Rundle	Applications of Machine Learning in the Field of Reliability and Maintenance Optimization <i>Janet Lam</i> Room: Robson	Causal Investigation Through Discovery, Learning, Solution - The Causal Learning Approach <i>Peter Idoko</i> Room: Emerald/Amethyst/Morraine
11:00 11:45	Retrofit of Condition Based Monitoring (CBM) Technology Into an Aging Facility <i>Michael Steven Ratchford</i> Room: Rundle	Demystifying Your R&M Pathway to Operational Success <i>Klaus Blache</i> Room: Robson	Asset Decision Framework for Optimal Value <i>Nigel D'Souza</i> Room: Emerald/Amethyst/Morraine
11:45 13:15	Lunch (Exhibitors & Author's Corner) Room: Ballroom Foyer CAMA Exam (Starts at 12:30 – 14:30) Room: Rundle Chapter Presidents Meeting (Starts at 12:00) Room: Robson		
13:15 14:50	MRO Roundtable Richard Beer, James Reyes-Picknell, Martha Myers, Catherine Dallaire Facilitators: TBD Emcees: Mario Cywinski, Editor, and Michael King, Publisher, <i>Machinery and Equipment</i> Room: Ballroom		
15:00 15:45	Shush – Your KPIs Are Trying to Tell You Something! <i>Cliff Williams</i> Room: Rundle	Asset Information Has Value - It's Worth Managing as an Asset <i>Christopher Murphy</i> Room: Robson	Maintenance Strategy Optimization – From the Bottom Up! <i>Erin MacNeil</i> Room: Emerald/Amethyst/Morraine
15:45 16:00	Break (Exhibitors & Author's Corner) Room: Ballroom Foyer		
16:00 16:45	Why We Need to Talk About Risk <i>Rob Kalwarowsky</i> Room: Rundle	Asset Management Considerations for Aging Electrical Assets <i>Josh Kanyemba</i> Room: Robson	Making Your Asset Management Plan Take Flight <i>Nick Jensen & Wade Melnyk</i> Room: Emerald/Amethyst/Morraine
18:00	Off-site Awards Dinner (Fort Edmonton Park) Keynote Sponsored by: Northern Lakes College		

THURSDAY, SEPTEMBER 19, 2019 (SESSIONS)

07:00 08:00	Registration & Breakfast Room: Ballroom		
08:00 08:50	Welcome by Platinum Sponsor: UE Systems Keynote by Muhammad Ehtisham, Technical Director, Suncor Energy Inc. (Introduction by CIM) <i>Topic: Technical Operating Envelope</i> Room: Ballroom		
09:00 09:45	Pursuing 25% Longer Asset Life Through Smarter Lubrication Maintenance... in a Dusty Desert <i>Paul Hiller & Richard Hunt</i> Room: Rundle	De-stressing Maintenance - A Case for Maintenance Readiness in Projects <i>Agwu Emele Agwu</i> Room: Robson	Risk-based Planning for Electrical Systems <i>Paul Baker</i> Room: Emerald/Amethyst/Morraine
09:45 10:05	Break (Exhibitors & Author's Corner) Room: Ballroom Foyer		
10:05 10:50	KPI - Why: A Case Study in Leveraging Maintenance Metrics to Drive Improvements <i>Kris Halland & John Wettlaufer</i> Room: Rundle	Case Studies on Maintenance Management and Reliability Improvement <i>Jesus Sifont</i> Room: Robson	Who's on First – The Sponsor! <i>Laura Kennett</i> Room: Emerald/Amethyst/Morraine
11:00 11:45	Maintenance and Reliability: Journey of a Midstream Pipeline Operator <i>James Martin</i> Room: Rundle	Capstone Presentation Room: Robson MMP Capstone Technical Award Mimi Wilde, Canadian Nuclear Laboratories Project: Powerhouse Steam Trap Maintenance Program AMP Capstone Award Mark Boomer, Enbridge Project: Strategic Asset Management at Spectra Energy	The Benefits of Aligning Asset Management Practices With Organizational Core Values and Strategic Vision <i>Jebb Richard</i> Room: Emerald/Amethyst/Morraine
12:00 13:30	Lunch (Exhibitors & Author's Corner) Room: Ballroom Foyer		
13:30 14:15	Developing Asset Management Strategy, Plans and Resource Allocation for Asset Maintenance <i>Susan Urra</i> Room: Rundle	Training for Reliability <i>Shea Hatch</i> Room: Robson	ISO55000 Significantly Expands the Meaning of Assets - Illustrated by Comparison Between Plant and Non traditional Asset Examples <i>Ron Gavrin</i> Room: Emerald/Amethyst/Morraine
14:30 15:45	Innovation Panel Panelists Koleya Karringten, Executive Director, Alberta Blockchain Consortium Daniel Haight, President and Co-founder, Darkhorse Analytics Janet Lam, Assistant Director, University of Toronto Sepideh Rajaeirad, Senior Analytics Engineer, Seeq Corporation Moderator: Nayef Mahgoub, P. Eng., MBA, Managing Director, Akron Engineering Room: Ballroom		
15:45 16:00	Closing Comments & Grand Prize Draw Room: Ballroom		

** This schedule is subject to change without notice.

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AMP builds organizational capacity for excellence in asset management and leads to the Certified Asset Management Professional designation issued by PEMAC. AMP qualifies for Continuing Education Units for engineers and engineering technologists and is recognized by the Canadian Network of Asset Managers.

Certified Asset Management Assessor (CAMA) Preparation

This course prepares asset management professionals who are considering writing the Certified Asset Management Assessor exam. CAMA certification is not only for current or future assessors, but also benefits professionals who want to demonstrate their understanding of true asset management and the new standard for management systems.

Maintenance Management Professional (MMP) Certificate

MMP focuses on the tools, techniques, strategies, and skills necessary for management of a business and its existing physical assets, and leads to a Canadian Maintenance Management Professional certification.

These programs are developed and authorized by the Plant Engineering and Maintenance Association of Canada (PEMAC).

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SPEAKERS & PRESENTERS

KEYNOTE PRESENTERS

Susan Lubell,
P.Eng. MBA MMP CAMA -
National President, PEMAC

Susan specializes in operational excellence with a strong focus on asset management and reliability strategy, cost-effective lean maintenance programs, and continuous improvement. She brings over 20 years of practical experience to drive asset management, operations, and maintenance business improvement opportunities. Susan currently serves as a National President for the PEMAC and teaches for both the Maintenance Management Professional (MMP) certification and Certified Asset Management Professional (CAMP) programs.

Time: Monday, September 16 @ 8:00

Location: Ballroom



Bradley Leeman,
Lifecycle Management,
City of Edmonton

Bradley has over 16 years of experience in municipal infrastructure development, 10 of which have been here at the City of Edmonton. Most recently, Bradley has led the creation of the Lifecycle Management section, an amalgamation of asset management expertise, and is responsible for the creation and management of the majority of the capital renewal program for the City. Bradley and his team have, over the years, developed in-house modelling tools to help understand the fiscal impacts of growth and optimize renewal investment over time for the City's assets, as well as developed policy for Infrastructure Asset Management and an updated Infrastructure Strategy for the City.

Bradley is a member and past Chair of the Canadian Network of Asset Managers (CNAM), and is a proud graduate of Queen's University in Kingston, Ontario.

Time: Tuesday, September 17 @ 8:00

Location: Ballroom



Steve Maybee,
Vice President, Operations & Infrastructure,
Edmonton Airports

Steve is the Vice President of Operations and Infrastructure at Edmonton International Airport. Steve was born and raised in St. Albert graduating from Paul Kane High School and went on to serve in the Military Reserves for four years. He attended post-secondary school and spent time working in the oil and gas industry with Chevron Canada in northern Alberta.

Steve joined Edmonton Airports in 1992 and has held a variety of positions throughout his time at the airport. He started in Contracts and Procurement where he obtained his Professional Designation in Supply Chain Management (SCMP) and led the Procurement and Contracts department through two major terminal expansions before moving into the position of Director of Human Resources. Steve later joined the Operations department as Manager of Airside Operations and was promoted to Vice President of Operations in August 2014. In August 2018, the Infrastructure department was added to his portfolio.

Steve is a member of the Edmonton Salutes Committee, and a member of the Alberta Blockchain Consortium Board.

Time: Wednesday, September 18 @ 8:00

Location: Ballroom



Muhammad Ehtisham,
Technical Director,
Suncor Energy Inc.

20 years of operation and maintenance & reliability support experience in processing and manufacturing industry. Out of which 16 years in oil and gas sector. M.A.Sc in Applied Chemistry & Chemical Engineering Technology. MBA in Natural Resource, Energy & Environment Management. Certified Lead Assessor for Quality Management System ISO 9000 and extensive hands on experience of designing and re-structuring the organization and management processes to improve the effectiveness & efficiency of the business

Time: Thursday, September 19 @ 8:00

Location: Ballroom



2019 CONTENT

As shown in the schedule, Monday and Tuesday are workshops; Wednesday and Thursday are 45-minute sessions.

SEPTEMBER 16, 2019

08:00 TO 09:00

WELCOME AND OPENING KEYNOTE

Susan Lubell

Senior Consultant, Steppe Consulting

Susan will take conference attendees through PEMAC's strategic mission for the next five years, drawing on the wealth of strength developed over nearly 30 years of effort to continuously improve in meeting the needs of our members.

SEPTEMBER 16, 2019

09:00 TO 16:30

PRACTICAL SOLUTIONS TO IMPROVE MAINTENANCE PERFORMANCE

Paul Casto

Intelligent Assets Practice Leader, Gray Matter Systems Canada

This presentation focuses on the purpose of maintenance and performance improvement strategies to break out of the current status quo. We'll discuss the techniques to tap into the knowledge of your craft workers and technicians, organizational issues, gap analysis and closure plans, culture change, and development of key work processes critical for effective maintenance. Methods to break the cycle of repeating the same mistakes over and over again will provide attendees with new insight on improvement possibilities. Approaches to integrating operations, maintenance, reliability, and engineering to deliver a reliability focus operations and maintenance program will guide attendees to a new paradigm in performance improvement. This presentation contains real-life applications that will provide the basis to improve the future of your maintenance organization. There are nine learning objectives: evaluating maintenance performance; recognizing where to focus and what to do; identifying and using key performance metrics; identifying the effective maintenance team; identifying the basics of planning; identifying the basics of scheduling; focusing on culture change and leveraging the workforce; integrating maintenance, reliability, and engineering; and developing a vision, mission, and strategy for maintenance.

SEPTEMBER 16, 2019

09:00 TO 12:00

CREATING A RISK MANAGEMENT DISCIPLINE

Jeff Robinson

Director, Global Marketing, Kepner-Tregoe

Ingrid Dueck

Principal and Lead Consultant, Kepner-Tregoe

Most organizations have implemented a risk management program that identifies strategic and compliance risks. The compliance risk program is normally driven by sets of rules for potential unforeseen events. Unfortunately, rules-based risk management frequently doesn't prevent problems we didn't anticipate, nor does it provide approaches for mitigation that should be taken when a problem does occur. Unforeseen problems are costly, negatively impact customer satisfaction, and often impact an organization's reputation and brand. For projects and tasks, it's important to proactively evaluate and plan for the potential problems that could occur so that risks are managed and you're ready to respond with agility. In this session, through facilitated simulation scenarios, we'll provide an overview to improve risk assessment and mitigation skills by showing you how to develop the skills and real-world practice to help manage risk in your organization; keep your organization's operations up and running during changes, fixes, maintenance, and improvements; minimize productivity loss or damage due to unexpected or unmanaged risks; stay productive through challenging situations; protect your assets and reputation; minimize financial loss and reputational exposure to your business by identifying potential issues and creating an actionable plan to combat them; increase agility; and increase your organization's ability to respond quickly and safely when things go wrong. Our hands-on simulation-based method will ensure you learn and apply a practical, fundamental approach to identifying and mitigating risks and translating the insights into an actionable plan.

SEPTEMBER 16, 2019

13:00 TO 16:30

CHECKLIST MANIFESTO FOR MAINTENANCE

James Kovacevic

Principal Instructor, Eruditio LLC

Shon Isenhour

Founding Partner, Eruditio LLC

Is safety a concern for your organization? What about reliability? How is it that aviation is able to ensure such safe operations? Yes, that industry has trained pilots with lots of experience, but that alone is not enough. Doctors are well trained, as are our skilled tradespeople, yet mistakes are common. So how do we overcome those mistakes? The Checklist Manifesto shows how checklists have, and can, make such a significant difference in the aviation, medical, and construction fields. Why not learn from these industries and apply that same methodology to our maintenance programs? Developing a checklist is not as simple as throwing a bunch of steps on a piece of paper and handing it to our skilled tradespeople. Checklists have to be simple and address the right issues. We also have to overcome some stigma to get our tradespeople to use them.

SEPTEMBER 16, 2019 TO SEPTEMBER 17, 2019

09:00 TO 16:30

MMP MODULE 1 - AN INTEGRATED STRATEGY FOR MAINTENANCE MANAGEMENT

Al Johnson

Maintenance Management Consultant, Retired

Leonard Middleton

Asset Management Solutions

The Maintenance Management Professionals (MMP) certificate program focuses on the tools, techniques, strategies, and skills necessary for effective management of a business's existing physical assets. Graduates have the knowledge and skills to drive improvements in uptime, production capacity, equipment reliability, safety, environmental compliance, economic life of assets, return on investment, and effective communication between departments. Teams of PEMAC volunteers have developed and maintain the MMP program curriculum. PEMAC qualifies the instructors and authorizes teaching institutions to offer the program.

SEPTEMBER 17, 2019

08:00 TO 09:00

EDMONTON'S ASSET MANAGEMENT TRANSFORMATION

Bradley Leeman

Director, Lifecycle Management Integrated Infrastructure Services, City of Edmonton

For its size, Edmonton has a fairly integrated asset management program and organizational structure. So how did that happen? Bradley will make a case for how integration, sound asset management, solid analytics, and a concerted anti-silo strategy can make your organization's asset management more efficient and effective, and valued by your governors and stakeholders.

SEPTEMBER 17, 2019

09:00 TO 16:30

ASSET INFORMATION MANAGEMENT (AIM) WORKSHOP

Richard Beer

Consultant, TRO Maintenance Solutions

Decision-making in asset management is driven, in part, by key performance measurements that are derived from transactional data through the work management processes. Underlying this data is the master data that exists for every asset. It's well established that inaccurate master data can be the source of a broad range of problems, including health, safety, and environment risks, regulatory compliance, and reduced uptime. In this presentation, we'll discuss how the data and information that relate to any physical asset have a parallel life to that of the asset itself and the concept of the information plant. We'll also discuss how to establish an asset information management program, which provides the framework that connects the various asset states and processes to the long-term operations and maintenance needs, performance and risk management, and management of change structures. You'll also gain insights into how to establish or enhance your asset data management processes focused primarily on your EAM/CMMS master data and establish controls through an asset data and information management governance program for long-term sustainability.

SEPTEMBER 17, 2019

09:00 TO 12:00

BUILDING YOUR MAINTENANCE BUSINESS CASE - GETTING TO YES

James Reyes-Picknell

Managing Consultant, Conscious Group Inc.

Learn to build a business case for improvements in maintenance at your operations. You know your maintenance performance can improve, you know the problems you are faced with, you know some of what to do to correct it, you know it will take effort and some investment, and you need to prove it is worth investing in to your senior management/executive branch. To make the case, you need to show what it can save or earn for your business – where you will see the payoff – and you need to estimate the cost of the investment. This is a hands-on workshop. Bring your maintenance performance metrics and be ready to work. You will be shown useful benchmarks that can be used and how to use them. Using those and the metrics from your current state, you will see the potential benefit of making changes. After working out the potential benefits, we will discuss tips for getting support and making your case an easy sell.

SEPTEMBER 17, 2019

13:00 TO 16:30

ASSET MANAGEMENT HACKATHON - HACKING THE TRADITIONAL ASSET MANAGEMENT PLAN

Catherine Dallaire

Manager, KPMG LLP

As expectations and technology evolve, the traditional written asset management plan (AMP) is a thing of the past. Typically a static document, the plan outlines organizational goals, objectives, and levels for service for assets; compares them to the current state of the assets; and develops lifecycle and associated financial strategies to achieve those goals. What typically results is an “infrastructure deficit,” or some kind of funding gap. But regulatory requirements, customer and funder expectations, and evolving technology are pushing us to do better. What if, instead of a document, an AMP could be a dynamic set of processes and tools to support you and your decision-makers? We'll crowd-source a new vision for the AMP and outline the capabilities required to do so. This hands-on workshop will prepare you to deal with specific decision-making scenarios, with a focus on the data and information required to support decisions. You'll develop data visualizations, and dashboards to illustrate your analyses and support your decision-makers. We'll discuss the opportunities and barriers to a more nimble, responsive, and connected asset planning process.

SEPTEMBER 18, 2019

08:00 TO 09:00

EMBRACING TECHNOLOGY

Steve Maybee

Vice President, Operations & Infrastructure, Edmonton Airports

Steve will explore how embracing technology and digital innovations will transform one of Canada's busiest airports. New technologies and strategies will improve the passenger experience, incubated new businesses, and help create innovative solutions to operational challenges both within and outside the aviation industry.

SEPTEMBER 18, 2019

09:00 TO 09:45

OFFLINE MOBILE TECHNOLOGY - A CASE STUDY

Martha Myers

Owner/Operator, Martha Myers Consulting Services

Shauna MacKenzie

Asset Management Specialist, Nova Scotia Power

Mobile devices for recording maintenance and ensuring the most up-to-date procedures and checklists are ideal, but what if there is no wifi where you're working? Until recently, mobile devices had to be connected to the Internet to enable all functionality. Offline Mobile Capability has recently been successfully developed for Nova Scotia Power (NSP) by Megamation. NSP has been using Megamation's DirectLine CMMS for 20 years, which delivers software as a service over the Internet in an all-inclusive, fully supported suite. DirectLine mobile provides a connection between the field and the office through an easy-to-use, full-feature application that works on any cellphone or tablet. Maintenance instructions, checklists, pictures, and new work orders—as well as other features—can be assessed and updated through the mobile app. Because NSP has numerous remote locations, it required offline mobile capability, so Megamation established a project to meet NSP's needs and successfully launched the new tools in early April 2019. This presentation will demonstrate the technology, share the lessons learned from the design stage through to field implementation, and look at where we're going next.

SEPTEMBER 18, 2019

09:00 TO 09:45

AN ONGOING JOURNEY - IMPLEMENTING ASSET MANAGEMENT

Marina Van Koughnett

Process Specialist, TransAlta

You understand asset management, you like it, and you see the value it can bring to your organization. So why can't you articulate it to leadership, and why can't you get the momentum needed to make it happen? This presentation is the story of a real journey, by a real company—with all the ups, downs, and circuitous paths it has taken. We'll explore how we created buy-in; had to readjust as the business is undergoing significant changes; are working to create the alignment that asset management calls for between corporate strategy and daily operational activities; and are working to continue to drive forward our journey to asset management. We're sharing this story to help others find their path forward and to open the dialogue with other organizations on similar journeys so we might learn from one another.

SEPTEMBER 18, 2019

09:00 TO 09:45

USING RAM MODELLING TO DRIVE VALUE THROUGH BETTER BUSINESS DECISIONS

Dave Stoby

Senior Reliability Engineer, Enbridge Pipelines Inc.

Tanvir Bedi

Engineer in Training, Enbridge Pipelines Inc.

Companies are continually faced with competing priorities and limited resources, and, as a result, it's critical to drive value from the business decisions they make. With more focus on asset management principles, these decisions must be justified through demonstrated and quantified value to the business. With complex systems of equipment, such as a pipeline, determining the value of a project or proposed improvement can often be difficult to estimate—especially when considering an asset's lifespan. In such cases, a more systematic, data-driven approach may be required to predict value. RAM models are one such tool that can be used to achieve this. In this case study, we'll look at how RAM models have been developed and used at Enbridge Pipelines to identify and quantify the risks to throughput volume. The models include key equipment and operational events, along with specific throughput impacts and simulated long-range demand forecasts in order to prioritize the risks and focus resources toward capturing the best opportunities. When specific improvement opportunities (e.g., additional equipment sparing) are identified, alternate cases of the model can be created and the results compared to the base case to support decisions and justify projects. We'll explore some of the challenges we encountered during development and highlight examples of how this tool is being used to quantify value, as well as the approach taken to disseminate the information within the organization.

SEPTEMBER 18, 2019

10:05 TO 10:50

APPLICATIONS OF MACHINE LEARNING IN THE FIELD OF RELIABILITY AND MAINTENANCE OPTIMIZATION

Janet Lam

Assistant Director, University of Toronto

When entering a maintenance record into a CMMS, there's often a place where the operator can enter free-form comments. These comments may contain valuable information about the health of the equipment, any maintenance activities that were undertaken, and plans or recommendations for the future. The flexibility of the comments is attractive to operators, as a precise description of the observations can be recorded. However, using the comments information in data analysis usually requires some codifying of the comments, which is time-consuming and results in a loss of nuanced information. A machine learning approach to using comments data has been applied to predict the health of hydroelectric generating units. By embedding comments into a matrix to generate a "bag of words," and applying neural networks on the vocabulary, comments can be used to assess the current state of the asset and predict its next state. In this presentation, we'll discuss three machine learning algorithms in a way that's accessible and relevant to M&R practitioners: a classification method, a clustering method, and a neural network method. Each method will be partnered with direct applications to real-life maintenance problems, including lessons learned and potential uses in other contexts.

SEPTEMBER 18, 2019

10:05 TO 10:50

DISCOVERY, LEARNING, SOLUTION (DLS) - THE CAUSAL LEARNING APPROACH

Peter Idoko

Ex-manager Mtce. Eng & Technical Assurance, Consulting

One major challenge at the operate and maintain phase of an asset is achieving and sustaining the forecasted availability and reliability as intended at the project delivery phase. Many problems arise—equipment failures, underperformance, high costs—that are caused by numerous issues. The resolution demands thorough understanding of the causes of the issues, which we usually attempt to achieve through RCA methodologies. I've experienced many repeated failures even when RCAs have been conducted, due, mainly, to most of the RCAs focusing attention on solutions to the problem outcomes with limited focus on the human and system causes that drive the outcomes. The Causal Learning Approach brings in the understanding of these other causes that ensure effective and sustainable solutions development. There are three levels of causes: the physical outcomes; the human causes; and the system causes. The Causal Learning Approach also focuses on causal reasoning instead of defensive and solution reasoning. This presentation will provide the understanding of these causes and the three key elements of this approach: discovery, learning, and solution generation.

SEPTEMBER 18, 2019

10:05 TO 10:50

IMPLEMENTING SELF-REPORTING WRENCH TIME ANALYSIS IN A PETROCHEMICAL PLANT IN SAUDI ARABIA AND ITS EFFECT ON MAINTENANCE EFFICIENCY

Alaa Al Abdrabbuh

MBA Graduate, Prince Mohammad bin Fahd University

Any plant, in order to maximize its production, must have a world-class maintenance team that takes care of every single piece of equipment in the field. Maintenance teams could be considered the superheroes of any plant, since they must always maintain and return the equipment in the fastest and most efficient way. Wrench time is the actual time a maintenance crew works on a piece of equipment, and wrench time analysis is used to measure the maintenance team's effectiveness. Many companies apply wrench time for a very limited time and do not go for a continuous way of study. This presentation will show a self-reporting wrench time case study that was implemented in a Saudi Arabian petrochemical plant. We'll aim to explore the effect of self-reporting wrench time and answer the following three questions: Does wrench time analysis increase maintenance efficiency? Does self-reporting wrench time lead to better maintenance efficiency? What is the impact of self-reporting wrench time on maintenance team performance?

SEPTEMBER 18, 2019

11:00 TO 11:45

RETROFIT OF CONDITION-BASED MONITORING (CBM) TECHNOLOGY INTO AN AGING FACILITY

Michael Steven Ratchford

Reliability Superintendent, Sherritt International

Sherritt Fort Saskatchewan has been operating for more than 50 years and continues to use much of its original infrastructure and production equipment. Modern condition-based monitoring (CBM) technologies were not in the picture 50 years ago. So how do we cost-effectively implement CBM technology to address risk, provide advanced indication of failure, and improve the reliability of our operation? This presentation will introduce three case studies of applying CBM to aging assets: infrared thermography and continuous surface temperature monitoring for high-risk refractory lined furnace piping; vibration and process condition monitoring for a 50-plus-year-old steam turbine; and ultrasound technology to improve bearing lubrication practices for rotating equipment.

SEPTEMBER 18, 2019

11:00 TO 11:45

DEMYSTIFYING YOUR R&M PATHWAY TO OPERATIONAL SUCCESS

Klaus Blache

Director of Reliability & Maintainability Center and Professor, University of Tennessee - College of Engineering

Metrics, best practices, more than 40 key elements to implement, challenges, and opportunities all combine to make a successful implementation difficult. Where do you start, and how do you know how to work on what matters? Once you understand how it's all related, you can focus on the vital few to leverage the maximum ROI. This presentation will clarify the importance of culture and employee engagement, along with other key plant floor performance indicators that will be clarified with data. We'll look at the current state of R&M; what's working and what's not; survival skills for the next decade; impacts of connected technologies (edge computing, big data, machine learning, AI, 3D printing, augmented reality); the importance of getting your data ready for what's coming next; and relationships between R&M and safety, people engagement, quality, throughput/uptime, and cost.

SEPTEMBER 18, 2019

11:00 TO 11:45

ASSET DECISION FRAMEWORK FOR OPTIMAL VALUE

Nigel D'Souza

Manager of Facilities Services, Simcoe Muskoka Catholic District School Board

Many organizations have implemented processes and tools to collect data to facilitate informed decision-making. Often, they will seek out best practices and measures to assist in decision-making or rely on technology to guide their basis. In many cases, however, these same organizations approach a gap in tactical deployment and in the ability to draw a connection to the follow-up or pre-emptive actions required to derive value from assets. We'll review the processes for establishing a framework for alignment and priority setting while looking at the techniques used for resiliency and risk management using a technology-agnostic approach. We'll review potential data sources that can be leveraged for decision-making and can reflect the needs and current state of the business environment. Additionally, we'll discuss the relationship and application to the decision-making process.

SEPTEMBER 18, 2019

15:00 TO 15:45

ASSET INFORMATION HAS VALUE - IT'S WORTH MANAGING AS AN ASSET

Chris Murphy

Senior Consultant, Encompass Value

Asset information has intangible value, so how can we determine its worth to the organization? In this presentation, we'll look at factors that define information and data value, and explore the information you need to support your decisions. We'll also identify a strategy to take inventory and plan the delivery of optimal asset information. (Strategy execution may be possible with the staff you already have.) You'll learn how to get on top of your asset information strategy to leverage advancing technology such as IIoT and AI, and provide a foundation to digital transformation aligned with asset management. We'll also discuss how to increase confidence in asset information; decrease overall cost of obtaining and managing asset information; monitor asset information health throughout the asset lifecycle; define risk in asset information; and optimize resources to obtain the correct level of asset information.

SEPTEMBER 18, 2019

15:00 TO 15:45

MAINTENANCE STRATEGY OPTIMIZATION - FROM THE BOTTOM UP!

Erin MacNeil

Asset Management Office Operations Lead, Nova Scotia Power

As the influence of the asset management approach continues to expand within Nova Scotia Power, we need a structured approach to ensure we continue to seek opportunities to optimize maintenance strategies. In a new installation, techniques such as failure modes and effects analysis (FMEA) and reliability centred maintenance (RCM) can be used to develop an optimized maintenance strategy from the start, in a top-down approach. However, the vast majority of Nova Scotia Power's equipment was in place long before the asset management office—and, therefore, the asset management approach—existed. The result of that is a collection of value-added, but developed after-the-fact maintenance strategies. Each maintenance strategy has components of operator surveillance (rounds), testing, predictive pattern recognition (also known as advanced pattern recognition, APR), PM (condition-based monitoring and risk-based inspections), online monitoring, and preventative maintenance. While efforts had been made to “baseline” the equipment processes when maintenance strategies were developed (i.e., “clean out” existing activities), the organic growth of the approach and the distributed nature of assets and personnel have made this difficult to maintain. Therefore, we needed an approach to optimize existing maintenance strategies, without recreating them. Nova Scotia Power has therefore undertaken an effort known as maintenance strategy optimization, and has made this activity a core accountability for the asset management team, which recognizes the need to seek continuous improvement (vs. a one-time exercise). With a focus on digitization wherever appropriate, Nova Scotia Power has asked a number of questions to streamline, standardize, and optimize its maintenance strategies. Is there opportunity to reduce PM frequency? Is there opportunity to collect more information such that we can strengthen our APR models? Can our in-house standards be revalidated to sustainably reduce operating and maintenance costs? Nova Scotia Power is answering yes to these questions, and more, and pursuing opportunities to optimize its maintenance strategies—from the bottom up!

SEPTEMBER 18, 2019

15:00 TO 15:45

SHUSH - YOUR KPIs ARE TRYING TO TELL YOU SOMETHING!

Cliff Williams

Operations Manager, Erco Worldwide

Your KPIs and metrics—though they're very different—are trying to tell you something. But, do you understand what they're trying to say? Are they really measuring what you think they're measuring, or are you missing out on important information? In this session, we'll look at the differences between KPIs and metrics, and explore how they're arrived at and should be arrived at. We'll challenge some of the old and accepted maintenance measures that many organizations use. First, though, we'll discuss why we actually measure things and examine if we meet that premise. Feel free to bring your KPIs for discussion!

SEPTEMBER 18, 2019

16:00 TO 16:45

ASSET MANAGEMENT CONSIDERATIONS FOR AGING ELECTRICAL ASSETS

Josh Kanyemba

Lead Assessor, Network Rail

Dean Chauke

Route Asset Manager, Network Rail UK

The U.K. railway network dates back to 1825 and is the oldest railway in the world. Several electrical assets on the network such as track power cables, switchgears, overhead line isolators, circuit breakers, and insulators are beyond their design life and the business must decide whether to renew or replace them—even though they're still operating at the optimum performance level. These assets are still being maintained at the original regimes; the challenge to the business is to understand the degradation models and change them to achieve different maintenance regimes for the aging assets. The work we're currently undertaking is intended to influence and change our asset policies—in particular, the assignment of asset regimes for assets that remain in service at the end of their design life and beyond. The philosophy behind the maintenance regimes is that they're based on degradation models, which are algorithms that consider various factors such as the environment, the loading, the utilization, the reliability, and the cost for interventions. The approach we pursued was to review the parameters of the degradation models for their “fit,” based on the knowledge asset managers have gained on the ground and through large volumes of asset data. The asset data was analyzed with data visualization software to gain further insight to influence the review of the degradation models. The findings of the work are summarized here: asset population is aging and future renewals bow wave are predicted; asset policy pushes all assets to maximum asset technical life and fix-on or run-to failure; safety-related works prioritized over asset performance/resilience; there's a need to modify some factors associated with the degradation models to cater for extension of technical asset life and maintain a more realistic/sustainable asset renewal profile; composite asset condition scores are required to manage bow wave of asset renewals and implement sustainable obsolescence management techniques (this is predominantly driven by organizational investment decisions where enhancements are the main driver of asset acquisition, making future renewals difficult due to the requirement to renew similar age assets at the same time); and determination of useful asset life required for assets that are being left in service longer than their originally predicted life.

SEPTEMBER 18, 2019

16:00 TO 16:45

WHY WE NEED TO TALK ABOUT RISK

Rob Kalwarowsky

Reliability Engineer, Rob's Reliability Project

In M&R, we often talk about detecting components that are about to fail, using RCM to create our maintenance program or using RCA to understand why a failure happened. But we often stop at the technical or engineering level, and this is often not well understood by management. We need to talk about risk to communicate more effectively with upper management, and we need to understand, quantify, and communicate the risks of each action we take, as well as the risks of inaction. As reliability and asset management professionals, we need to speak the language of upper management and talk about risk. This presentation will cover risk, decision-making, and uncertainty, and provide you with some ideas on how to implement these at your site.

SEPTEMBER 18, 2019

16:00 TO 16:45

MAKING YOUR ASSET MANAGEMENT PLAN TAKE FLIGHT

Nick Jensen

Director, Asset Management, Edmonton Airports

Wade Melnyk

Superintendent, Asset Management, Edmonton Airports

Airports are an important economic hub for a region. They help regional economies extend their reach and often create a localized cluster of companies around it, termed "airport cities." Indeed, airports face many of the same challenges that municipalities do. They have a portfolio of diverse infrastructure that supports a variety of services to customers in a challenging, dynamic environment. There are many stakeholders who have an interest in service levels, and revenues are often less than what is required to meet expectations. Edmonton International Airport (EIA) has implemented an asset management program that began with the successful implementation of a computerized maintenance management system to better understand its cost of service. It has also recently established an asset management strategy that systematically employs risk, strategic goals, and service priority for investment decision-making. This presentation will provide a case study of EIA's progress to date as well as future steps.

SEPTEMBER 19, 2019

08:00 TO 09:00

TECHNICAL OPERATING ENVELOPE

Muhammad Ehtisham

Technical Director, Suncor Energy

Description of technical operating limits, development of the monitoring systems and response plans, and utilization of this monitoring to avoid unplanned outages.

SEPTEMBER 19, 2019

09:00 TO 09:45

RISK-BASED PLANNING FOR ELECTRICAL SYSTEMS

Paul Baker

Reliability Specialist, Shermco Industries Canada Inc.

It's common knowledge that a large percentage of electrical infrastructure—including both industry and utilities—in North America is nearing end of life, and this creates a major challenge. In addition to the large cost of replacing a transformers or switchgear section, it also creates a large disruption to production. These are the main reasons we're in the position we are today, coupled with a lack of understanding on when a replacement or intervention should be scheduled. In this presentation, we'll go through a recent completed project looking at five different electrical asset classes.

SEPTEMBER 19, 2019

09:00 TO 09:45

PURSUE 25% LONGER ASSET LIFE THROUGH SMARTER LUBRICATION MAINTENANCE IN A DUSTY DESERT

Paul Hiller

Marketing Manager, ICML

Richard Hunt

Senior Utilities Predictive Maintenance Technician, City of Chandler

The desert-bound city of Chandler in the American Southwest operates a municipal infrastructure that includes aging machinery assets at four water treatment facilities and dozens of potable water wells, recharge wells, and pumping stations. The city hired an expert—who happens to be an ICML-certified lubrication technician and oil analyst—to develop predictive maintenance programs intended to extend the reliability and service life of these assets. Though his proposed solutions will take several years to implement fully across the board, the benefits and efficiencies have been felt almost immediately. In this presentation, we'll provide an overview of the main water treatment facility's lubrication conditions prior to the expert's arrival and describe the challenges he regularly faces with regard to environmental conditions, untrained vendors, and corporate culture—even as he harvests low-hanging lubrication fruit within the scope of his broader predictive maintenance mandate. We'll also highlight his personal emphasis on the valuable role that training and certification play in his program's success. You'll understand that best lubrication and oil analysis practices can produce significant ROI for any machinery maintenance program; training and certification contribute greatly to the sustainability of culture change and new processes; and a strategic road map can make implementation more efficient and sellable from the outset.

SEPTEMBER 19, 2019

09:00 TO 09:45

DE-STRESSING MAINTENANCE - A CASE FOR MAINTENANCE READINESS IN PROJECTS

AGWU Emele

Strategic Planning, Husky Energy

Oftentimes, maintenance is left to suffer the consequences of otherwise “successfully” completed and handed-over projects. While project teams are more interested in the project constraints of scope, time, and cost at handover, maintenance is concerned with maintainability, reliability, availability, cost, and safety for the duration of the asset lifecycle. This conflict is not often given due consideration, and maintenance is often brought into the team long after the asset has been commissioned and handed over to operations. This presentation will make a strong case for including maintenance at all stages of a project—a case for maintenance readiness. It describes the slowly changing paradigm shift and acceptance (albeit lukewarm) of operations readiness, with no corresponding consideration to maintenance readiness. It uses real-life examples to show that the “cost savings” from not including maintenance in projects is mostly eroded in the first few months of the asset lifecycle. We’ll make the case for a paradigm shift toward including maintenance readiness to all projects. Inserting the maintenance team in all the project phases will not only improve asset availability, reliability, and lifecycle cost, but also enhance cross-functional team synergy and professionalism, and ultimately reduce this stress element from maintenance.

SEPTEMBER 19, 2019

10:05 TO 10:50

WHO’S ON FIRST - THE SPONSOR!

Laura Kennett

Manager, Liquids Pipelines Integrity Execution Program, Enbridge Inc.

“Who’s on first. What’s on second. And I don’t know’s on third!” For some, these three simple sentences, which begin with questioning words but don’t end with question marks, will appear puzzling. To others, this nostalgic phrase will trigger a grin as they’re reminded of the famous 1938 radio play by Abbott and Costello. Regardless of your reaction, these sentences represent a strikingly large gap in asset management, maintenance management, project management, program management, and other domains that leave practitioners feeling confused and infuriated. Who is the real sponsor of the work? What, exactly, is the sponsor supposed to do? And, do we know if the sponsor is the same as the asset manager? Guidance surrounding the role of a sponsor is rather dismal and unstructured while the amount of literature on roles such as maintenance planners, schedulers, reliability professionals, and project managers is overwhelming. Why does such a vacuum exist? This session will provide a framework for the duties of a sponsor and guidance to asset and maintenance practitioners on recognizing a good sponsor or surviving a bad one. We’ll demonstrate why the sponsor is not only important for success, but also essential; how the sponsor can best support asset management and maintenance management professionals through asset lifecycles; and the skills and behaviours sponsors should exhibit to ensure the “right” work is being sanctioned.

SEPTEMBER 19, 2019

10:05 TO 10:50

CASE STUDIES ON MAINTENANCE MANAGEMENT AND RELIABILITY IMPROVEMENT

Jesus Sifonte

Director, PdMtech Canada Inc.

Even today, many organizations see maintenance as a necessary evil, neglecting the importance it has toward attaining optimum business results. These organizations have maintenance managers, supervisors, and technicians who are responsible for the preservation of their physical assets. Upon talking to and sharing experience with many maintenance colleagues in various countries, I've learned that most maintenance supervisors and managers don't have a formal maintenance educational background, yet they must make important decisions regarding assets affecting their business's bottom line. We learn about maintenance the hard way, learning from equipment failures and guessing how to avoid them by applying what has resulted well in the past and what the equipment manufacturer tells us. When organizations realize they must do something about maintenance to improve their business bottom line, they're exposed to a lot of information about many tools boasting to offer what they need to do better. This presentation will showcase the results of various case studies performed by our consulting firm at crude oil pumping, pharmaceutical, and water treatment organizations located in North and South America. Several methodologies ranging from Uptime (Strategies for Excellence in Maintenance Management) to RCM-R, ACA, RCA, and even PdM were used to tackle situations at the strategic, tactical, and operational levels.

SEPTEMBER 19, 2019

10:05 TO 10:50

KPI WHY: A CASE STUDY IN LEVERAGING MAINTENANCE METRICS TO DRIVE IMPROVEMENTS

Kris Halland

Senior Planner, Maintenance, Cameco Corp. - Cigar Lake

John Wettlaufer

Manager, Maintenance Work Management Processes, Cameco Corp. - Cigar Lake

This case study will show how we used an analysis of standard work management metrics and a systematic approach to identify opportunities to improve our plant. We'll provide specific examples of how we developed and implemented the approach and the results we achieved. We'll also describe the fundamental understanding and steps that could be taken to implement a similar approach at any plant, or for any particular metric. Topics will include cultural recognition of KPIs as an improvement tool, not a personnel measurement stick; understanding all the various causes and influences on any particular metric; analysis and categorization of deviations; identifying losses as acute one-offs vs. chronic systemic issues; behavioural vs. procedural issues; understanding change/improvement requirements, what can be directly controlled and what can be only influenced; determining corrective actions; and tracking the resulting improvements. Specific examples will be derived from our site's application of this methodology to schedule compliance, PM/PdM compliance, and emergency work metrics.

SEPTEMBER 19, 2019

11:00 TO 11:45

THE BENEFITS OF ALIGNING ASSET MANAGEMENT PRACTICES WITH ORGANIZATIONAL CORE VALUES AND STRATEGIC VISION

Jebb Richard

Asset Manager, EPCOR

Good asset management demonstrates value through clear communication and aligns stakeholders with organizational objectives. The value of asset management is not well understood in many organizations, as is the decision-making process behind it. Buy-in and understanding from senior leadership and field staff are crucial for asset management to deliver value to organizations. Policies and practices that align with core organizational values help communicate the value of asset management and the decision-making process to stakeholders across the organization. These transparent practices can improve co-operation and understanding between asset management and stakeholders. Furthermore, a guiding asset management philosophy that aligns with the organization's core values and strategic vision helps asset managers apply their professional knowledge in an effective and consistent manner. This presentation will examine existing asset management policy and discuss evolution from this point, including how to create a guiding philosophy that will drive development of asset management policy and strategy. The outputs of this process are maintenance standards, business cases, and investment plans that are value driven and thus more likely to obtain endorsement from senior leadership. They will also generate more consistent asset management decisions that instill confidence in field staff and improve defensibility of operational and capital expenditures to regulatory bodies.

SEPTEMBER 19, 2019

11:00 TO 11:45

MAINTENANCE AND RELIABILITY JOURNEY OF A MIDSTREAM PIPELINE OPERATOR

James Martin

Manager, Maintenance Management, Enbridge

Enbridge Liquids Pipelines is at the midpoint of a multi-year journey to advance the M&R program for its electrical and mechanical assets. This presentation will share successes and challenges while aiming to apply M&R best practices to a midstream pipeline operator. Our initiative will improve M&R processes and culture, with a focus on improving multiple work streams. These include the planning, scheduling, and execution of preventative and predictive maintenance, information management, spare parts, and CMMS use.

SEPTEMBER 19, 2019

13:30 TO 14:15

**ISO 55000 SIGNIFICANTLY EXPANDS THE MEANING OF ASSETS - ILLUSTRATED BY
COMPARISON BETWEEN PLANT AND NON-TRADITIONAL ASSET EXAMPLES**

Ron Gavrin

Owner, Instructor, Retired, Self-employed

One of the main developments in ISO 55000 is the expansion of the meaning of “asset” to include assets that are not plant and equipment assets (e.g., human, knowledge, or reputation assets). This aspect seems to be understated somewhat in explaining what’s new in ISO 55000. To better understand the expanded asset concept in ISO 55000, this presentation will explain the “three axes model of assets”; demonstrate its application by contrasting two cases (plant and equipment in a nuclear plant vs. human assets in a nuclear plant); and explore knowledge assets in a professional trade organization (e.g., PEMAC). We’ll suggest how professional trade organizations (like PEMAC) might manage their knowledge assets, which actually include both content (knowledge) and trainers (human). The results are twofold: an enhanced awareness of non-traditional assets in ISO 55000 and a basic proposed plan for a knowledge-based professional organization to manage its assets in keeping with ISO 55000.

SEPTEMBER 19, 2019

13:30 TO 14:15

TRAINING FOR RELIABILITY

Shea Hatch

Coordinator, Planning and Scheduling, Cenovus Energy Inc.

Focused on the HR aspect of maintenance management, this presentation will provide insight into how “asset maintenance management is about managing the people who manage assets.” We’ll look at how individuals’ confidence, competence, and validation of skills play a significant role in the overall reliability and costs of the assets we manage.

SEPTEMBER 19, 2019

13:30 TO 14:15

DEVELOPING ASSET MANAGEMENT STRATEGY, PLANS AND RESOURCE ALLOCATION FOR ASSET MAINTENANCE

Susan Urra

Supervisor, Business Performance & Analytics, City of Edmonton

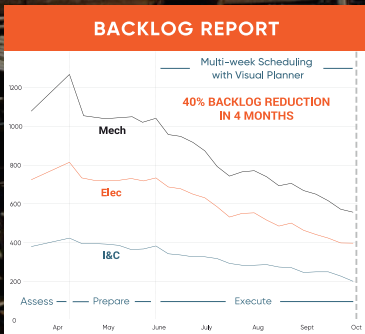
Early in 2018, the City of Edmonton adopted an Infrastructure Asset Management Policy to provide clear direction for how the organization should carry out asset management activities to achieve its vision, goal, and objectives. Infrastructure maintenance at the Parks and Roads Services Branch is accountable for all the actions necessary. In order to comply with the recently adopted policy, the branch developed an asset maintenance framework that would allow the section to not only align its practices to the adopted policy but also enable it to manage resource allocation; define clear accountability for financial results as well as for level of services delivered to citizens; and set the foundation for a management system that will allow performance-based reporting on how the execution of the different types of maintenance activities defined in each asset maintenance plan are supporting the expected asset condition levels targeted by the administration.



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The course is offered online through Northern Lakes College, in association with PEMAC.

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PEMAC ACKNOWLEDGEMENTS

On behalf of the Board of Directors and the conference attendees, we would like to extend a big thank you to the MainTrain 2019 planning committee, PEMAC staff, and all of the on-site member volunteers that have made this year's conference a success. Your time, effort, and careful attention to making this a truly successful conference shines through.

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Justyna Krzysiak, Equipment Class Specialist, Enbridge

Committee Members:

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Duane Dys, Territory Manager, Gateway
Mechanical Services

Dennis Heinzlmeir, President, Alberta Chapter
– PEMAC, Jacobs

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Special Thank You for their support in reviewing all the great abstracts submitted for MainTrain!

Gregg Bentley, Plant Engineer, Durisol

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Capital Power

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Jesus Sifonte, Director, PdMtech Canada Inc.

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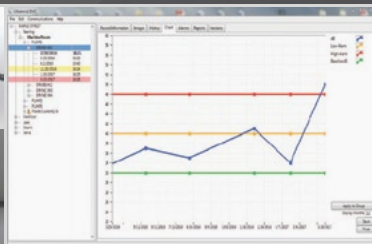
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The ultrasound approach

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