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PEM'S WORLD-CLASS
MAINTENANCE ROUNDTABLE



Raising the Bar

How to utilize maintenance best practices

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Raising the Bar

How to utilize maintenance best practices

BY ROBERT ROBERTSON

The Participants



KEN BANNISTER



DAVID BERGER



SHAWN CRAWFORD



DAVID DRAGERT



DARREN GERMAN



JOHN LAMBERT



BRIAN MALLOCH



JAMES V.
REYES-PICKNELL



WILLIAM RIDLEY

The term "world-class maintenance" means different things to industry practitioners. For some companies, world-class maintenance performance is more about the journey rather than a destination. World-class maintenance and related best practices involve charting a course for success, being an industry leader and making critical change happen on the shop floor.

But what is world-class maintenance and why is it so important to be better than the rest? Also, if mediocrity isn't an option, what are the steps required to reach world-class maintenance levels? To help provide answers to these questions, PEM conducted a recent world-class maintenance roundtable. Taking part in the discussion included:

- Shawn Crawford, manager, facilities maintenance, City of Mississauga;
- William Ridley, C.L.S., senior technical advisor, Petro-Canada Lubricants;
- David Dragert, chemical engineer, B.Eng., Petro-Canada Lubricants;
- Brian Malloch, president, Plant Engineering and Maintenance Association of Canada (PEMAC);
- James V. Reyes-Picknell, president, Conscious Asset Management;
- Darren German, service manager, Hydraulics Business Unit, Bosch Rexroth Canada;
- David Berger, partner, Western Management Consultants;
- Ken Bannister, president, Engtech Industries Inc.; and
- John Lambert, president, Benchmark Maintenance Services Inc.

PHOTOGRAPHY BY JURIS KORNETS

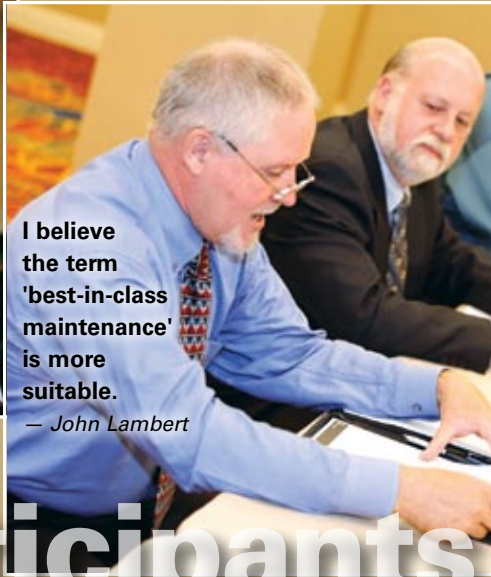
PEM World-Class Maintenance Roundtable

We spend so much time on the numbers and getting the attention of the boardroom — changes are also required on the shop floor.
— David Berger



I believe the term 'best-in-class maintenance' is more suitable.

— John Lambert



Many companies still don't know the importance of maintenance.
— Darren German



The Participants

PEM: What is world-class maintenance, and does management in the boardroom know enough about attaining related performance?

• **BRIAN MALLOCH:** "A world-class maintenance function is totally customer-driven and focused. Maintenance and production personnel work jointly to develop specific roles and responsibilities for every part of both organizations. These roles and responsibilities are continually monitored, trended and modified as required. Meaningful and relevant metrics are used to analyze all aspects of performance and identify opportunities for improvement."

"The boardroom is generally not well versed in the potential of maintenance. That's why it's so important for the maintenance management team to learn how to capture and report meaningful information, which will contribute to the overall success of the business. It's up to maintenance leaders to earn a seat in the boardroom and contribute to the decision-making process of the business. This can only be done through effective professional development programs. This is the primary reason why PEMAC created its Maintenance Management Professional (MMP) certification program."

• **WILLIAM RIDLEY:** "I believe that world-class maintenance is about demonstrating industry best practices and producing bottom-line results. Is management aware of this? I think they are to some degree. And the level of commitment that management has is directly related to results."

• **DAVID BERGER:** "I have a little different view about world-class maintenance and best practices. I think some companies place too much emphasis on world-class and not the basics. There are two things that are really critical. We all know that there's huge potential with maintenance management and developing a strategic approach to asset management. Senior management has to understand how to make better use of its assets. The other side involves needed behavioural change on the front lines. We spend so much time on the numbers and getting the attention of the boardroom, but changes are also required on the shop floor. It will enable us to be the very best that we can be."

• **JOHN LAMBERT:** "Personally, I don't like the term world-class maintenance. If anything, I'm a little sceptical of it. I believe the term 'best-in-class maintenance' is more suitable. One of the bigger problems in maintenance is the gap, which exists between what the boardroom thinks is happening and the reality of the shop floor. If I was a maintenance manager and based on today's economic times, I would take a message to my maintainers. Given existing resources (i.e. budget, staff and equipment) and based on our own high standards, I would stress being the best that we could be. If this is achievable—then we could say that we're world-class."

• **DARREN GERMAN:** "When you consider that the basic function of maintenance is to keep equipment performing at its optimum, I would suggest that world-class maintenance is an attitude. This involves continuous improvement and a commitment to adopting the most appropriate best practices available to achieve an improved bottom line. Many companies still don't value the importance of maintenance, let alone know enough about world-class maintenance. Traditionally, the boardroom hasn't extended an opportunity to maintainers to explain the importance of proper asset management, and the net result of these efforts on corporate reliability and profitability."

• **KEN BANNISTER:** "Not only is mediocrity a state of mind, so is excellence and world-class. I think people understand what world-class means, but in different ways. And when you walk into a world-class plant—you know it. You notice it in the pristine equipment and the stride of workers, or even how they greet and respect each other on the shop floor. In a world-class culture, people are intrinsically motivated. It's what works for that company, but not necessarily everyone else."

• **SHAWN CRAWFORD:** "This is something that I have wrestled with for a while. For me, a world-class maintenance organization is only different from an ordinary one by the degree in which it achieves its primary role. It means the right amount of equipment is ready and available without costing the company a fortune. Secondly, an organization that consistently measures against performance and develops a scorecard of

achievements can call itself world-class. Maintenance must convert its importance, knowledge and capabilities in a meaningful way. This enables management to understand maintenance."

• **DAVID DRAGERT:** "I believe that maximizing uptime and minimizing downtime are two key areas. This involves maintaining systems proactively instead of reactively. This is a positive approach to any world-class maintenance program. Even in the short run, you want to have a worry-free operation. As well, you don't want to affect the health, harmony, happiness of employees and the environment (either present or future states). It also depends on the prioritized policies in place and enforcement."

• **JAMES V. REYES-PICKNELL:** "World-class maintenance speaks to something grand, large or perhaps simply world-leading (good). Grand doesn't work—maintenance just isn't. Large doesn't work for me, either. You could still be big, but poor at it. To me it [world-class maintenance] implies a level of competence that results in above average performance. Companies are doing the right things and doing them reasonably well, while still improving continuously. There's still plenty of room, however, for even these world-class performers to improve—and they know it."

"The boardroom is interested in performance results. Some companies like to be seen to be the best, but this is really only good for the ego. What really matters are results and the direction you're headed in. Management wants to know that costs are optimized, operations are safe, environmental standards and regulations are complied with and product quality or service delivery are high. If you were delivering on this, then you'd be world-class in my opinion. Sadly, having said this, there might be a tendency on the part of some [maintenance departments] to lower the bar on their expectations, and stop at competence instead of moving to excellence."

PEM: A recent PEM reader survey found that 92 percent of respondents said their companies haven't achieved world-class maintenance performance. Why is this result such a high number?

• **BRIAN MALLOCH:** "Maintenance has generally been considered a cost centre and a necessary expense to operate a business. The fundamentals of world-class maintenance programs, however, add value to the operation. This is reflected in the ability to improve and sustain production capacity, quality, performance and reliability. Businesses can achieve considerable financial gain by extending the economic life of assets, reducing capital-spending requirements and the overall cost of production, and lowering overhead costs. This includes energy, spares, labour and materials. The transition process to world-class maintenance is also long. It can take several years for the maintenance management leadership team to acquire the necessary skills and knowledge."

• **KEN BANNISTER:** "Across many different industries, the problems are usually the same. I'm talking about the human condition and not technology. There's no point dropping down new technology into an old world-type company. And to go 10 steps—you must go one step at a time. It's the people who make the difference. In maintenance, it's all about what you can manage versus what you can control."

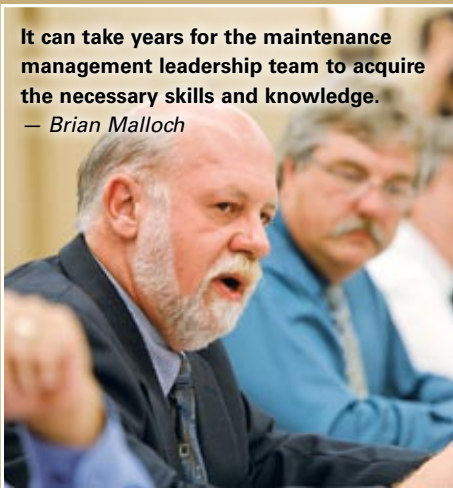
• **WILLIAM RIDLEY:** "I think it has a lot to do with resistance to change. You've got to be willing to develop a disciplined plan of action, and have top management agree to it. Until then, you're in the 'fire-fighting' mentality. If it [equipment] breaks down, we fix it. And eventually, this is all you're doing. It's important to take away the reasons why the fires are occurring."

• **DAVID BERGER:** "One of the problems could be the definition of world-class. We have to look at technical versus strategic change. Most companies are focused on technical change, and this isn't a surprise. Strategic change, however, is sadly lacking and requires the customer (based on service, quality and

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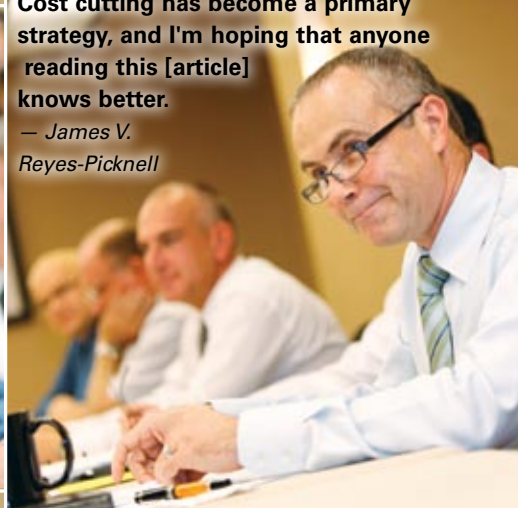
It can take years for the maintenance management leadership team to acquire the necessary skills and knowledge.

— Brian Malloch



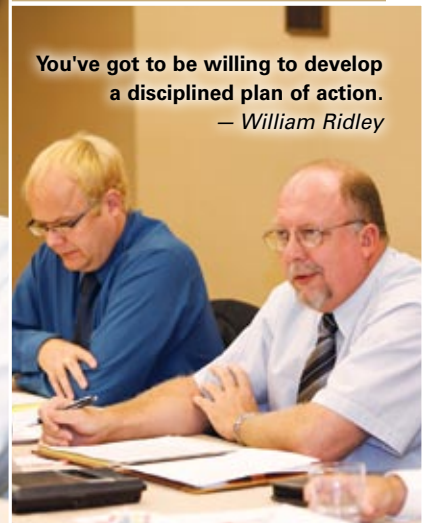
Cost cutting has become a primary strategy, and I'm hoping that anyone reading this [article] knows better.

— James V. Reyes-Picknell



You've got to be willing to develop a disciplined plan of action.

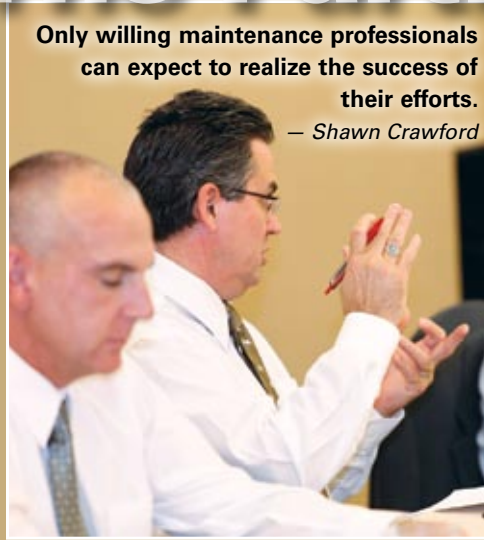
— William Ridley



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Don't forget about long-term versus short-term thinking.
— David Dragert



Only willing maintenance professionals can expect to realize the success of their efforts.
— Shawn Crawford



There's no point dropping down new technology into an old world-type company.
— Ken Bannister

pricing). Customers define strategic asset management. In the service sector, this is more pronounced. Until maintenance hears what the customer wants and is an equal business partner with operations, engineering and marketing—then we can't adequately define what strategic asset management is."

- **JAMES V. REYES-PICKNELL:** "All too often, maintenance is treated as a service department only. Leadership has abdicated its responsibility by leaving the care of assets in the hands of a maintenance department that's often understaffed, with no direction other than to 'get it fixed.' There seems to be little interest in the investment that's required to 'keep it running' even though the payback is huge. Cost cutting has become a primary strategy, and I'm hoping that anyone reading this [article] knows better. If companies are to get out of mediocrity (not just in maintenance), they will require leaders—not managers. There's a need to push for those uncomfortable changes that everyone loves to resist."

- **DAVID DRAGERT:** "In these new economic times, there are a bunch of different drivers. I believe that short-term versus greater long-term cost savings is something that's driving many companies. They're looking for the quick wins and staying in business."

- **SHAWN CRAWFORD:** "What I have found in performing benchmark exercises, is that you can't get an 'apple-to-apple' comparison due to a multitude of reasons. It could be product, budget or age of the asset, etc. We have moved towards benchmarking against ourselves and look to the various proven industry best practices and effective tools. This allows us to measure improvements within our restrictions and capabilities. Start small by performing meaningful measures and focus on what, why and how you conduct maintenance processes. Once you begin to acknowledge and document improvements, introduce more changes, and show management the benefits of your efforts. Once they see the added value—support will follow."

- **DARREN GERMAN:** "What would be interesting to know is whether there were more survey respondents from small

and medium-size companies or large organizations. Smaller and medium-size companies usually have limited resources. In a lot of cases, little or no effort is put into root-cause analysis and prevention, or the reliability of the fix to get the machine back into production. If a company is going to reach the standing of world-class, these are considerations that need to be understood. At the same time, world-class doesn't necessarily require a huge investment. It does involve a commitment to improvement, however, with a focus on education or an understanding of maintenance technologies and principals. There's a wealth of information available to help get the ball rolling, such as PEMAC, textbooks, the Internet and trade publications."

- **JOHN LAMBERT:** "I'm not surprised at this number, as many companies in general don't know what world-class maintenance is. Some organizations have also been disillusioned with failed maintenance strategies, which have proven to be costly and time consuming. In a sense, maintenance strategies or programs that promised world-class performance haven't necessarily delivered. Improving performance is always a goal for maintenance. My advice is to look within to see what you can improve on first. Front-line supervisors, foremen and tradespersons—this is where the maintenance department can make the most gains."

"Maintenance is evolving and even the basics have changed, but we haven't kept up with the changes. There are huge gains to be made in just two areas alone—machinery installation and lubrication programs. In some instances, the supervisor can be a roadblock to change. The fact that 'we've always done it this way' doesn't make it right. You could actually be dead wrong. To improve performance, a company has to train and support its maintenance team. Make maintenance basics a priority. This includes alignment, balancing, bearing and seal installation/tolerance checks. You want to do it right the first time." ►

The term "world-class maintenance" means different things to industry practitioners.

PEM: Achieving and improving world-class maintenance performance is a strategic goal. What must companies and their maintenance departments do to reach this objective?

- **WILLIAM RIDLEY:** "I think the primary consideration is team-work and alignment to specific goals. Although, we seem to have some moving targets as to what world-class actually is. Predictive and preventive maintenance, training and asset management are key factors. You must be able to monitor and trend all costs, equipment, materials and personnel. Everyone also has to be accountable and there are consequences to that—both positive and negative. This will enable you to move forward to world-class."
- **JAMES V. REYES-PICKNELL:** "Again, the first step is to find leaders. These are people who aren't afraid to rock the boat and make change happen. We only fear the unknown. So, if a change leader puts you in an uncomfortable situation—you'll be doing something new and different. You won't know what's going to happen and have chosen 'something new.' This will take you on that journey towards world-class excellence. Einstein said that you couldn't solve a problem with the same thinking that created it. Training is needed to learn what world-class really means and what it takes to get there. Some of the most successful maintenance and reliability improvement initiatives start with training. Your idea is enough to start the choice."
- **DAVID DRAGERT:** "It's important to keep in mind the scheduling of regular maintenance in advance and understand the milestones/roadblocks to success. Don't forget about long-term versus short-term thinking to better optimize processes. I also recommend monitoring conditions as they progress to spot warning signs, while identifying trends that could be a concern. There's a need to reduce energy usage without compromising a component's life cycle."
- **BRIAN MALLOCH:** "The first step is to develop the knowledge and skill level of the maintenance management team, so individuals can understand their roles, responsibilities and deliverables to the production process. They also need to develop an understanding of how business strategies align with physical asset

management and maintenance strategies. Maintenance needs to be strategic and tactical. To achieve both, the team must also have clearly defined and effective metrics, which can be used at all levels of the business decision-making process. The next step is to develop proven continuous-improvement programs within the maintenance department.

"Maintenance leaders need to be proficient with all process-improvement tools, such as those associated with lean production systems. Process mapping, total productive maintenance (TPM), reliability centred maintenance (RCM) and condition-based monitoring are tools that can be used by the maintenance team. Companies need to align their business and maintenance strategies together, while designating roles, responsibilities, deliverables and accountabilities to each person in the maintenance department. You also must include a financial business plan. All aspects or conditions of a world-class maintenance organization are measurable and quantifiable."

• **DARREN GERMAN:** "Everyone within the company has to understand the road map that's associated with attaining the goal of world-class maintenance. Team members have to know what their individual roles are. After evaluating the skills of your people, it's important to fill any knowledge gaps. In terms of key performance indicators (KPIs), ensure that what you're tracking is of value. The results have to be visible to the team, especially when it comes to their efforts and impact on the success of a specific task. Lastly, create a culture of continuous improvement. This leads to a winning attitude and improved reliability."

• **SHAWN CRAWFORD:** "The maintenance organization must be able to move forward and allow for both technological and organizational change. We have to accept new ways of maintaining our equipment, while also understanding the changing dynamics of our staff, clients and industry. And unless these changes occur together—the process of moving forward and improving will be hindered. Only willing maintenance professionals can expect to realize the success of their efforts." **PEM**

Robert Robertson is PEM editor. You can reach him by email: rrobertson@clbmedia.ca.

ROUNDTABLE SPONSOR: Petro-Canada Lubricants

AURORA, ON—Petro-Canada Lubricants is the official sponsor of the PEM world-class maintenance roundtable. "We were very pleased to have a leader in the industry, such as Petro-Canada join us for this great event," says PEM associate publisher Leesa Nacht. "Our roundtables bring together key industry players who help us to provide our readers with access to new and exciting strategies and trends."

"We strive to provide our customers with lubricant solutions and insight into maintenance best practices, ultimately helping them to protect equipment, re-

duce downtime and increase productivity," says Jennifer Lai, category manager, hydraulic fluids, Petro-Canada. "It was great to sponsor and participate in this roundtable session and we thank PEM for the opportunity."

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