Things To Think About ...and do In 2011

Big thoughts and small actions make a difference.

Here's what we're working on and thinking about.

What about you?

Feel free to share this... pass it along.

Things to think about (and do) this year.

FEATURING

Mark Brunner
Cliff Williams
Claudia Faye
Terrence O'Hanlon
Daniel Daley
Abayomi Carmichael
Derek Burley
Doug Plucknette
Frank Sutcliffe
Shon Isenhour
Jeff Smith
Terry Wireman
Malcolm Jones
Phillip Slater
Joe Swan
Steve Mislan
John Mitchell
Stacy Heston
Paula Hollywood
Matt Spurlock
Jeff Shiver
Steve Thomas
Jason Tranter

ENGAGE

Engage your staff with an open and objective mind to improve their morale and reliability. Be prepared to hear the unheard of, and to hold ideas until they are ready to be acted upon. Provide feedback to staff so they know the status of their ideas. Not all ideas can be taken, but too often we allow suggestions to go into a black hole, never to be formally responded to. Consider configuring an internal portal or social network of sorts to allow staff the freedom to both make suggestions and to track the status of their input.

Engage other professionals online, at conferences or at their places of employment. Keen maintenance and reliability professionals will often make themselves available to you if you are equally keen. Borrow bright ideas that have worked for them for an issue you are trying to resolve, and adapt it to your circumstances.

Engage your colleagues, particularly those in other departments or disciplines. It is said that some of the greatest innovations come when two distinct disciplines come together. Make it happen.

Engage your leaders to discover their visions for the way things can and should be. Bring fearless enthusiasm to the table, backed with well-researched ideas, as well as financial and soft benefits. Be open to their comments and critiques. Persevere.

Engage yourself. Go beyond your usual mindset, and learn something new, complimentary to what you want to accomplish in 2011. Life lessons transcend singular disciplines and provide a portable form of wisdom.

Abayomi Carmichael, AVP, System Reliability, Bermuda Electric Light Co. ltd. Starting with a 4 year electrical apprenticeship and working up to Chartered Engineer status, Abayomi Carmichael has over 20 years experience in the power industry. He studied Electrical Engineering in Newcastle, England and completed an MBA at Imperial College in London – surviving the cold, wet weather - before taking up an engineering post at Bermuda Electric Light Co. Ltd. He currently drives BELCO's System Reliability Business Centre and also volunteers as a Professional Registration Advisor to those across the Caribbean, seeking Chartered Engineer status via the Institute of Engineering Technology (UK). In his spare time, Abayomi enjoys time with his beautiful wife and 6-year-old daughter.

S.E.I.Z.E.

My personal goals for the upcoming year involve more training and education. No matter what age or stage in your professional career, I don't think there's a time when you can sit back and say "Well that's it, I've arrived, and I know all I need to know." So I'm kick-starting myself. There is no aspect of both my personal or professional life that is more important than learning.

My new personal watchword for the year is S.E.I.Z.E

My co-workers and customers deserve the best from me. I want results and yes, I deserve them also.

Search for training opportunities. Don't be picky at first. Brainstorm or make lists by subject or availability.

Evaluate training opportunities. Is it appropriate? Does it further company or individual goals? Can it do both?

Initiate preliminary research, study, or find other ways to familiarize yourself with the scope and benefits of the training opportunities available. Ask yourself how it will advance your goals and your company's goals to pursue these opportunities.

Zone in on the right training for you. If you've done your homework right, it will benefit you and your company.

Encourage yourself. You can do it. You have the abilities. Encourage your company to expand the training agenda. Address financial considerations or other concerns that hinder the consideration or development of training. TAKE THE LEAD ON YOUR OWN TRAINING. Don't assume others will do it for you.

Steve Mislan, Charleston Water System, Charleston, South Carolina

TPM

When we at Productivity Inc first started teaching TPM in the 1980's, we developed a five- day event similar to the Kaizen Blitz, which we called the "maintenance miracle." This was a practical course in autonomous maintenance, implementing the first three steps on pilot equipment in a host facility.

Since then, we have seen many versions of autonomous or operator maintenance which have missed the point that autonomous maintenance is a process, not a result. Giving an operator a list of maintenance tasks is not Autonomous Maintenance; restoring, improving and maintaining equipment is.

So my thing to think about and do in 2011 is to take a piece of equipment – something that is both meaningful, due to being a capacity constraint, causing significant downtime, or both, and manageable, being small enough for your team of five to nine people to complete in three to four days, and perform the first three steps of autonomous maintenance:

Restore – bring the equipment back into its original condition by cleaning, inspecting and correcting all deterioration.

Improve - make modifications to the equipment to eliminate sources of contamination and causes of deterioration, and to improve accessibility for both operation and maintenance.

Maintain - prepare an operator maintenance standard and visualize the checkpoints on the equipment itself. Review current PMs in relation to this new standard.

Not only is autonomous maintenance an improvement process, it is a learning process – for you to learn about how far your equipment has deteriorated, and for your operators to learn about how your equipment performs its functions.

Performing an autonomous maintenance pilot with your team members from your engineering, maintenance and operations departments will give you new insights into the status of your equipment and maintenance operations.

Malcolm Jones is founding director of Productivity Inc's UK office and has worked in the field of TPM for more than twenty years.
UK website: www.productivityeurope.org or US website: www.productivityinc.com

TRAINING

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REGULATION

Should Maintenance be Regulated? It is interesting that many comparisons have been made between maintenance and quality processes in business. Some past comments heard about quality include:

- No one ever did anything about quality, until they figured out what the cost of non-quality was.
- No one paid attention to quality until senior management paid attention to quality.
- Quality first - unless it interferes with production!

It is interesting that the more companies realized how much quality processes impacted their business, the more attention they paid to it. Eventually, through the efforts of the European Quality Community, the ISO-9000 series of standards were established. As time went on, achieving ISO-9000 certification became necessary for a company to do business in the world marketplace.

Now that we have the maintenance function within a company, we hear comments like:

- No one ever did anything about maintenance, until they figured out what the cost of equipment downtime was.
- No one paid attention to maintenance until senior management paid attention to maintenance.
- Sure we maintain our equipment - unless it interferes with production!

While they don't clearly understand it, more business executives are beginning to realize that maintenance does impact their bottom line, whether they perform it or not. The European Asset Management Community is involved again. This time it is an initiative called BSI PAS 55:2008. This stands for the British Standards Institution's Publicly Available Specification for the optimized management of physical assets. This standard is beginning to work its way through the same path that the ISO-9000 standards did as adopting them became a requirement for companies to do business in certain markets. There is now, as of January 2011, a work draft for an ISO standard ISO/PC 251.

Are we headed down the same path with maintenance as we did quality? Will we finally have a "Maintenance Standard"? Only time will tell - but hopefully we will develop one. We really need it.

Terry Wireman is the Senior Vice President of Strategic Development for Vesta Partners. He leads Vesta's maintenance and reliability seminars and training, and provides strategic guidance to help the firm shape its market strategy and long-term direction.

CONFIDENCE

There is one thing that I am confident about. When it comes to safety and reliability, there are only two types of companies: **1. Those that get safety and reliability. 2. Those that don't.**

The safe and reliable companies know why they are safe and reliable. They ask difficult questions every day, and they are not afraid to deal with the answers. They use tools like RCM, Root Cause Analysis, FMEA, and Process Hazard Analysis to uncover and address failures before they occur. They have only one set of rules and everyone follows those same rules. Companies who get safety and reliability believe in educating their people about the best methods and tools, and they understand the value of sustained performance. They understand that safety and reliability aren't things that happen once in a while; they either exist all the time, or they don't at all.

Unsafe and unreliable companies, as well as the managers who elect to stay with them, make excuses, attend funerals and pretend the incident that took a life was an unlikely and unexpected event. They believe that the well-being of their employees depends on luck, that their business is somehow different from everyone else's, and that it's acceptable when people are hurt or injured, because "our industry is different; you have to be tough to work here." Unsafe and unreliable companies talk more about the past than they do the future; they take pleasure in placing blame and look for excuses instead of solutions.

Going into 2011, I am confident in one thing: the companies who get what it takes to be safe and reliable will continue to use the methods that made them that way. Of the companies that don't, several of those will continue to look for excuses as to why they are no longer competitive or in business!

Doug Plucknette, RCM Discipline Leader. After working nine years as the President of Reliability Solutions, Inc, Doug Plucknette joined Allied Reliability as RCM Discipline Leader in July of 2007. As the founder of RCM Blitz™ and Author of the book Reliability Centered Maintenance using RCM Blitz™, he has provided Reliability Training and services to numerous companies around the world, large and small, including such Fortune 500 companies as Cargill, Whirlpool, Honda, Coors Brewing, Energizer, Corning, Invista, and Newmont Mining.

SYMBIOSIS

The dictionary defines symbiosis as "a mutually beneficial relationship."

Now there's something to think about for 2011. Is that what we have been striving for these past few years? I sometimes wonder whether we are really prepared to give up our silos of power for the common good. I understand that we all talk about symbiosis as an ideal and sagely nod in agreement at conferences, but what do we actively do to make it happen? Who are we trying to mutually benefit?

Something to think about for me this year is how to make sure that the asset management work and reliability engineering that we work on as a department actually builds bridges that will stand the test of time and that will still be there when the floodwaters of recession have subsided. These bridges should carry a path to achieving the organization's mission statement.

One part of the problem, which I have heard again and again is, "We had a great leader / Reliability Engineer / Department and then XYZ left and it all fell apart". I think most of us have experienced something akin to that in the past. However, projecting future failure from our experiences of the past may not always prove accurate. If one considers that approximately 89 percent of all failure modes are random by nature, might we assume the same is true of our personnel losses?

If we treat our people in the same way we sometimes treat our other assets, with neglect or abuse, is it not likely that they will fail or leave? If individuals are relatively fragile, then high-performing teams are even more delicate, easily damaged and likely to fall like dominoes. Once one or two people on such a team become disenfranchised somehow and leave, the rest follow soon after and you suffer team collapse. You are then back to square one and bemoaning your experience at next year's conference.

The challenge for the year is to balance high-value teams and high-value delivery across maintenance, reliability and operations departments. Make it bigger than the individual.

Derek Burley, CMRP. Derek has spent twenty years working with RCM as a change management consultant across a wide range of industries in the US, Europe and the UK. He has presented papers at numerous conferences on a variety of subjects including RCM, Human Error, Change Management and Procedure Based Maintenance. http://www.linkedin.com/in/derekburley

CEO

Reliabilityweb.com had the good fortune of having Mr. Robert Buker Jr., the CEO of US Sugar, deliver a stunning keynote address at Solutions 2.0. You can see the video replay here: http://uptime4.me/ussugar

Buker is a man that knows his job, his company and his people very well, and understands how to lead. The company has vastly improved performance under his leadership.

One message that stuck with me was where maintenance reliability is on the average CEO priority list:

Priority 1 - Stock Price

Priority 2 - Stock Price

Priority 3 - Stock Price

....

Priority 25 - Maintenance reliability

That is because the Board of Directors is using stock price as one of the primary measures of the CEO's performance.

Your CEO's performance is also measured on stock price, and that is a primary factor in determining his or her bonus.

If you have an audience with your CEO, are you prepared to tell him how improving maintenance reliability can impact the stock price? We think you should find out the ways that your efforts can have that kind of impact so you are prepared to make a very powerful business case that goes beyond simple ROI.

By the way: If you have a CEO that walks the reliability walk and can talk the reliability talk, we have a standing invitation for a keynoter for Solutions 2.0 2011. Please email me right away if you are interested.

Terrence O'Hanlon
tohanlon@reliabilityweb.com

Click below to watch a video clip of
"Reliability Excellence Is Not Our Mission"
by Robert Buker, Jr., President, U.S. Sugar Corporation,
at Solutions 2.0, 2010. Continue watching at:
http://reliabilityweb.com/index.php/tutorials/reliability_excellence_buker_2

RELIABILITY

Reliability is a conscious effort of an organization as a whole; the reliability engineer only facilitates this effort.

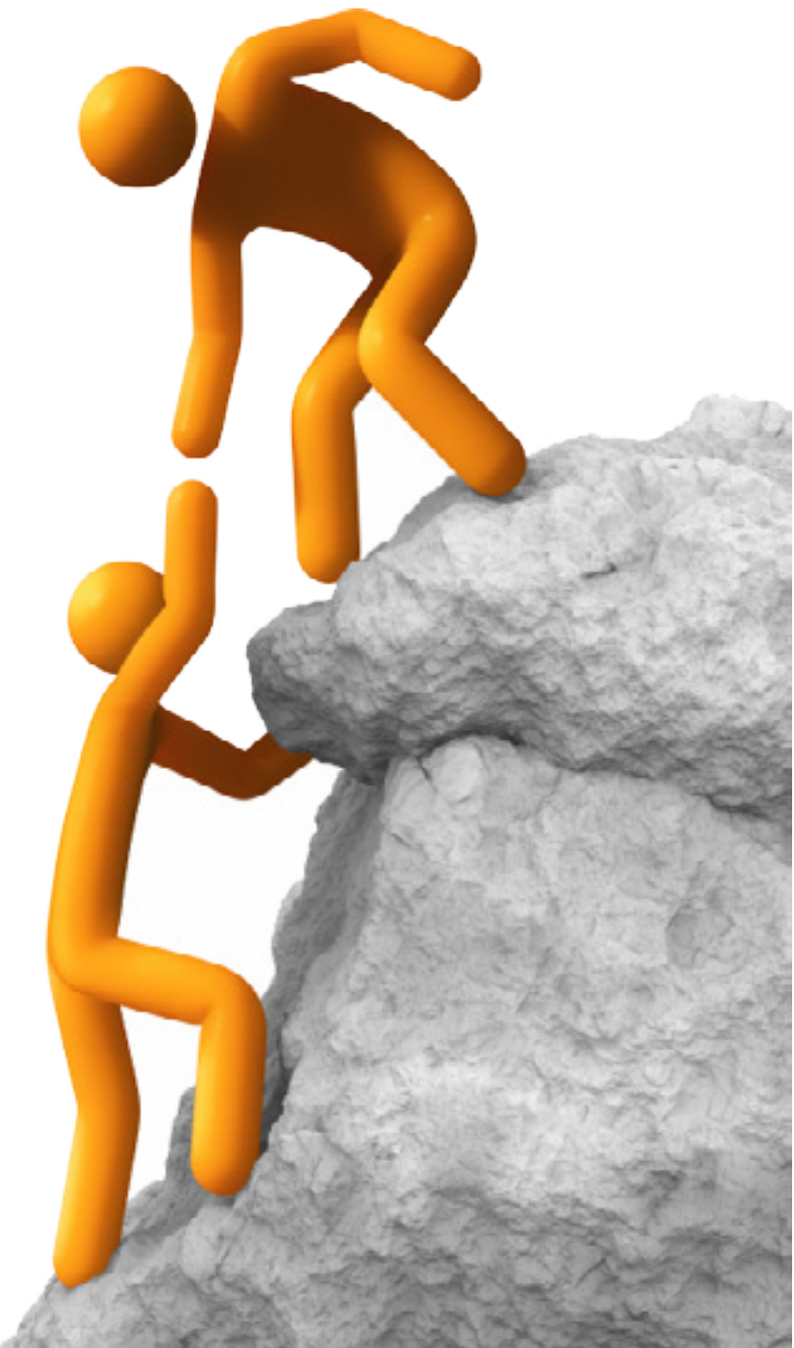
Understanding this concept is the key to success: the best system, processes or reliability personnel will not succeed if the organization resists the efforts. If you are managing an industrial facility, you will be approached by multiple vendors with solutions. All solutions have the potential to succeed, and all solutions have the potential to fail. Organizations that hire a person to handle reliability and expect that person to ensure reliability risk failure.

To elaborate on this, let's consider reliability-centered maintenance, or RCM. We conduct a very good analysis and hand off the effective and efficient work. How can this fail? There are several ways:

1. You can plan and schedule the wrong work to the best of your ability, and it is still the wrong work.
2. You can identify the correct work but fail to plan it, schedule it well, and the result is still ineffective.
3. You can identify the correct work, plan it perfectly, but fail to schedule the resources, and it will be inefficient.
4. You can identify, plan and schedule the work perfectly, but fail to execute it properly, and you will be neither effective nor efficient.
5. You can identify, plan, schedule and execute the work perfectly, but fail to follow it up, and you will be somewhat effective and efficient, but you will not transition into continuous improvement.

It takes the entire organization to deliver reliability; to enable this requires understanding of what reliability is. The organization must be conscious of what reliability delivers and how it impacts all business units and goals. Teach a critical mass within your organization how to effectively and efficiently manage their assets, and they will demand reliability. If they are demanding reliability, it is effortless to facilitate it.

Jeff Smith, CMRP is a career reliability professional and change agent with the insight, vision, and enthusiasm necessary to inspire teams. www.reliabilitylaboratory.com



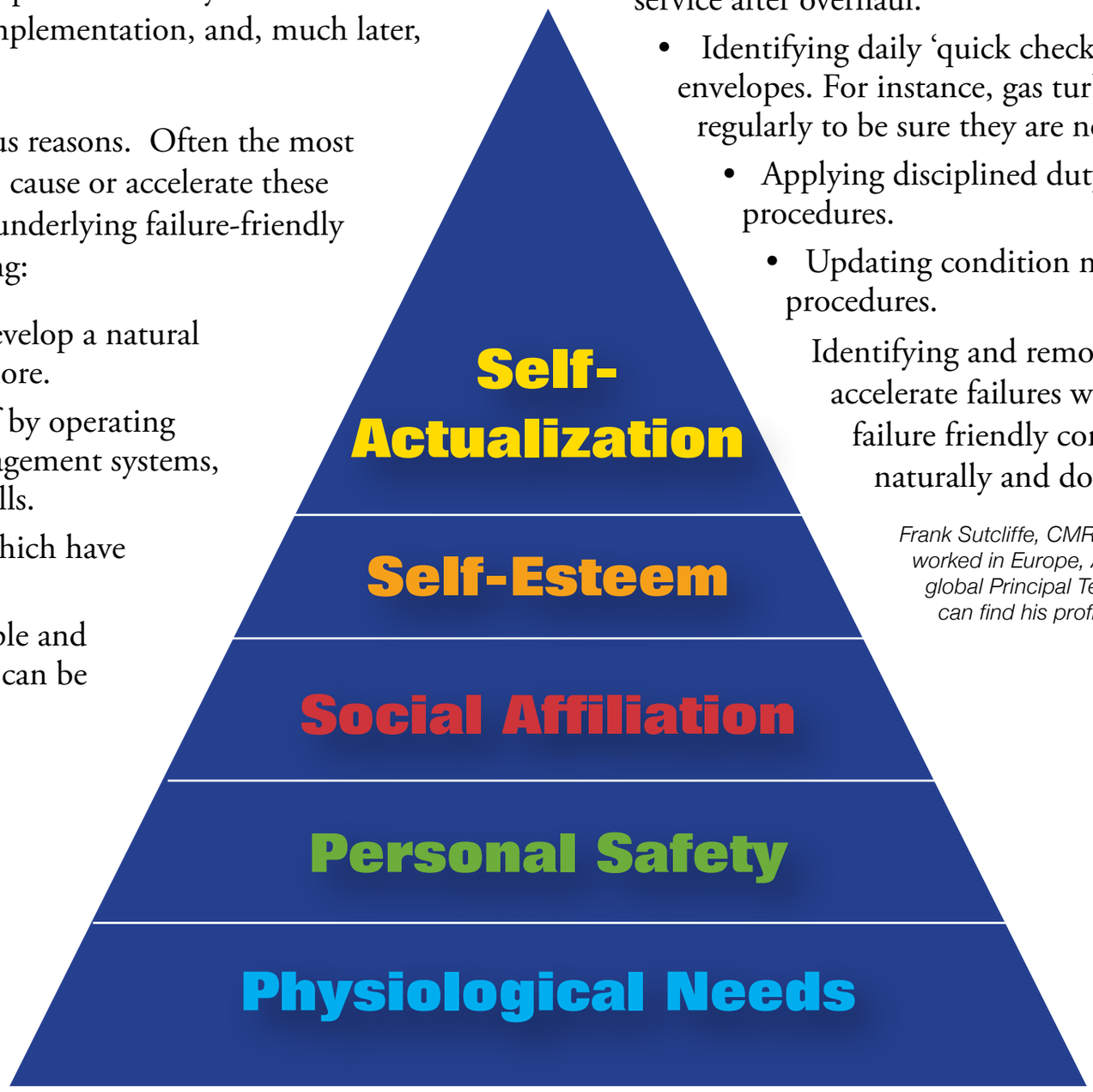
NEEDS

Maslow's Silver Hammer? When you're used to using a hammer, every problem looks like a nail.

Asset owners are too often told that new technology, upgrades or training will address failures and improve reliability. A decision process follows, then procurement, implementation, and, much later, measurable success.

Machinery continues to fail for various reasons. Often the most basic conditions, actions or omissions cause or accelerate these underlying failures. We live with the underlying failure-friendly conditions for many reasons, including:

- They've been around so long we develop a natural tolerance and don't see them anymore.
- People believe they're taken care of by operating procedures, the maintenance management systems, craft procedures or technicians' skills.
- Time is spent on other concerns which have higher profiles.
- Fortunately, fixes are typically simple and rarely require a large budget. They can be implemented by technicians and supervisors. For example, I've seen failure rates drop significantly after:



- Producing (and following) checklists for key activities. An example would be a systematic approach when returning major machines to service after overhaul.
- Identifying daily 'quick checks' on machine operation envelopes. For instance, gas turbines should be checked regularly to be sure they are not over-firing.
- Applying disciplined duty and standby operation procedures.
- Updating condition monitoring and verification procedures.

Identifying and removing conditions that cause or accelerate failures works. In 2011, when it comes to failure friendly conditions, stop doing what comes naturally and do what works.

Frank Sutcliffe, CMRP is a reliability expert in a major IOC. He's worked in Europe, Africa and the Gulf. In 2006 he was appointed global Principal Technical Expert in reliability & operability. You can find his profile at LinkedIn.

SAFETY

OSHA reported 4,340 workers died on the job in 2009. The 2010 numbers are just as alarming. Let us all demand "Safety First" as more than just a slogan.

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DATA

How much valuable information are you losing because of inconsistencies in the information that was entered into your data management system? We have all heard the saying, "garbage in, garbage out," but what does that really mean?

FALK 1040-EZ
FALK 1040EZ
FALK 1040EZ

To the human eye, the above example shows three gearboxes that are the same make and model, but to a computer that is processing data for the generation of failure models, maintenance expenses tracking, and spare parts stock lists, there are three different make and models of gearboxes.

The differences in the descriptions are subtle - an extra space or a dash - but these extra characters create different gearbox units. The same applies to a mere typographical error.

Now, imagine that you have 500 gearboxes in your plant. All of them are a Falk 1040EZ, and ALL of them have a slightly different entry for their make, model, or description. How much time is wasted scrubbing the data before a failure model can be created? Running a simple failure model might take an hour or two, but the data preparation can add weeks to that time line. Are you tracking maintenance costs collectively by make and model? You could be seeing costs spread over multiple categories that should be grouped into one, and this gives an artificially low result for problem component types. This can increase the space required for parts storage through unnecessary duplication of parts, based on the component categories.

Data entry is often overlooked as a menial task. However, good data entry is the backbone of a reliable maintenance program. To increase the consistency of data entry, knowledge and understanding of the information being entered is needed, as well as the know-how to research and make corrections when discrepancies are found.

Stacy Heston is a Subject Matter Expert in Lubrication with Allied Reliability. She is a Certified Lubrication Specialist (CLS), OMA, CMRP, MLA, and MLT. http://www.linkedin.com/in/stacyheston

TRAIN

Train yourselves up! There are wonderful resources available for proactive learning, knowledge, inspiration and direction for the reliability- and maintenance-minded. Let us discipline ourselves and our groups by focusing on continuous improvement for 2011.

Speaking of discipline, our great nation's military training is a hallmark and world class activity. In preparation to defend our country from any attack, by any means, from anywhere, they train, educate and train some more. The same is true in our businesses; we have to stay educated, aggressive, vigilant and ready to adjust. Continuous improvement provides this protection and shareholder value.

Train, baby, train!

Joe Swan, PE, CMRP has 28 years in the mining industry and is Mgr, Maintenance Technical Support, Arch Coal, Inc.

PEOPLE

People, people who need people... are likely to call on maintenance! In the year ahead, I think we all need to take a step back and realize that behind those pesky work orders, complaints and all the other demands on our time, there are people. Just like you and I, they walk, they talk, they breathe, they think and, as we often find out, they have needs. I think if we resolve to try and understand what they mean, which is not necessarily the same as what they say, we can help them better. The desire to help them better doesn't come from some altruistic motivation – it's simply self- preservation! When I'm asked by tradespeople what exactly my job is, I quickly answer, "to make your life easier." My reasoning is that if I can make their lives easier, then they'll be more successful. If they're more successful, then I'm less troubled.

One of the things I've noticed about maintenance people is that they don't always say what's really troubling them. They may complain about a dirty job site, for example, when what they're really ticked off about is a change in the work schedule. The only way to find out what is actually bothering them is to listen, then ask questions, then listen to the answers and ask more questions.

The other thing to remember is that we're all different. What works as motivation for one may be a complete turn-off for another. Get to know the people you work with. Find out what they are interested in and what makes them tick, then let them know that you know with an appropriate question or comment.

Until they invent machines that PM and repair themselves, the most important part of maintenance will be people. In the words of Stephen Stills, "love the one you're with."

Cliff Williams has been using people for over 25 years and is proud of it. He believes that his success is just a reflection of the success of those he's worked with. You can find his profile on LinkedIn and the Association for Maintenance Professionals (www.maintenance.org)

INFLUENCE

I've noticed lately how much I impact my own day. I've recently moved and with that came much packing, unpacking, home improvements and decoration. Fabulous, darling! However, if I don't look at what I'm doing or think one step ahead, then something falls off the table, I buy the wrong size, forget something at the store, something doesn't fit however hard I try to squish it, and the cupboard needs un- and re-packing (if it hasn't been squished for good). Far from fabulous, darling! If simply having a trouble-free, 'no rework' day requires constant concentration and discipline, what does excellence require? Constant concentration and discipline, plus the belief that you can make improvements.

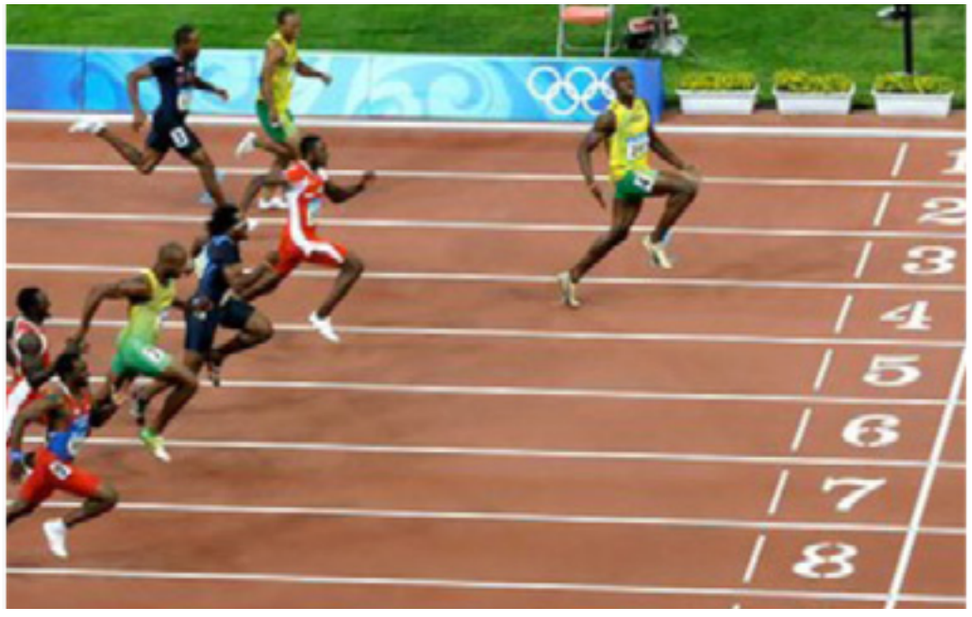
I've come to believe that excellence is not a state, but a journey. The picture of excellence changes over time, but the journey to get there remains the same and it always energizes. It's continual improvement.

A company that survives must do things well and strive to do it better tomorrow. It takes continual improvements from people in every department and all levels to achieve this. In 2011, I'll be thinking about how to notice and congratulate others when they have done something that energizes them, however small, for "continual" tends to happen in small steps and people are better at improving things when they feel positive. I'll be working at a level that's tangible to me (small and basic!), but hopefully this will help those with whom I come into contact today improve something else tomorrow, and maybe I can positively impact someone else's day as much as I influence my own.

Claudia Faye has been working with Alcoa since 1998. Currently she has the responsibility of developing Reliability Centered Maintenance (RCM) best practices for 9 global refineries and 27 smelters, fostering relationships across manufacturing plants and senior management teams, identifying plant requirements and strengthening operations. In particular she is focused on:
· Boosting capital asset value as part of PPRA Lite rollout, improving operational reliability from start-up and analyzing total life cycle costs including cradle-to-grave procurement.
· Evaluating and auditing assets across 27 smelters and driving operations to corporate standard.
· Understanding reliability and maintenance costs.

Jesse Owens = 10.3 seconds

Carl Lewis = 9.86 seconds



Usain Bolt = 9.58 seconds

LISTEN

Your factory is a noisy place where machinery failures are muted by the roar of production. Rise above the commotion and lock your senses onto the next catastrophe before it happens.

SUSTAINED

One of the objectives for setting goals is to improve performance for a given process, area or event. Each time I perform an RCM Blitz™ analysis, I set a goal with the RCM team I am working with to implement at least 80 percent of the present analysis before moving on to the next analysis. Having facilitated hundreds of RCM analyses, I have a good idea of what it takes to implement the tasks and I also understand the implications of not achieving this first goal.

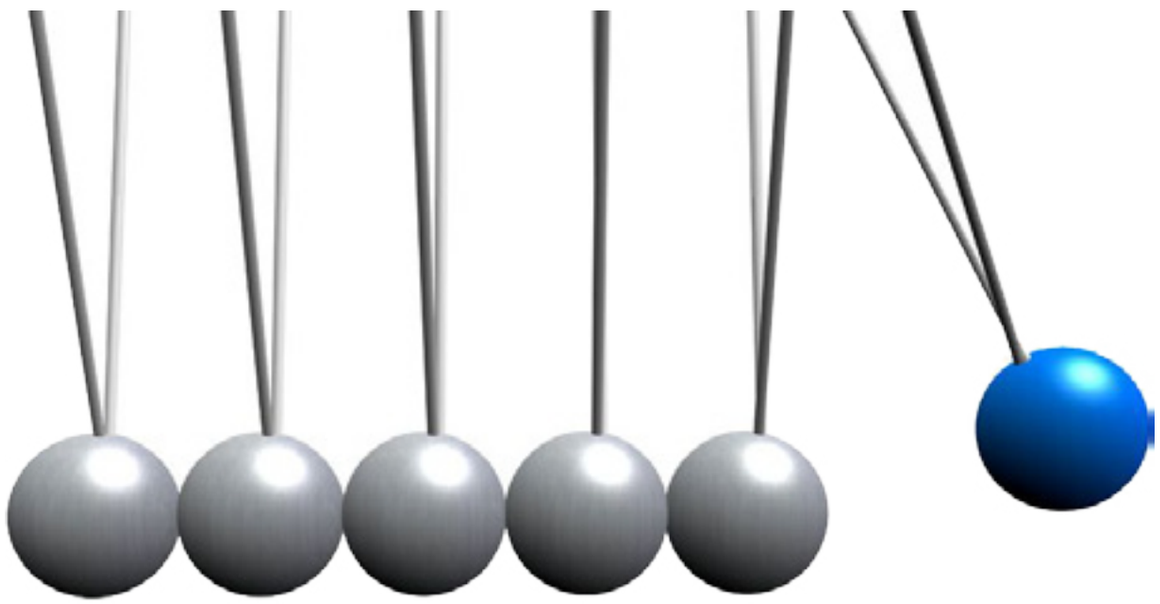
After achieving this first goal of implementing the RCM tasks, while we might take a moment to celebrate, we must realize that our work is not complete. Analyzing the failure modes and implementing the mitigating tasks is only two-thirds of the equation when it comes to having a successful RCM effort. A successful effort can only be achieved by now completing the implemented PM and PdM tasks as scheduled on a routine basis. The results of your effort can only be recognized by having the leadership, structure and discipline required to plan, schedule and complete this new strategy.

The objective of performing Reliability Centered Maintenance is to improve the reliability of your assets, and while achieving the goal of implementing your RCM analysis is a good start, it doesn't make your equipment or your company reliable.

Reliability, after all, can only be achieved by demonstrating a sustained level of performance over a scheduled period of time.

An RCM effort, therefore, can only be deemed successful when the implemented strategy delivers an improved and sustained level of reliability.

Doug Plucknette, RCM Discipline Leader. After working nine years as the President of Reliability Solutions, Inc, Doug Plucknette joined Allied Reliability as RCM Discipline Leader in July of 2007. As the founder of RCM Blitz™ and Author of the book Reliability Centered Maintenance using RCM Blitz™, he has provided Reliability Training and services to numerous companies around the world, large and small, including such Fortune 500 companies as Cargill, Whirlpool, Honda, Coors Brewing, Energizer, Corning, Invista, and Newmont Mining.

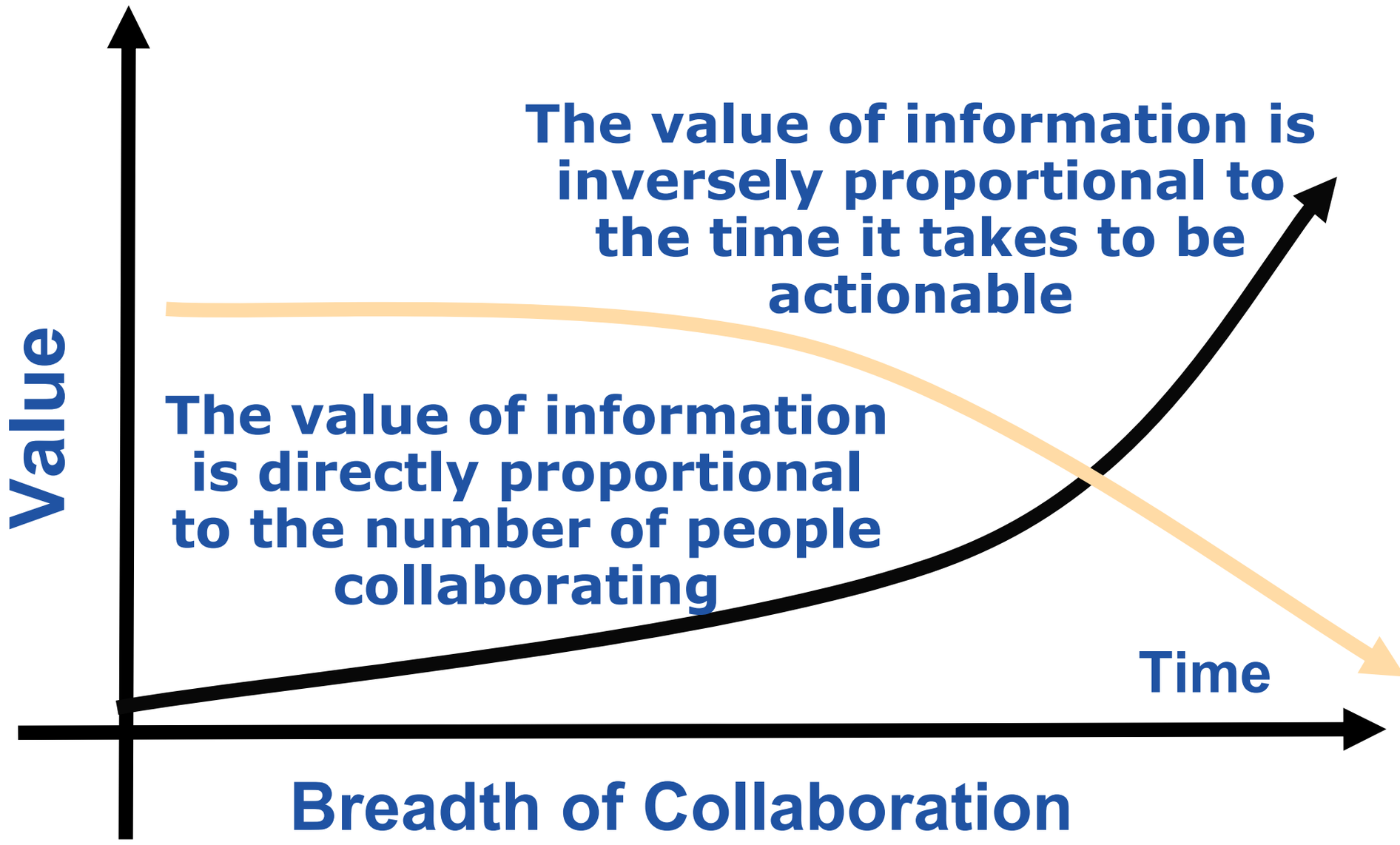


PRICELESS

Qualified vibration analysts are priceless. Determining that a bearing has a defect on the inner race takes skill and experience. A timely warning about the defect so that action can be taken to avoid a catastrophic failure reduces downtime, eliminates the secondary damage and mitigates the safety risk. But that is not the end of the job; it is just the beginning. Performing acceptance testing so that only healthy machines are installed in your plant is essential. Detecting and correcting unbalance, misalignment, and resonance extends the life of the machine; you'll see fewer bearing defects. And when you do detect a fault, determining why the fault occurred, and working to ensure that "root cause" is not repeated in the future; that's where the real pay-off comes. Detecting bearing faults is important, but there is so much more you can contribute to plant reliability, safety, and profitability.

Jason Tranter is the founder of Mobius Institute and author of iLearnVibration and other training materials and products. Jason has been involved in vibration analysis in the USA and his native Australia since 1984. Before starting Mobius Institute Jason was involved in vibration consulting and the development of vibration monitoring systems. www.mobiusinstitute.com

COLLABORATION



The Key to Success

Paula Hollywood, Sr. Analyst. Paula has over 30 years experience in the marketing and sales of industrial field instruments that utilize a vast array of technologies. As a member of ARC's Asset Lifecycle Management team, Paula also covers reliability. http://www.arcweb.com/AboutARC/Analysts /Pages/PaulaHollywood.aspx

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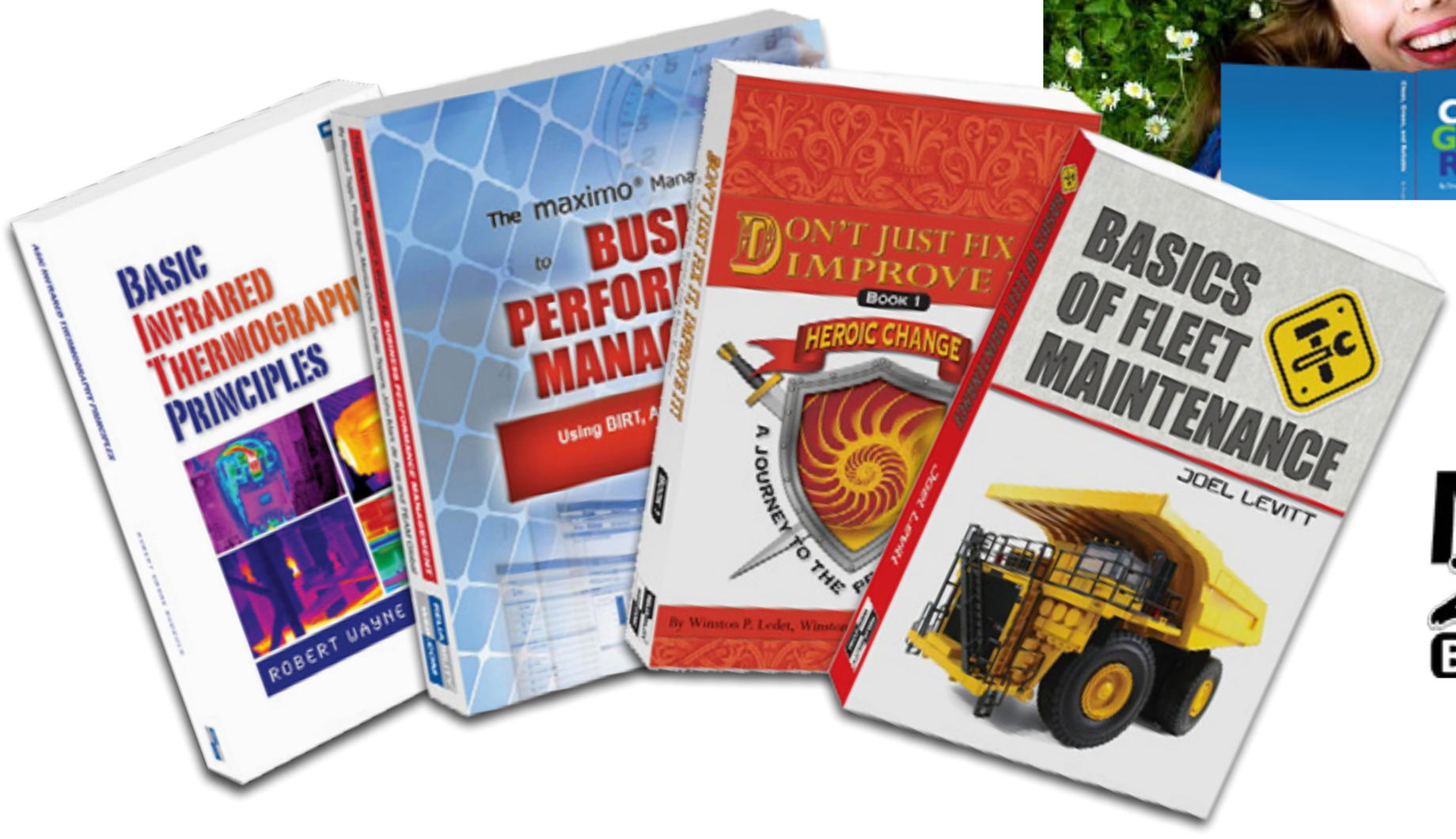

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LEAKAGE

As a football fan, I have found it interesting to note that some defense-minded coaches have used the term "leakage" to describe situations where a team's opposition has been able to gain more yards than expected based on the team's less-than-perfect defensive scheme. In other words, leakage describes an instance where, although a total breakdown did not occur, the system did not function as "tightly" as planned. There are many analogous situations in work and personal life where leakage occurs.

For instance, we intend for a repair to be completed today, but it slips into tomorrow. Is the leakage a catastrophe? No. It is, however, a sign that your systems are not as well controlled as you had hoped.

Another example is repeat failures. The repeat failure would not have occurred if the failure-causing defect had been removed, or if another failure-causing defect had not been introduced during the repair. Again, this may not be a catastrophe, but it is a leak in your system.

Still another example is when you find that although a repair restores functionality, it does not restore the reliability of a device. All too often, technicians focus on getting things back into operation as quickly as possible without paying enough attention to restoring the inherent reliability. This practice allows defects to leak from the past into the future. This causes the future failure rate to increase.

Returning to the football analogy, when a defensive coach recognizes that his team has a porous defense, he knows the problem is one of two things: either the defensive scheme is not putting the players in the right place at the right time, or the players are not performing. The first is a systemic problem and the second is an individual performance problem.

Good managers recognize leakage when it occurs and take decisive action. They are not afraid to blame their own systemic problems or to deal with poor performers. Individuals who manage leakage seldom have to worry about managing catastrophes.

Daniel T. Daley has spent much of his career as a practitioner and manager in the areas of reliability, maintenance and project management. He has designed and implemented improvement programs in these fields in a wide variety of industries. Dan holds B.S. and M.S. degrees in mechanical engineering from the University of Nebraska and the University of Missouri, respectively. He is also a registered Professional Engineer and a Certified Maintenance and Reliability Professional. You can visit his website at: http://myreliabilityteam.com/.

EXCELLENCE

What is excellence? To many maintenance reliability professionals, excellence is completing more than 85 percent of the work planned, compliance with over 90 percent of the schedule and completing at least 95 percent of the PM. But ask yourself if that definition is shared in the ivory towers of your organization? If not, what is the boss's definition of excellence? If you want to be considered a valued contributor with job security, shouldn't you know?

We can argue about the definition of value. However, in the corner offices of corporate management, value has only one meaning: dollars! If it can't be monetized or show up on a profit and loss statement, it doesn't have value. Returning to the original question, do planned work, schedule compliance and PM completion have monetary value? They probably do, but try to convince a financial executive, who is under extreme profit pressure from a board of directors and shareholders. The vision isn't there.

In order to thrive, we must reorient our thinking to conform to that of corporate chieftains. They certainly aren't going to reorient their thinking to us. What does that mean? First, we must be recognized as fulfilling a vital role by producing demonstrable business values within operational excellence. If you don't know what operational excellence is, you'd better find out, because your masters of industry are probably thinking about implementation! Second, we must shift our sights to results that can be shown to have real monetary value instead of measures that may generate all the excitement of the flu in the stratosphere of your company:

1. Focusing on declining lifetime cost and failure rates — rather than on PdM, PM and work effectiveness

2. Achieving optimal system availability — rather than equipment MTBF

3. Showing the percentage of RCA recommendations that succeeded in preventing subsequent events — rather than analyses completed

Let's measure and publicize the results of objectives that create business value, not activities that got you there!

John Mitchell has held leadership positions in the reliability and maintenance field throughout his professional career of more than 40 years. He is the author of two textbooks, most recently the Physical Asset Management Handbook. He is a Certified Maintenance and Reliability Professional, CMRP and member of the Vibration Institute.

CONFIDENCE

Imagine a constant state of knowing the health of your important plant machinery and operating rotating equipment with complete confidence.

SUCCESS

Success is something we all strive for but seldom take the time to fully understand. Few think about why things go right because they are so busy dealing with all of the equipment, policy, and processes that are going wrong.

Many of the solutions to our failures lie in our successes. The study of success, or positive deviance, as it is called, has been used to solve malnutrition and famine in foreign countries, political turmoil during wars, and even pump failures in manufacturing plants.

The Root Cause of Success (RCS) is simply a process that includes using your existing root cause tools to better understand why your processes and equipment work reliably.

For example, if you have a bank of seven pumps within your facility and five of the seven have never failed, then ask yourself why. What is different about these successful pumps? When you look into the success factors for the five reliable pumps, you may discover any or all of the following: proper alignment, correct initial assembly, proper mounting, correct up and downstream piping, etc.

These findings can then be leveraged across the remaining, less reliable pumps, increasing their productivity and your plant up-time.

If your plant has created a culture where it is OK to use failure investigations to blame or punish folks within the facility, then applying RCS may help get your program back on track. Using this method, you can focus on the positive, solve problems, reward good behavior, and change the culture.

For 2011, consider your success. Take the time to use your root cause tools to analyze your good fortune. What have been your enablers? Leverage them and enjoy your 2011.

Shon Isenhour CMRP is the Director of Education for GPAllied. His focus is on providing holistic reliability improvement and bottom line performance gains to the manufacturing sector. You can read his blog at www.reliabilitynow.net or reach him at sisenhour@gpallied.com or by phone at 843-810-4446.

IMPLEMENTATION

Many people often speak of the "key to success." My opinion is that each step in a process improvement plan is a "key to success." It doesn't matter if the plan is the establishment of a full predictive maintenance program, operator based maintenance procedures or lubrication best practices development. If any one of the steps in the process is not correctly carried out, then one cannot truly realize the full benefits of the program.

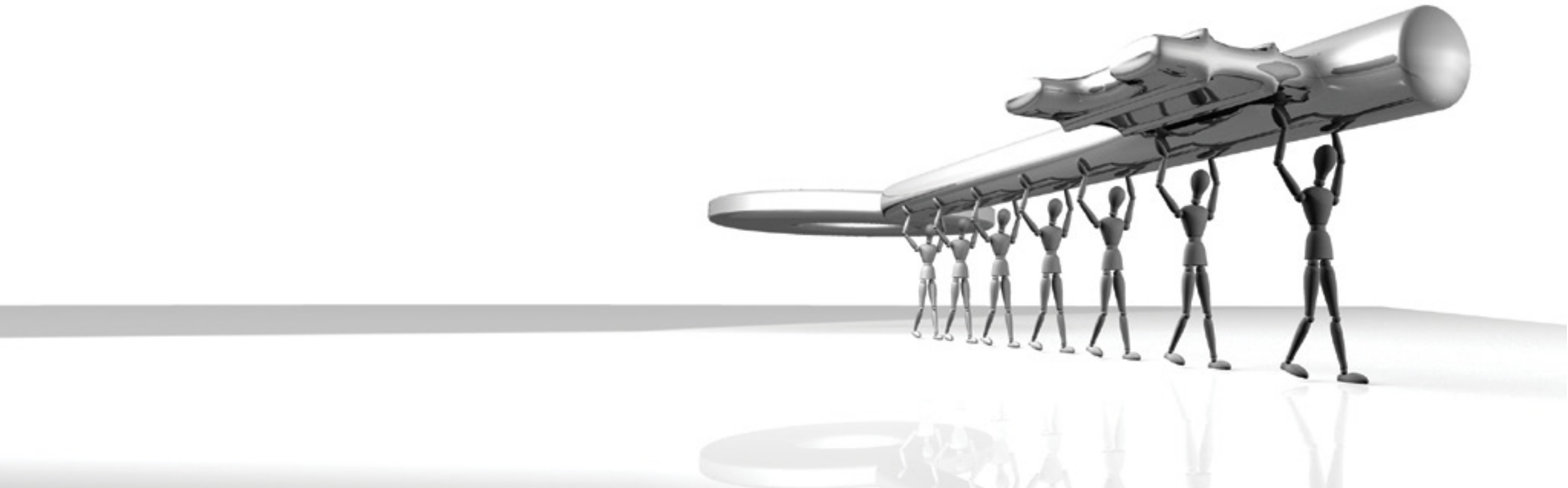
Over the past 10 years, several companies have developed methods to design various plant improvement initiatives such as those mentioned above. Most of these methods are capable of a very high ROI once appropriately designed and implemented. It is the implementation process that I'd like you, the reader, to consider over the year 2011.

The Merriam-Webster definition for the verb implement is to carry out, accomplish; especially to give practical effect to and ensure of actual fulfillment by concrete measures.

Implementation takes a good deal of time and patience. You will have setbacks. You will have frustrations. You may have to go back and confirm some of the work performed in prior stages, regardless of the program you're putting together. But simply do it. There are enough case studies out there to support the practices that are being taught. Failure to fully and properly implement a program will result in little to no ROI, and the battle for buy-in on future improvement plans will surely be a tough one.

In moving forward with your improvement plan, when it comes to the implementation phase, perform the work in a manner that ensures success. As Master Yoda wisely states, "Do or do not; there is no try."

Matt Spurlock is the Area Manager for Reliability/Lubrication for Packaging Corporation of America. He holds multiple certifications including CMRP, MLA III, MLT I, and LLAI. Matt has 20 years in the oil analysis industry from the end user side in the US Marines through full lab testing and analysis. Matt has designed and implemented high impact lubrication, contamination control, and industrial oil analysis programs across the U.S. You can find his profile at LinkedIn.



UNRELIABILITY

As a magazine and web publisher as well as a conference organizer, I get to read a lot of papers, case studies and articles about successful reliability programs. This information is always interesting and knowledge can usually be gained from each.

Conversely, when I am out in the field and visiting various plants and facilities, I often engage in real-world conversations about what failures occurred and what strategies did not work. These raw stories are usually charged with emotion and bias, however, not being vested in the outcome, I can usually listen to the story to gather enough fact to gain some very powerful lessons.

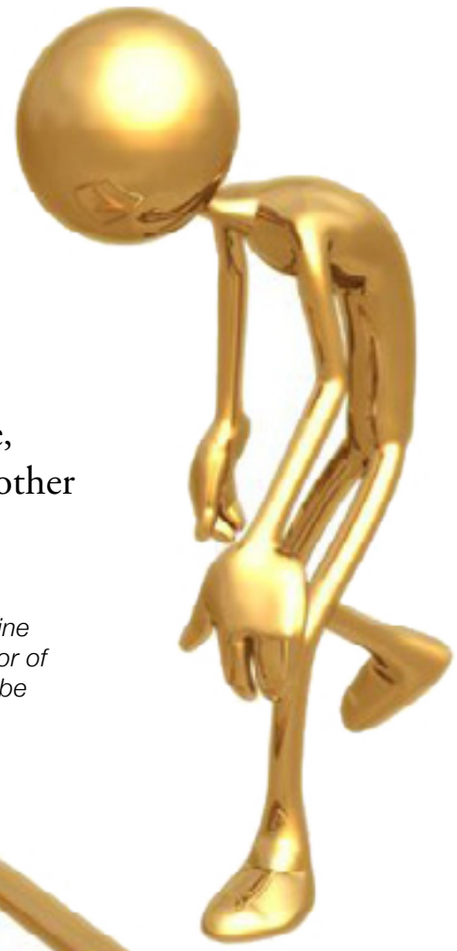
It would be very exciting to have a magazine like Uptime® feature epic failures like the ones I hear about in my travels and planned visits. Imagine the insight you would take away from a conference where people were not presenting their happy shining maintenance reliability accomplishments, but were instead lifting the hood on their failures and letting us all learn from their mistakes?

Obviously, people are not too excited or motivated to speak at industry conferences or write magazine articles featuring their failures. However, I speak from experience when I tell you that failures are our biggest opportunities for learning. Understanding failures illuminates the path toward reliability and safety.

Embrace your failures and extract every ounce of learning possible for you and your team. You will be better for it.

If you are brave enough to write an article or make a presentation about equipment failure, program failure, management failure or any other type of failure please contact me for a venue.

Terrence O'Hanlon tohanlon@reliabilityweb.com
Terrence O'Hanlon is the CEO and Publisher of Uptime Magazine and Reliabilityweb.com. He is also the acting Executive Director of the Association for Maintenance Professionals. His profile can be found at www.maintenance.org



Back to Square One

TEAM

A maintenance engineer recently passed on a conversation he'd had with a planner who stated, "when maintenance is viewed as a value instead of a necessity, we could then get better."

An interesting perspective, isn't it? So many questions bubble to the surface. Value and necessity: are they separate? Their formal meanings, according to three sources I reviewed, show that neither is mentioned to describe the other, nor are they synonyms. Therefore, should we choose?

Everyone in the organization has to think about how their actions and contributions affect the success of the TEAM, as this will ultimately determine their value and necessity. The TEAM can build a race car that wins the race and have the best pit crew, but if the driver scrapes it, dents it, or flat out drives the tires off, neither the car nor the crew will put the TEAM in the winner's circle. Value and necessity: both words are required to describe winning characteristics, and all team members have to pull on the rope in the same direction to make it work. Is a pit crew valued or necessary? Necessary, yes. Valued, yes, if they're at the top of their game. Maintenance crews performing proactive, planned, preventive and predictive work are valued and necessary as well.

Joe Swan, PE, CMRP has 28 years in the mining industry and is Mgr, Maintenance Technical Support, Arch Coal, Inc.

GROW

Why reinvent the wheel? Attend a conference at the new state of the art Reliability Performance Institute in Southwest Florida to learn what other maintenance reliability professionals have done to improve reliability, change cultures and overcome obstacles.

Find out more at **www.maintenanceconference.com**

CBM-2011 Condition Monitoring Forum
May 2–6, 2011

Reliability Forum for Water / Wastewater Utilities
June 14–17, 2011

PAS 55-2011 International Benchmark for Optimal Management of Assets
July 11–14, 2011

Reliability Leadership Zero2One™ Series II
August 15–19, 2011

Reliability Centered Maintenance for SAP Plant Maintenance
October 4–7, 2011

Lube-2011: Machinery Lubrication Conference
November 1–4, 2011

RPI™ RELIABILITY® PERFORMANCE INSTITUTE

Somebody's Fault TREE

Your Fault

- You did it and I can prove it ...
- You did not watch what you were doing ...
- You did not follow the procedure ...
- You did not do what you said you would do ...
- You did not think before you acted ...
- You were asleep at the wheel ..
- If you had just listened to me, this never would have happened ...
- You did not update the procedure ...
- You did not provide the information I needed ...

Not My Fault

- There is some way it is their fault and it may even be your fault ...
- It is my parents' fault ...
- It was definitely an act of God ...
- It is the dog's (or the kids', or the neighbor's, or the neighbor's dog's) fault ...
- The data is wrong ...
- Stuff just happens ...
- The Boss told me to ...

Their Fault

- Obviously ....
- They're not here so it's definitely their fault ...
- They said they would do it ...
- I heard they did it too ...
- If they didn't do it they would be here ...
- They did not guard it from happening ...
- They did not give me the money to do it right ...
- They never give me enough time ...
- They are just plain lazy ...
- They never pay attention, heck we tried to tell them ...

...look familiar?

If this is your organization's idea of a root cause, then you live in an unhealthy world of fault-finding and blame. In 2011, lets dig deeper into your root cause investigations and get past the human roots. Examining the systemic and latent root causes can solve more problems and help break this culture of blame. Once you make this change, the success of your continuous improvement programs will experience a step change, as will your morale and your bottom line.

Shon Isenhour CMRP is the Director of Education for GPAllied. His focus is on providing holistic reliability improvement and bottom line performance gains to the manufacturing sector. You can read his blog at www.reliabilitynow.net or reach him at sisenhour@gpallied.com or by phone at 843-810-4446.

REPAIRABLES

The management of repairable spare parts is different than the management of other inventory items. Successful management of these items is far more active than that of other spare parts, as maintenance and store/inventory personnel must work together to ensure that the status of the items is visible. The management of repairable items is one area where often the left hand doesn't know what the right hand is doing!

Here are three tips to help improve your repairable parts management:

1. Track the status of the item. For successful management, you must know if the item is ready for use, awaiting repair (or batching), or undergoing repair.

2. Determine in advance your rules for repair or re-purchase. To do this, you need to consider issues such as the cost of repair vs. the cost of purchase, the functionality following repair, whether the item will provide the reliability performance you require, lead times for both repair and supply, dependent demand for components, the number of items in the system, and so on.

3. Let the accountants worry about the cost allocation. The question that I am most often asked about repairable items is 'what is the right way to allocate the costs?' My response is for both maintenance and storeroom personnel to focus more on tracking and making repair/replace decisions than the cost allocation, as this is usually where the management of repairable spare parts goes wrong. Yes, cost issues will drive behavior but the key is to ensure a reliable supply of spare parts.

The management of repairable spare parts is more complex than other types of spares. By recognizing this difference and working on appropriate processes and measures, there is no reason that this should be any more problematic than the management of other inventory items.

Phillip Slater is a Materials and Spare Parts Management Specialist, engineer, consultant, and author of the book Smart Inventory Solutions. For more information, visit http://www.PhillipSlater.com

SKILLS

Make a list of the skills you believe are required to make your reliability and maintenance teams successful. Write a one-page summary of each of these skills, detailing how they will be applied at your business and what the advantage will be if these skills are available. Ensure you involve your own people in this discussion. Complete a skills gap analysis with your workgroup. Who needs to be trained, in what, and why? Build training packages from the short description; preferably these should be in the form of an actual work instruction. Again, use your people to help build these packets. Train to fill the gaps. Compile these skills into a model for your employees. Tie these levels into the pay system if possible. Continuously review the required skills to ensure that the training meets changing needs. The outcome will be a happy, efficient and more effective workforce.

Mark Brunner is the Reliability and Systems Superintendant for Onesteel Wire in Australia.
http://www.linkedin.com/profile/view?id=44697559&trk=tab_pro

ANAGNORISIS

Harvest the Ingenuity

In management, whether of one's personal life or in business, each week brings new challenges to overcome. The constant shifts remind me of the metaphor, "strategy is like skippering a sailboat." Every time the wind shifts, you are forced to adjust the sails to maneuver around or through the change or opportunity. To maintain forward momentum, your task is to determine the strength, intensity and duration of the shift. To accomplish this, even the accomplished skipper uses all of his resources. These resources include observations, instruments and, when possible, the help of others. You should do the same in charting your strategy. Get help from others by harvesting the ingenuity that surrounds you.

As a process person, I am constantly amazed by the ingenuity of the people that I encounter with respect to how they adapt to and overcome obstacles. Whether they work at Wal-Mart or at a Fortune 100 manufacturing company, they have ideas and, more importantly, solutions to overcome the wind shifts. Furthermore, these solutions come from all stations, all the way down to the lowest paid worker. Everyone can contribute. I like the way that the Discovery Channel's Dirty Jobs show host Mike Rowe summed it up during his TED talk. It may surprise you, as we are conditioned to think otherwise, but the lowest paid worker may be following his passion and not pursuing the next step on the ladder. Mike shared how his professor ingrained a couple of Greek words into his brain. One of those, anagnorisis, is an ancient Greek word that means "to make a discovery." Discovery yields knowledge, which leads to realization. Mike's realization is that he "may have gotten it all wrong," with respect as to how people work and choose their paths. "Clean and dirty aren't opposites; they are two sides of the same coin, just like innovation and imitation, risk and responsibility." The goal for you should be to gain the knowledge and insights of these contributors to help you chart your course. Also, in charting your course, you help others chart theirs as all adapt to the changing winds.

As Mike Rowe's discovery didn't come from Hollywood, your discoveries will not come from working behind a desk or sitting in the maintenance shop. To harvest the ingenuity of these contributors, you will need to go to "gemba," a Japanese term describing where the work actually occurs. Make it a point every day or, at a minimum, every week to stand beside the people, to engage them in meaningful conversation and to ask their opinions. Don't do it just on a surface level; peel back the labels and the job titles and dig deep to liberate the substance that lies beneath. As you make the discoveries, use the knowledge gained to provide balance and chart the new concepts and ideas into your strategy. Give something back to your contributing community, such as your time, thoughts and ingenuity. Share the struggles and, most importantly, the successes to continue to reap the harvest.

Jeff Shiver, CMRP, CPMM is a strategic Maintenance and Reliability professional for People and Processes, Inc. www.peopleandprocesses.com. In addition, Jeff provides additional insight and tips through the www.maintenanceplanningandscheduling.com and www.jeffshiver.com blogs.

SOUNDBITES

What follows is my summary of part of a presentation I saw a long time ago. Its stuck with me because it is still valid, as proven more and more over recent years, and it provides powerful food for thought. Perhaps it will help you make your next business case, or maybe it will allow you to realize how your company, department or team is really performing.

What characterizes world class companies? How can some businesses consistently deliver higher uptimes at lower costs than others? The operations or production & maintenance team in many organizations do not perform as well as they could - why?

Which of these alternatives will ensure your continued success?

Do nothing and hope that things will get better.

- Reorganize, cut staff, and cut budgets.
- Challenge people to work harder and/or smarter.
- Identify and employ enabling technologies.
- Use structured methods to improve production, operations and asset performance.

The Best vs. the Rest

1. The best focus on planning. The rest focus on pressing problems.
2. The best focus on prevention. The rest focus on fixing.
3. The best make today's decisions for tomorrow. The rest make today's decisions today.
4. The best let decisions shape the work flow. The rest allow the work flow to shape decisions.

Outstanding companies are driven by strategy, while average companies are driven by problems.

Are you using the right approaches?

Frank Sutcliffe CMRP is a reliability expert in a major IOC. He's worked in Europe, Africa and the Gulf. In 2006 he was appointed global Principal Technical Expert reliability & operability. You can find his profile at LInkedIn.

INSPIRED

When you discover a new way of thinking and acting that naturally promotes reliability, you will be inspired to new heights of performance.

There is more to change than changing tasks

Steve Thomas has 40 years of experience working in the areas of maintenance, reliability and change management. He is currently working as a change management business consultant. http://changemgt.net/

The Change Pyramid©

Task Based Skills

The tasks that address the specific things that are being changed within the company.

Strategic Aspects – The Eight Elements of Change

Leadership – Direction and guidance

Work Process – The method or process by which work is conducted

Structure – The organizational framework supporting the process

Group Learning – The ability of the organization to learn and adapt

Technology – The software supporting Reliability / Maintenance efforts

Communication – Dissemination of information

Interrelationships – Effective and efficient working relationships

Rewards – Reinforcement for performance (not always money)

Organizational Culture – The Four Elements of Culture

Organizational Values – Unwritten rules that govern behavior at all times

Role Models – People who provide visible examples of success

Rites and Rituals – What we do (rituals) and how they are reinforced (rites)

Cultural Infrastructure – The hidden hierarchy of people and the communication process that binds the organization to the culture.

- Keepers of the Faith – The organization's mentors
- Story Tellers – Those who promote culture through telling war stories
- Spies – Passers of sensitive information
- Gossip – The hidden day-to-day communication system
- Whisperers – Those with the ability to whisper in the boss's ear
- Language – Terminology that limits membership in groups
- Symbols – Mechanisms that communicate importance

VISION

RELIABILITY® WEB.COM

A Culture of Reliability®

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To make maintenance reliability jobs easier, safer and more effective.

The Mission at Reliabilityweb.com and Uptime Magazine is:
To provide information and networking opportunities for maintenance reliability professionals to do their jobs more easily, safely and effectively.

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Produced by Reliabilityweb.com and Uptime® Magazine.

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Things To Think About (And Do) In 2011