

## **Track 4 – People Skills Abstracts**

**Paper:** Mitigating Risk in an Aging Maintenance Organization

**Level:** Fundamentals

**Presenter(s):** Kevin Frasier, Global Knowledge Management, Inc

**Abstract:**

Many of today's manufacturing facilities will soon face the harsh reality that their aging workforce will retire in mass. These facilities face many challenges as they confront this loss of institutional knowledge and contend with plants that often operate equipment and technologies spanning many generations. How can your organization prepare for its transition from older, tested, and experienced workers to younger, impressionable, and technology savvy workers?

The answer is easier than one might expect. Harness the power of your computerized maintenance management system (CMMS) and fully utilize it. It sounds simple enough, but requires rigorous work. Equipment and instrument records must be fully populated, BOMs need to be developed, preventive maintenance plans and task lists need to be set, repetitive work should be completed via automated work order generation, and purchasing data must be maintained.

Where to start? Assess your current situation. Most companies seriously considering this will be familiar with an enterprise level CMMS. What is the status of current equipment records? How are work orders and PMs managed? How is your CMMS integrated into the planning process? How do you accurately manage and track costs? Has your company used or considered using a philosophy such as RCM or TPM to generate preventive maintenance plans? Has your company conducted a review of stocking strategies?

Start taking an honest look at the systems used to manage your business and the quality of the data contained in those systems. Attend this session to find out how to develop an implementation strategy. When the people leave, the data they have contributed is all that will be left. A strong effort to collect, verify, and utilize this data should be a part of your strategy for mitigating the risk of an aging maintenance workforce.

**Paper:** Experienced Individuals Provide the Detail to Improve Work Processes for Everyone.

**Level:** Fundamentals

**Presenter(s):** Mark Galley, Thinkreliability & Tyler Johnson, Ametek Instrument

**Abstract:**

When the 10-year employee performs the task exactly as it's supposed to be performed it's an example of error free work. When the 10-day employee makes a mistake on the same task it's referred to as a "lack of experience." The 10-day person doesn't have the same experience as the 10-year person. They're doing the work differently.

The 10-day person and the 10-year person may use the same tools and the same procedure, but there are specific differences in how they execute the steps. The experienced person understands the tools, work sequence and technique. The task may seem obvious to both individuals, but their understanding and approaches are different. The experienced person may not even be aware of the specific details of what they do – it's second nature.

These differences between the 10-day and 10-year people are a wealth of information for better results in the organization. They provide specific improvements in the way the organization develops procedures, conducts training, reviews qualifications and measures performance. The objective is change the way "lack of experience" is addressed to improve how all work is done within the organization.

**Paper:** Best Practices in Certification Testing

**Level:** Fundamentals

**Presenter(s):** Jack Nicholas

**Abstract:**

Certification has been the talk of the Maintenance and Reliability (M&R) community for the past several years. This issue is being fueled by several factors: that affect today's M&R industry and its practitioners:

1. Global competition
2. Increasing need for higher skilled people, on the mill decks, operating floors and in management
3. Shortages of skilled workers at all levels of organizations in various regions of the world

These factors are causing employers, M&R product providers, M&R services providers and industry employees to desire "certified" people doing particular tasks and managing and leading organizations in the maintenance and reliability field. We believe this trend will expand and accelerate in the next five years.

Both written and practical testing is generally applicable to the types of technologies mentioned above. Technical certification is typically combined with "Task Qualification" to help an M&R organization assure that a person is "competent." Technical certifications are typically more narrowly focused on a specific technology, tool, or method. Professional Certification in overall management and leadership of M&R programs typically involves written testing on a broader array of subjects and years of practical experience on the job. This article addresses the written test portion of such professional certification programs with emphasis on testing in the M&R field.

To be credible and to gain accreditation as a certifying organization, certification-testing programs must have, as a minimum, the following characteristics for the tests they develop:

- Content of material upon which tests are based (i.e., the Body of Knowledge – BoK) must be current and reasonably available to candidates.
- The BoK must be based on extensive input by recognized practitioners and potential candidates for certification in the field upon which the testing is to be based.
- The test must be comprehensive in coverage relative to the BoK upon which candidates are tested.
- The test must be graded absolutely fairly and impartially to determine who passes and who does not.
- For tests administered to an international candidate pool, the terms used in test questions must to the extent possible be universally understandable.

**Paper:** Craft Training Solutions to a Retiring Workforce

**Level:** Fundamentals

**Presenter(s):** Charles Kooistra, General Physics Corporation

**Abstract:**

This presentation focuses on strategic and tactical methods to address aging and retiring skilled trades' workforces in the future. The discussion starts with framing data associated with an aging workforce and the reality of a labor shortage that could potentially have crippling impacts. The presentation continues on to review real world solutions through actual case studies of successful skilled trades' workforce solutions. Heavy industry craft personnel are not only rapidly approaching retirement – much of the younger back filling talent does not possess adequate technical skills and capabilities. The discussion centers on how to creatively resolve the labor crisis without compromising your quality or capacity. Perhaps most importantly, the presentation outlines a series of actionable steps that, when correctly executed, have lead to real world solutions that are enabling today's organizations to prepare for 2010 and beyond. The presentation will be led by Mr. Chuck Kooistra, Sr. Vice President of General Physics' Operational Excellence Practices. GP is a large training and consulting company that serves the manufacturing, process and energy market sectors. Mr. Kooistra has been involved in maintenance training and reliability consulting for over twenty-five years, starting in the US Navy's nuclear submarine program. He has been responsible for projects for numerous companies such as General Motors, Federal Express, Ford Motor, Tropicana and most North American Steel Producers.

**Paper:** IS THERE A “MAINTENANCE CRISIS”?

**Level:** Fundamentals

**Presenter(s):** Joel Leonard, SkillTV.net

**Abstract:** IS THERE A “MAINTENANCE CRISIS”?

What is the “maintenance crisis”? We’re entering a time when we’ll have no one to fix equipment because the majority of skilled workers are retiring – and few people are entering the field. Equipment is already becoming so sophisticated that it requires more attention and a higher level of support. As existing equipment and infrastructure continue to age and require more repair, corporate top leaders focus on the short term financial results and put off maintenance. Therefore, the list of deferred maintenance needs is reaching chronic levels. Despite the chance to earn a nice living, future generations are not pursuing maintenance and engineering career paths due to the social stigma associated with maintenance jobs. It is hard to imagine an industry with a worse reputation than the maintenance and facilities engineering function.

When most unenlightened members of our society hear the term maintenance professional they think that term is an oxymoron. They view maintenance workers as janitors, or landscapers and walk around with grease covered hands and exposed posterior cleavage using duct tape and hammers. Many view it as a job you do, if you cannot do anything else.

**Wanted:** skilled technicians

However the reality is that this image could not be further from the truth. Today in order to be more competitive companies are implementing increasingly sophisticated automation technology. As a result, maintenance staffs are not just workers but actually technicians. They need to be skilled in mechanical, electrical, hydraulic, pneumatic, electronic technologies and clean rooms. They need to be able to troubleshoot, program and maintain programmable logic controllers. They need to be able pull information and document activities into a computerized maintenance management system. In order to help maintenance workers adjust to all of the new technologies, learn new effective processes, share best practices with colleagues and elevate the maintenance profession by creating and raising performance standards.

New technologies are being implemented at a very rapid rate that requires a higher level skill set to manage and repair. The baby boomer workforce is entering retirement age. Existing equipment continues to age thus requiring more maintenance. Meanwhile future generations are reluctant to develop necessary skill sets to qualify for the millions of available positions in this sector due to the negative stigma. Compounded with that, companies have been deferring maintenance to the point where it is now entering chronic levels.

**Paper:** Precision Maintenance ... essential craft skills

**Level:** Fundamentals

**Presenter(s):** Ian McKinnon, Reliability Solutions LLC

**Abstract:**

Manufacturing and process facilities worldwide have implemented huge technological and process changes to continue to meet the ever increasing demands of competition and profitability. Within today's manufacturing processes though we have not always strived to determine where and how required craft skill sets on the floor may need to be changed. Although, craft technicians well employ a "basic" set of skills, what might be required as we begin to recognize the continued need to move forward in manufacturing?

Due to increased production demands, our society and craft technicians have become much more of parts or assembly changers rather than "repairers" of machines and in some cases much of the intuitiveness of correct assembly/repair has been lost. Many times mechanics no longer think about how a machine might be "fixed" but are forced to react to failures by changing out component sub assemblies, parts etc. Production and the importance of product output have created situations where the priority becomes "how fast we can change out the suspected part" rather than "how well can we repair/improve the machine so that we don't have this same failure happen again". Here is an area that with a just a little extra care and attention a lot of improvement to enhance reliable manufacturing and machine life can be realized while we return some of the "art" back to the craft.

The presentation will review and present ideas for how "essential" skills need to be practically implemented with commentary as to how do we redevelop current craft workforce requirements to meet, outperform and join together with our predictive maintenance teams to move from failure based to improvement based philosophies. The session will use dynamic models in various pre-set states to review how analyst and technician need to work together to better meet today's continuous manufacturing demands with correct field observations, "hard skill" training requirements, with real and meaningful "on-the-floor" implementations that will produce documented bottom line performance results.

**Paper:** Proactive Leadership; Creating and Sustaining Performance Standards

**Level:** Advanced

**Presenter(s):** Tom Moriarty, Alidade MER, Inc.

**Abstract:**

To be successful, a supervisor must be able to guide the workplace norms of his or her team. Setting performance expectations and dealing with non-conforming performance are skills that separate average leaders from excellent leaders. Setting performance expectations is a priority because if you don't give people guidance regarding how you expect them to perform you can not hold them accountable for their actions. When there are clear expectations and people do not meet those expectations you must take action. Failing to address non-conformance results in diminished respect and continued deterioration of the workplace climate. This paper discusses the specifics of how to set workplace norms and how to constructively deal with sub-standard performance. In addition, a means to measure and trend your organizations leadership performance is presented.

**Paper:** Managing a Major Change Initiative

**Level:** Advanced

**Presenter(s):** Brian Pritchard, Shell Canada Energy

**Abstract:**

Implementing a major change is always a challenge. Managing this initiative and making it stick is an order of magnitude more difficult. Drawing on his experiences from implementing a suite of six global Reliability and Maintenance best practices, Mr. Pritchard will outline the change management process that he followed for the Oil Sands division of Shell Canada Energy. This presentation will be a blend of theory and practical examples for each of the steps in the Change Management Roadmap:

1. Change Plan
2. Communications Plan
3. Stakeholder Engagement
4. Training
5. Capturing the Learnings
6. Sustainability

The emphasis of this paper will be on the vital role that leadership plays in the success of the change initiative, and will serve as a reference guide for change agents to ensure that they pay adequate attention to the human element of implementing new work processes.

**Paper:** Cultural Transformation and Change through a TPM Implementation

**Level:** Fundamentals

**Presenter(s):** Tracy Strawn, Marshall Institute & Greg Folts, Marshall Institute

**Abstract:**

Siiechi Nakajima introduced the concept of total productive maintenance (TPM) at Nippondenso in 1971. Similar to other Lean practices, implementation has been attempted by a number of companies with varying results. In June of 2003 Shell Europe