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April 2014 | Volume 9, Issue 2

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One of the critical aspects that defines the maintenance and reliability industry is our commitment to making processes better, proactively meeting our customer needs, making plants safer, improving communications between functions, improving equipment productivity, keeping facilities running smoothly, preventing incidents and getting products out the door faster. Your SMRP Board of Directors aims to drive this concept of continuous improvement when it comes to leading the Society too. The Board met in Atlanta last January to conduct our annual strategic planning meeting. A strong winter storm hit the city at the same time, so the Board and staff huddled up together and developed strategic improvement ideas. Among other things, the Board reviewed and confirmed the SMRP mission: to develop and promote leaders in reliability and physical asset management. We also strategized on SMRP’s role as a global organization, our proper place in the overall asset management realm, ways to grow membership and raising awareness of the value of SMRP certification among M&R technicians, professionals and senior management.

During our meetings in Atlanta, the Board also took a closer look at your experience with the organization. The Board and our headquarters staff recommitted ourselves to providing members with the best possible experience and continuously improving our customer service process and efforts. I am particularly excited to see two elements already up and running.

We launched a new SMRP website designed to help members more readily access important information to help them expand their careers. Whether you are trying to access member resources like the new standardized metrics or applications to get certified as a CMRP or CMRT, we want you to be connected to the resources that will take your career to the next level.

We also recently launched a Feedback link on the website which allows you to share your ideas with the organization. We are interested in how well SMRP is serving you and what could be even better! More improvements are on the way.

SMRP will continue to be guided by our mission and strategic plan. And we are committed to continuing to provide you value and return on your investment. Thanks for your support and please don’t hesitate to contact us!

Nick Roberts, CMRP
SMRP Chair

We want to hear from you! Visit www.smrp.org/feedback and share your thoughts with us!
By: JOSE BAPTISTA, CMRP
SENIOR CONSULTANT, ABB

Throughout my career, I saw—or rather felt—the various economic crises created by several factors from the 1970s oil crisis at the beginning of my career to the world economic crisis in 2008 when I first moved to the U.S. The crises period and an increasingly competitive market always results in one common remedy: an enormous pressure to reduce costs. Without the proper precautions or criteria, this cost cutting may jeopardize business continuity.

Labor productivity has a major impact on the cost of maintenance and few maintenance managers know the effectiveness of their crews. They should know and improve the conditions that affect labor productivity on their sites. The way they design and implement their maintenance management processes directly impacts the productivity of the maintenance workforce.

We will try to illustrate how the power and automation technology company ABB helped one customer to identify and remove barriers to improve the maintenance workforce productivity. We will start by defining maintenance productivity as the ratio of the output to the input of a production system. With a given input, if output of products or services is higher, then productivity/efficiency is higher. Efficiency is doing things right or it is the measure of the relationship of outputs to inputs and is usually expressed as a percentage.

In summary, the total productivity of the maintenance workforce can be divided into three factors:

1. Utilization: The elimination and reduction of nonproductive work such as time spent waiting, walking or being idle.
2. Performance: Increasing speed of task execution through a higher quality of employees, improved tools and working methods and planning and scheduling.
3. Quality: The elimination of unnecessary tasks using work flow and plans analysis, organization analysis, failure analysis, execution quality and equipment design-out.

Utilization X Performance X Quality = Total Productivity

Our study focuses on the utilization factor only. We wanted to identify the wasted time associated with maintenance tasks. For example, the time technicians lose having to move around unnecessarily in different areas of the plant or wasted time waiting for work permits, spare parts, tools, instructions and other documentation required for completing an assigned task.

To be able to measure productivity, we adopted the work sampling methodology, which is a measurement technique developed in the 1930s by L.H. Tipple to analyze, classify and quantify work using instantaneous observations of work in progress taken randomly over a period of time. It is based on the laws of probability and to determine the proportion of the total time dedicated to the various components of a task.

To conduct a work sampling study, a large number of observations or snapshots are taken randomly and during each observation and the condition of the worker is determined and recorded in a predefined category of activity pertinent to the particular work situation.

Inferences are then drawn concerning the total work activity from the proportions of observations in each category. Based on these measurements, we conducted this study in various petrochemical plants in Brazil. The study was carried out over a 30-day period, and observations were made at predetermined locations to cover the entire plant. Based on statistical calculations, the numbers of required observations were 8,800 with a margin of error of ±1 percent. For the study, the maintenance activities were divided into three categories: productive, support and nonproductive:

Productive: Working and Planning
This category includes adjusting, welding, positioning, cleaning, inspecting, assembling, analyzing discussing execution, drawing sketches and a number of other activities.

Support: Watching, Walking and Waiting
Watching refers to supporting and serving as a stand-by, while waiting refers to time spent acquiring tools, materials, scaffolding, lifting equipment, work permits or instructions.

Nonproductive: Personal and Idle Time
Nonproductive time is classified as personal and idle time such as drinking water, coffee breaks, smoking and conversations not related to work.

The study revealed the following percentages:

- Working: 26 percent
- Planning: 11 percent
- Productive (Working + Planning): 37 percent
- Waiting: 27 percent

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Walking: 28 percent  
Nonproductive (Personal): 1 percent  
Nonproductive (Idle): 7 percent

Assuming a workforce of 100 people with an average labor rate of $40.00 per hour, these losses represent a substantial economic drain equal to $4.6 million each year.

<table>
<thead>
<tr>
<th>Available daily hours per craftsman</th>
<th>7</th>
<th>Measure Value</th>
<th>37%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost time per day (minutes)</td>
<td>265</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of workers</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days per month</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost time per month (hours)</td>
<td>970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US$/Hour</td>
<td>$40.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses per month</td>
<td>$388,080</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses per year</td>
<td>$4,656,960</td>
<td></td>
<td></td>
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</tbody>
</table>

The results of study were presented to plant management and interested parties and then working groups were created to analyze the causes of unproductive time and to propose plans for improvement.

These groups studied and suggested actions for each of the priority items. For example, for the “walking time” issue, the working group identified the following causes: logistics and improper layout, incomplete maintenance planning, deficiencies in internal transport, workers stretching lunch breaks, unavailability of tools, difficult access to productive areas, unavailability of scaffolding, and lack of operators to issue work permits.

Several actions were suggested and implemented to eliminate and reduce walking time including reviewing standard work order preparation, reducing internal bus intervals, reviewing meetings schedule, investing a mobile tool cart so that workers would not have to go to the warehouse and allowing tools to be left at work during breaks and at the end of the day.

After implementation, a new study was conducted with the following results:

<table>
<thead>
<tr>
<th>Available daily hours per craftsman</th>
<th>7</th>
<th>Measure Value</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost time per day (minutes)</td>
<td>168</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of workers</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Days per month</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost time per month (hours)</td>
<td>6160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US$/Hour</td>
<td>$40.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses per month</td>
<td>$246,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losses per year</td>
<td>$2,956,800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If we consider that the maintenance labor productivity benchmark for petrochemical industry is 60 percent, we can say that this company achieved their target.

The results demonstrate the importance of monitoring maintenance functions in order to improve efficiency and productivity in manufacturing plants.

Jose Baptista is an electrical engineer with extensive experience and management skills in industrial maintenance and reliability. He currently works as a senior consultant at ABB in Brazil.

In concept and function, maintenance planning and scheduling is like a key that can unlock reliability excellence and its benefits. It’s an apt comparison because a key is a pretty useless piece of material without all the interfaces that make it functional.

To fulfill its purpose, a key requires a lock cylinder with the correct pins to match the curves of the key. Should any pin be non-functional, the key will not be able to operate the lockset cylinder, keeping the lock closed. Only when the key and the pins are in very close alignment, depending on the quality of manufacturing and price, will the lockset be able to fulfill its purpose of security.

The position of Maintenance Planner/Scheduler (P/S) is rather like a key. The P/S will interface with the equivalent of the lock cylinder – many different areas within the organization. For the P/S key to allow the lock cylinder of the organization to turn and operate functionally, the pins of the entities the P/S interfaces with must be aligned with the cuts in the P/S key.

**Lock Pin #1 – Operators**

One system pin that the P/S is critically linked to is the operational area that he supports. That lock cylinder pin must be well within the tolerances allowable for

Planning Work Is Essential

An analysis of work planning as an integral part of the maintenance process

By Jim H. Davis, CMRP, Vice President of Business Development, PCA

F or this article, we will evaluate job planning or all information, actions and communications prior to the start of a job which affect performance and quality of work. As part of the series “Be Brilliant with the Basics,” this study is devoted to the third of the basic elements “work planning” and its integral status in the maintenance process.

The following questions were used to gauge a facility’s adherence to the basics:

- Are maintenance planners’ contributions to the maintenance organization equal to or greater than their costs?
- Is the effectiveness of maintenance planners measured in some way?

The job planning process is the portion of overall planning that focuses on the efficiencies of individual work orders. In reality, job planning only provides the opportunity to achieve efficiencies and to avoid delays. Taking advantage of opportunities created by job planning requires coordination and cooperation of production supervisors, maintenance supervisors and maintenance craftsmen to use job planning in ways that actually reduce the time it takes to complete each job.

Although it is recognized that not all work orders need to go through the entire formal job planning process, all jobs actually get planned to one extent or another before or after the work starts. Depending on the nature of the job and its duration, the planning is done by either maintenance supervisors, production supervisors, or maintenance craftsmen.

In this article, we will explore the reasons why preproduction work planning is important.
Planning Adds “Value”  

Why do we need planners? A planning organization and a planning structure that drives proactive maintenance if it is not. Planning why have maintenance planners? It is a basic “best practice” of sound maintenance management is an organized plan. Supervisors and the supervisors (or craftsmen) work. 

There are appropriate circumstances for both the maintenance supervisor and the craftsman to be engaged in planning activities. For example, if the maintenance supervisor and craftsman should be planning reactive, break-in or emergency work and this work cannot wait to be processed through the normal planning cycle. The planner should not be tasked to address this type of work because it is part of the future, but needs to be completed immediately.

How to Plan Work  

The actual job of planning begins with selecting a job from the ERP/EAM backlog of work orders, and further validating the work requested:   

- Is the work order/request clear on what is to be done or is more information needed?  
- Is the priority coding for the work order/request correct?  
- Is the right asset/equipment properly identified?  

If any of these requests are not fulfilled, the planner should make the correction before proceeding. The planner should also examine the equipment maintenance archives for similar or similar jobs and rely on any previously used job plan if one exists.

Set Up  

Now comes the detailed “job package” development. The purpose of the job package is to provide all of the information that the craftsman needs to accomplish the work efficiently and safely. Every job plan should consist of enough information and identified materials to enable maintenance craftspersons to complete the job without having to spend additional time searching for information, tools or materials.

A packet should be provided for each job with the following information to carry out the assigned tasks:  

- Copy of the approved work order, drawings required, job scope/estimating sheet, list of MRO stores stock parts required, feedback and applicable historical information, special tools required, permits required (pre-filled, if possible), equipment location, directions or sketches. Safety procedures, special instructions on equipment lock-out/tag-out procedures, equipment inspection sheets, job procedures and alignment/ calibration date.  

The amount of detail that goes into a job plan is largely dependent upon the qualifications of the maintenance team. If the team is composed of highly-skilled, knowledgeable individuals, then little detail is necessary. However, if the team contains a mix of skills and equipment knowledge or the facility plans to hire maintenance novices, then more detailed job plans are desirable. Well-written maintenance plans are an excellent training tool. This plan should be considered as the new standard job plan for this type of work.

Now that the job plan has been developed, the work order moves from the planning backlog to the ready-to-schedule backlog. Coordination between the maintenance planner, production supervisor and team leaders is required. Since maintenance supervisor is selected to take the most appropriate opportunity to execute the job plan. The planner plays an essential role in bringing together the mutu- ally allowable equipment availability and maintenance resources availability. At this point, the job plan is turned over to the maintenance supervisor and the production maintenance coordinator for implementation.

In Summary  

It is recommended that each facility undertake a critical examination of its planning organization, identify any shortfalls and take the steps necessary to realize the intrinsic value that sound maintenance planning can offer. A facility’s bottom line will be improved by this effort in the form of improved efficiency, better use of resources and increased equipment availability and uptime. 

Jim is currently the Vice-President of Business Development for Performance Consulting Associates with responsibility for various client engagements, project management, and sales and marketing support. Jim also assists in conduct- ing client assessments when needed. Jim has extensive experience with team- facilitation, problem-solving, statistical process control, continuous improvement and project man- agement. He is formally trained in the Deming Continuous Improvement methodology. Jim has extensive knowledge in process redesign, organizational redesign, maintenance “best practices” and CMMS/EAM optimization for mainte- nance activities. Jim also has a background in MRO stores, materials, and MRO applications. 

A packet should be provided for each job with the list of MRO stores stock parts required to carry out the assigned tasks.
SMRP’s certification programs were recently featured in Plant Engineering magazine. SMRP Chair Nick Roberts, CMRP, DuPont, addresses the value and benefits of SMRP certifications.

Certification: The next step in your maintenance career

BY: NICK ROBERTS, CMRP, SMRP CHAIR

I’ve had the same story for hundreds of professionals working in the manufacturing sector. You’ve sent your resume to prospective employers and heard nothing about the open position. Or maybe you did get an interview, but not the job, and you’re left wondering what happened.

As chair for the Society for Maintenance and Reliability Professionals (SMRP), a nonprofit devoted to developing the careers of those in physical asset management, I talk with a lot of employers from manufacturing companies and they’re looking to hire the candidate with the best credentials.

With the current economic situation, there are plenty of candidates to choose from, and earning a certification is one way to stand apart from all the other candidates. SMRP offers two programs—the Certified Maintenance and Reliability Professional and the Certified Maintenance and Reliability Technician—which test and evaluate the knowledge and skills of individuals working in the industry.

The CMRP is ANSI-accredited and substantiates your knowledge according to five categories: business management, manufacturing process reliability, equipment reliability, organization and leadership, and work management. The CMRP illustrates that you are a well-rounded candidate with an extensive amount of knowledge and skills.

Similarly, the CMRT tests your knowledge according to four domains: maintenance practice, preventive and predictive maintenance, reliability analysis and corrective maintenance. I believe in certifications not because they make you an expert in everything, but because they prove you have a sound understanding of the fundamentals and demonstrate your commitment to continuously learning and improving.

Obtaining my CMRP certification when I moved into a leadership role in the maintenance and reliability industry helped me in a variety of ways. It increased my ability to work with the technicians and professionals at my site, because I was thoroughly understood their roles and capabilities.

With a more complete understanding of organization and leadership, I was also more equipped to work with and relate to the experts in our corporate M&R Center of Competency at DuPont.

With the start of the New Year, there are plenty of reasons to get certified:

1. Both exams keep you abreast of the latest maintenance and reliability tools and best practices. With five different areas of required knowledge and skills for the CMRP and four for the CMRT, preparing for and passing the exam ensures that you have an in-depth and complete understanding of the industry’s best practices.
2. The certifications set you apart from the crowd. You may be the most qualified applicant for a position in the manufacturing facility, but the hiring agent, recruiter, or human relations manager looking at your resume may not notice all your qualifications. I’ve been told by employers that the CMRP/CMRT certifications increasingly set applicants apart and give them an edge over other applicants.
3. The CMRP/CMRT will help expand your career. Are you looking for your next exciting new job opportunity or salary increase? Obtaining the CMRP/CMRT can open doors in your career and expand the number of jobs for which you are qualified.
4. The CMRP/CMRT is a great opportunity for unemployed veterans. The manufacturing industry needs skilled workers, and veterans—especially those who ran maintenance programs on aircraft carriers or maintained systems on military vehicles—are the perfect candidates for these jobs. Earning a certification shows that you are qualified, and the Department of Veterans Affairs (VA) will reimburse the cost of the CMRP test. As an added benefit, SMRP offers the CMRP exam to all eligible veterans at the discounted rate of $250.
5. The exam process and results will help you develop professionally. The exam results show applicants where they did not score well and compare their results to the average scores of other applicants. The process allows you to see where you can improve.
6. SMRP is excited to help you pass the exam and expand your career! The society is devoted to helping maintenance and reliability professionals, and our staff is ready to assist you.

As part of a new partnership with Plant Engineering, SMRP will have two blog pieces featured on the publication’s website each month devoted to maintenance and reliability news, developments and industry trends. If you’re interested in submitting, please contact Ann Cundell at acundell@smrp.org.

New CMRPs in Nigeria, Trinidad & Tobago

BY: TERRY HARRIS, CMRP, SMRP EXAM DIRECTOR

The exam team has been hard at work improving exam content as we continue to administer more tests around the world. Working with our soon-to-be-launched electronic exam system, we will drastically increase our world-wide footprint and the ability to offer exams in many countries. Soon there will be 300 locations worldwide to take SMRP exams.

Nigeria is one country that is working to increase the number of CMRPs and a number of individuals earned their certification this winter after taking exams at two venues in the country. The Shell Corporation has tested some of their reliability engineers for on-shore and off-shore operations. For the on-shore testing date, 16 new CMRPs were certified. The exam venue was planned and organized by Naxus Alliance, who offers training and support in reliability efforts in Nigeria and Ghana. Naxus is now a sustaining sponsor of SMRP and will continue to support our efforts.

Shell and the oil and gas company Chester Moud hosted a second exam in Lagos, Nigeria in February. At this testing session, we administered exams to 16 applicants. The effort of the Shell Corporation in Nigeria is an excellent example of building knowledge and skills through SMRP and the certification exam. All these certificates studied for the exams and worked to improve their skills in the areas of the Body of Knowledge.

Another area of the world that held their first exam to certify reliability professionals is Trinidad. The Society for Tribologists and Lubrication Engineers (STLE) Trinidad/Tobago—a SMRP sustaining sponsor—hosted the exam venue. At the venue, we gave 18 CMRP exams and I hope for great success and many more CMRPs in the future on the island.

As these countries and others look to the future and work to develop M&R professionals, we have to realize the importance of being an international organization. The knowledge of the many professionals involved in SMRP will be a factor and a fuel to drive the reliability process in many fields of expertise.

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Despite the uneven economic recovery, demand for SMRP certifications continues to grow in our field. Projections indicate that we will meet or exceed our goals this year for exams taken for both the Certified Maintenance & Reliability Professional (CMRP) and Certified Maintenance & Reliability Technician (CMRT). For CMRP, we have a lighting shot at reaching our “high water mark” set in 2007-08 right before the start of the Great Recession. More and more, maintenance and reliability professionals displaying their certificates, carrying the designations on their business cards and having their names appear in the online SMRP certification directory are being recognized as leaders and experts in our profession.

In January, the SMRPCO Board met in Atlanta for a productive meeting and cut-score workshop, despite a rare winter storm that gridlocked the entire city. Among other things, a decision was made to enhance our reporting for CMRT in order to help assess skills.

A new feedback form will show the results in a bar graph format for the tasks associated with each domain. This change will allow the candidates to identify the tasks with lower scores and focus on improving their knowledge within these tasks. With the CMRT, the task level feedback will provide the necessary information to evaluate the skills of the candidate, thereby making the exam a skills-assessment tool along with being a certification.

In my last article for Solutions, I underscored the importance of listening to the voice of the customer or the voice of the members. In order to achieve this goal, SMRP has recently added a feedback link to the SMRP website and the top right of the page. Once you click on this link, you are able to enter your comments according to different categories including certifications, membership, chapters, Shared Interest Groups, Solutions magazine, Annual Conference and meetings.

We are also excited to welcome Anne Marie DeSimone to the Certification staff at Headquarters. Her areas of responsibility and contact information are listed in the “Meet our Staff” section on page 20.

In conclusion, the initiatives I mentioned in January are either completed or moving closer to completion. These developments are very exciting, but also put a lot of demand on our volunteers and staff.

I would like to thank everyone who contributed and helped with these initiatives.

And remember that the success of our certifications depends on its members and we want to hear your suggestions and comments.

Demand Strong for CMRP & CMRT Certifications
BY VLAD BACALU, CMRP, CMRT
SMRP CERTIFYING ORGANIZATION (SMRPCO)

I n recent months, we’ve seen some changes within the Body of Knowledge committees with members being reassigned to other job duties or moving on to other work endeavors in their M&R careers. It just goes to show that M&R is a real and much needed skill in companies around the world.

Our team is working to compile the M&R Body of Knowledge’s new Level 3 content for the CMRP including concepts, tools/techniques and processes to reinforce and enhance user/candidate understanding. The Level 3 descriptions are back off of the key points in Level 2 to establish the Level 3 headers and then to determine if and where each item fits. The content for each Level 3 header with the following categories may include:

- Concepts
- Tools and/or techniques
- Processes

However, not every Level 3 item necessarily includes all three categories. Supplemental material will include a summary description where appropriate for each Level 3 sub header and followed by listings and descriptions of fundamental concepts, tools and techniques and processes that support the subtitle descriptions.

Throughout the development of each Pillar, the Level 3 description team communicates to a team lead that in turn compares notes with the other team leads. Input is gathered through periodic meetings where committee members share knowledge and information on the progress of each goal.

As with the CMRP, work is underway to define Level 3 for the CMRT for each of the four domains.

CERTIFICATION UPDATE
CMRP & CMRT Paper Exams: Turnaround Time from SMRPCO

The SMRP Certifying Organization (SMRPCO) and SMRP strive to score, process, and mail exam results to CMRP and CMRT candidates within a reasonable amount of time — four to five weeks — from when the exam was administered. There are, however, a number of variables that may impact the rate at which these results are received.

For the paper exam sessions held in February 2014, results were mailed from SMRP, on average, 18 days following the exam date.

Body of Knowledge enhancements underway for CMRP and CMRT Certifications
BY: BILL LYONS, CMRP

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SMRPO UPDATE

SMRP SOLUTIONS
April 2014 | Volume 9, Issue 2

Body of Knowledge enhancements underway for CMRP and CMRT Certifications
BY: BILL LYONS, CMRP
Management Expert Chester Elton is Keynote for 2014 SMRP Annual Conference

The 2014 SMRP Annual Conference in Orlando, Oct. 20-23, will feature best-selling author and management expert Chester Elton as its keynote speaker. The author of several successful leadership books such as At In!, The Curren Principle, and The Orange Revolution, Elton provides insight into the best way to manage employees and create a successful work culture. His “Engage, Enable and Energize” formula outlines how high-performance organizations deliver extraordinary results by creating a vibrant, productive culture where people believe that what they do matters and that they can make a difference. Don’t miss this opportunity to learn how to develop leaders and increase productivity in your plant!

Spring & Summer Executive Meetings are Set

SMRP Executive Members: Mark your calendars now for the upcoming Spring and Summer Executive Meetings! In April, we’ll be heading to the Forte’s! Meetings will be held at the headquarters of Newmont Mining and attendees will tour the National Institute of Standards and Technology, April 22-24. This summer, we are at the DuPont Washington Works plant in West Virginia, July 29-31.

Executive Meetings are a special opportunity to connect and network with your colleagues outside of the Annual Conference and get a chance to see first-hand how other companies apply M&R practices to keep their operations running smoothly. Registration for the Spring Meeting is open. Visit www.smrp.org for more information.

Education on Demand: Increase Your M&R Knowledge, Improve Your Career

SMRP is now providing you new opportunities for continuing education through our new online education portal. The on-demand educational seminars include 18 hours of sessions from the 2013 SMRP Annual Conference in Indianapolis. For conference attendees, the sessions are a great opportunity to revisit lessons from the event or check out track sessions you missed at a discounted price. If you were unable to attend the conference, just visit education.smrp.org to purchase sessions on the SMRP Five Pillars of the Body of Knowledge: business and management, manufacturing process reliability, equipment reliability, organization and leadership, and work management.

Be Social with SMRP

The SMRP Annual Conference is a great opportunity to network with M&R professionals and experts from around the world, but if you cannot wait until next October, just visit the Society’s Facebook, LinkedIn and Twitter pages to stay in touch with thousands of practitioners in your industry. The SMRP LinkedIn group features discussions on the latest trends and technology on physical asset management. With over 12,000 members worldwide, the group is a unique online resource to help professionals expand their knowledge and business relations. Our Facebook page also features real-time updates on all SMRP happenings including the latest information on the SMRP 2014 Annual Conference in Orlando. Visit www.facebook.com/smrpusers, like our page and connect with our online community of over 4,000 fans.

SMRP SIG Learns Value of Applying Asset Management to Capital Projects

The Oil, Gas and Petrochemical Shared Interest Group (SIG) recently sponsored a webinar titled “Reliability and Economic Analysis: Benefits of RAM and Life Cycle Cost Evaluations during Design.” Jacobs Engineering demonstrated the value of applying asset management (reliability, availability and maintainability) practices during a capital project. The application of these practices results in reduced project scope, improved risk mitigation, lower total installed costs and long-term improvement in operating costs and productivity. These value adding practices are organized into defined strategies under the term “Operational Readiness.”

The presentation identified what owners are looking for in their capital project deliverables and the questions that needed to be answered such as:
- What will be the overall cost?
- When can I start making money?
- How much product will be created?

Project managers are mostly concerned about cost and scheduling while the value of defining the availability the project will deliver is only obtained through operational readiness practices and in particular RAM analysis. The argument for using these tools is strengthened by rule of thumb that 80 percent of the reliability of a capital project comes from design. Unfortunately, the design process loses value through lack of modeling, inefficient configurations, poor specification of equipment, lack of a good turnover package and other problems.

Companies with emphasis on the life-cycle of their assets are currently requesting the application of these tools and have work processes established to support their implementation. Examples of these operational readiness strategies include maintenance readiness which includes ensuring that maintenance delivery is established for asset care plans and the computerized maintenance management system is predicated with the asset hierarchy, maintenance tasks and bill of materials prior to startup. Life-cycle design support ensures that the optimum equipment configuration and specifications are established on page 21.
GREAT CINCINNATI-NORTHERN KENTUCKY CHAPTER
NEW GROUP LAUNCHES WITH TOUR OF MILLER-COORS PLANT

The new Greater Cincinnati-Northern Kentucky Chapter hosted its first meeting of the year on January 16 at the Miller-Coors facility in Trenton, OH. The chapter, which formed just last year, used the event as an opportunity to plan future meetings, introduce chapter members and select M&R topics for future discussions. The group also toured the facility and learned about the maintenance and reliability practices involved in producing beer.

ONTARIO CHAPTER
DIVING IN TO ISO 55000

On January 30, the Ontario Chapter organized a meeting for the membership to provide an opportunity to learn more about advances in the M&R field. The highlight of the night was a session led by David Armstrong, reliability practitioner and user engagement manager at Bentley Systems, about the recently released ISO 55000 standard. Members and guests were given the opportunity to learn in-depth knowledge of the new standard and what the potential effects will be on asset management. Lively discussion and excellent questions followed the terrific presentation.

A second session was titled “Ask the Expert” and was a new feature for Chapter members. The spot gives the membership an opportunity to ask tough questions on topics related to the Five Pillars of the Body of Knowledge. The topic of failure modes from a machine health perspective lead to an in-depth discussion on extreme weather effects of particular interest due to the recent frigid temperatures throughout Ontario and the surrounding regions. The session was moderated by Chapter Chair Carlo Odoardi and was beneficial in connecting members on similar challenges. The meeting concluded with the traditional draw for a $100 Keg Gift Certificate that was won by Dave Merko at Agrami!

HOUSTON CHAPTER
PREPARING FOR MaRS IN AUGUST

The Houston Chapter is making preparations for its Maintenance and Reliability Symposium (MaRS) August 13-15 in Galveston, Texas. The event will open with a golf tournament with proceeds going to a scholarship fund for technicians in two-year programs in the Gulf Coast area. MaRS is supported by the Texas Chemical Council (TCC) and the Associated Chemical Industry of Texas (ACIT) for its training value and providing networking opportunities for the industry’s newest generation of maintenance and reliability engineers. Additionally, proceeds from MaRS are used to provide scholarships for engineering students and technicians enrolled in degree programs in related fields of study.

Chapter Chair Jimmy Jernigan will open proceedings on Thursday before MaRS expert and author Ron Moore delivers a presentation on maintenance and reliability.

CAROLINAS CHAPTER
PANELISTS INCLUDE SMRP OFFICERS

Past Chair Shon Isenhour with GPAIled and Bob Williamson with Strategic Work Systems for serving on the panel and fielding questions from the members.

The next Carolinas Chapter meeting will be May 2 at the Timken facility in Gywnnﬁeld, SC. Check out the chapter page at www.smrp.org for more information and announcements.

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CHAPTER ROUND-UP

NORTHEAST FLORIDA CHAPTER KICKS OFF NEW YEAR WITH TOUR OF BUSCH

The Northeast Florida Chapter kicked off its first meeting of the year at the Busch Plant in Jacksonville, Fla. on Friday, February 21. Geoffrey Bellack and Jim Wilke with NTN Bearing Corporation of America gave talks on bearing reliability complete with forensic photos, lubrication tips and guidelines for improving reliability.

Roger Collard, RCM Practitioner with Wyle Labs and SMRPCO board member, provided some history on the CMRP and CMRT exams along with suggestions for studying for the exam. There was considerable interest among several of those in attendance in getting together with other candidates for study sessions for the exams along with suggestions for studying for the exam. There was considerable interest among several of those in attendance in getting together with other candidates for study sessions for the CMRP exam.

In the future, the chapter will host three mini-conferences per year with educational meetings on the Five Pillars of Knowledge.

CHAPTER CONTACTS
Chair: Rick Story rickstory@fluidflow.com
Vice-Chair: Robert Schindler robertschindler@bellsouth.net
Secretary: Debbi Gray debbi.gray@wyle.com
Past Chair: Doc Palmer docpalmer@palmerplanning.com

Meet SMRP’s new staff members!

• **Ann Cantrell**
  Communications Specialist
  Direct: 678-303-3044 or acantrell@smrp.org
  • Advertising in SMRP’s Solutions magazine
  • Submitting articles for consideration for Solutions magazine

• **Anne Marie DeSimone**
  Staff Associate
  Direct: 678-303-2978 or adesimone@smrp.org
  • General questions from exam takers about SMRP certification (CMRP or CMRT)
  • Questions about SMRP local Chapters or Shared Interest Groups (SIGs)

SMRP Headquarters • 1100 Johnson Ferry Rd., Suite 300 • Atlanta, GA 30342 • 1-800-950-7354 • info@smrp.org

BODY OF KNOWLEDGE (BOK) CORNER

The Need for Volunteers

The SMRP Maintenance & Reliability Knowledge (M&RK) committee is embarking on exciting initiatives to continue to add value to the existing CMRP and CMRT exams. Even though much work has been accomplished, we have not completed the objective and we need help to achieve our final goals. The committee plans to finalize all descriptive levels for the CMRP and CMRT as the certifications can continue to provide value to our SMRP members for years to come.

We seek additional team members to help us achieve our goals and objectives set by the BoK Directorate. The committee is looking for volunteers to actively join one of the committee teams to help us reach our goal with completing Level 3 descriptions.

If you are interested, please answer the following questions and contact me at bill.lyons@holcim.com.

1. Are you interested and able to serve as a committee chairman or vice-chairman (which entails additional time commitment and leadership skills)?
2. If so, which committee aligns best with your expertise and interest?
3. Do you have comments, suggestions or ideas that you would like to convey that would help the BoK Directorate regain its footing and succeed in delivering high value to the community?

Requirements for joining a CMRP or CMRT team include attending tri-weekly conference calls, completing some homework and attending at least one of the in-person meetings per year. Members of SMRP committees and volunteers will be required to sign the SMRP Committee Member Code of Conduct.

Conclusion

In summary, certification brings value to the individual as well as to the organization. It demonstrates a high level of commitment to the field of maintenance, increasing the individual’s credibility and professional reputation and opportunities for career advancement. Companies gain an increased confidence in their employees’ ability to maintain assets, an ongoing enhancement of knowledge and skills of the maintenance technicians, better safety practices and a competitive edge over competitors.

MEMBER CORNER

Don’t miss the upcoming 2014 issues of Solutions:

- **Late Spring 2014**: Business Management
- **Summer 2014**: Manufacturing Process Reliability
- **Fall 2014**: Equipment Reliability

Clients today are increasingly aware of the power of this tool and are requesting that it be used on their projects.

For more information about the Oil, Gas and Petrochemical SIG, visit www.smrp.org or contact Anne Marie DeSimone at adesimone@smrp.org.

...continued from page 17
NOVEMBER 20, 2013 – FEBRUARY 26, 2014

WELCOME NEW MEMBERS

Noelmar Abbade
Tom Abeloos
Lori Abney
Emerson Abril
Manuel Acuña
Mark Adam
Javier Antonino
Noelmar Abbade
Tom Abeloos
Lori Abney
Emerson Abril
Manuel Acuña
Mark Adam
Javier Antonino

Deryk Anderson
Simon Andrew
Jhon Alexis
Erick Araújo
Diego Mauricio Arango
Cristian Arcinegias
Agustín Orondo
Khalid Al-Ayadhi
Saadi Arameco
Julian Alonso
Abdullatif Alghamdi
Maaden Aluminum
Jon Allen
Bahcook & Wilcox
Ahmed Almairi
Saadi Arameco
Domingo Alvarez Correa
Godfrey Amoye
Ashish Anand
Ashati Asef Plastics Singapore Pte Ltd
Joe Anderson

Cesar Barajas
Pablo Barrera
Oscar Barrios
Jorge Barros
James Bayne
Hershey Chocolate
Hector Bedoya
John Crane
Camilo Andres Bejarano Caicedo
Wood Group PSN
John Benson
Therma Tru
Tommy Bernard
Brown and Caldwell
Dennis Berrios
Commissioning Agents, Inc.
Henk Brukers
Michael Beyer
Enterprise Vision Builders
Sean Back
Cargill, Inc.
Mark Baker
Mississippi Lime Co.
Valdimar Baloursson
Alcoa Inc.

Marcio Bitencourt
Boris Blanlovich
Dustin Bohard
Brian Boldt
Nicholas Bolia
Thawatchai Boonmun
Jeffrey Borgarding
Kay Bourque
John Britt
Lawrence Brod
Geoff Brown
Gregg Bryan
Nestor Raul Bueno
ECOPETROL S.A.

AES
Merck Arecibo
Flor Corporation
Shell
Elwood Mill Products
BP Chembel nv
IRPC
Commissioning Agents, Inc.
Green Mountain Coffee Roasters
Rockwell Automation
Commissioning Agents, Inc.
Chevron

Ken Buffington
Trent Bullock
Greg Bunck
David Butter
Jaime Cárdenas
Ronald Calvo Muñoz
Jeffrey Borgarding
Kay Bourque
John Britt
Lawrence Brod
Geoff Brown
Gregg Bryan
Nestor Raul Bueno

GPAllied
Advanced Technology Services
Baxter Healthcare
Management Resources Group, Inc.

Clint Carignan
Robert Carpio
Brad Cary
Edwin Casadiego
Jhon Castro
Cid Castro Costa
Rene Cercon Chacon
Pascal Ceunen
Henry Chaparro
Davy Claes
Oscar-Julien Camargo Arias
Alexander Cano Agos
AREVA
Carlos Collazos
Promigas

Saskatoon Processing Co.

View New Members
NOVEMBER 20, 2013 – FEBRUARY 26, 2014 WELCOME NEW MEMBERS

Charles Coogan
Acquisition Logistics Engineering

Gareth Coots
Dow AgroSciences

Edison Cordoba Moreno
Best Process SAS

Steve Courchesne
Air Liquide Canada

Nathan Coy
Commissioning Agents, Inc.

Alex Cuevas
JACOBIS

Gustavo Cunha
Anglo American - IOB

Lisa Curtis
Owens Corning

Suryaprapaksh D
Praxair, Inc.

Tapan Dalwadi
Cenovus Energy Inc.

Ahmed Danish
SKF Egypt LLC

Joseph De Castro
Weatherford

David Enrique De Castro
King Drummond LTD

Gertjan De Jager
KPMG

Fernando Enrique De la hoz Moreno
Carbones del Carrejon LLC

Michael DeLuca
SAMI

Nenad Deusic
MCID

Raf Dierckx
Borealis

Richard Downer
MWV

Fredy Alonso Duarte Sanguino
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Grifols

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Telefonia Ltd

Amanda Egerton
Egerton Consulting Ltd

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Hershey Chocolate

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Commissioning Agents, Inc.

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Concursos Argos S.A.

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Commissioning Agents, Inc.

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Roger Filannino
Commissioning Agents, Inc.

Steven Finco
Commissioning Agents, Inc.

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Salvy Specialty Polymers

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Fabcon, Inc.

Terrence Fletcher
Mueller Water Products

Javier Flores
Wood Group FSN Colombia S.A.

Socrates Fofano
Abraman

Carlos Hernandez
Fonseca Becerra

Oscar Libardo Fonseca Melo
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Borgthor Geirsson
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Accenture

Robert Giacobbe
Accenture

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Mauricio Giraldo Estrada
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GP Strategies

Jon Goetsch
Shell

Moataz Gomaa
Freelancer

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Leonardo Gonzalez Carrasco
Fuerza Aerea Colombiana

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Benito Guerra Puentes
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Daniel Haney
C3C

Jeffrey Hanoff
Cosmo Specialty Fibers

Hognal Paul Hardarson
Alcoa Inc.

Mark Harmison
Accenture

Samuel Hayes
Accenture

Michael Healy
TRONOX

Jason Heath
Westar Energy

Michael Heemsbergen
Pioneer Engineering

Terry Jarrett
Koch Industries, Inc.
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Irene Pang  
Commissioning Agents, Inc.

Fred Pare  
UGL

Anthony Park  
Gyrus ACMI, Inc. - OSTA

Austin Partee  
Fabcon - USA

Ravi Paul  
Commissioning Agents, Inc.

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Jesus Pulido  
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EVENT CALENDAR

Spring Executive Meeting
April 22-24, 2014
Denver, CO

Summer Executive Meeting
July 29-31, 2014
Washington, WV

2014 SMRP Annual Conference
October 20–23, 2014
Lake Buena Vista Resort
Orlando, Fla.

2015 SMRP Annual Conference
October 12–14, 2015
Cincinnati, Ohio

2016 SMRP Annual Conference
October 17–19, 2016
Jacksonville, Fla.

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