From the OPD Executive Committee Chair

The key to success of the Society and the Operations and Power Division is the participation and support of our members. As you can see from this newsletter, it was the effort of our volunteers that made the UWC successful. I’d like to offer my personal Thank You to all of those who organized this UWC.

To go forward, we need your support not only in organizing and attending our meetings and conferences, but in ideas that the Executive Committee can support as projects. Our goal is to return the money we earn from the UWC and other activities to the members in the form of ventures that will benefit the members and the nuclear industry.

Please take some time to think about what you would like to see OPD do to help you and your utility, company, or school. Feel free to send your ideas to any of the OPD Officers, or attend the ANS Winter Meeting and let us know in person.

Dick Cole – RECole73@Hotmail.com
ANS OPD Executive Committee Chair

20th Utility Working Conference – “Cost-Effective Excellence” – A Success by any Measure

2014 saw a move of the American Nuclear Society’s Utility Working Conference (UWC) back to Amelia Island where it began as a small number of working groups 20 years ago. While the number of attendees, vendors and focus areas has expanded, the original charter, established by the Operations Power Division stays intact. That charter is to focus on the most immediate needs and most challenging issues currently facing the ever-changing nuclear industry. The theme “Cost-Effective Excellence” not only addressed our major challenge, but generated ideas and solutions across all of the specialties at each of our sites. As you read through the learnings and best practices I think you will agree that the participants addressed and helped meet our current challenge.

Co-General Chair Tim Rausch and Tom Joyce with Program Chair Bill Bishop. This is the leadership team that made the 2014 UWC relevant and successful.

The Operations Power Division Executive Committee thanks Tim Rausch of PPL Susquehanna and Tom Joyce of PSEG for chairing the conference. We also want to thank is a special way Bill Bishop of PPL Susquehanna for serving as Technical Program Chair for the conference. Without the leadership and drive of this team, the conference could not have been a success.

Planning for the 2015 UWC is well under way. While the theme may be similar, given the continued economic

You are invited to attend…

2014 ANS Winter Meeting and Nuclear Technology Expo
"Nuclear – The Foundation of clean Energy"
November 9-13, 2014
Anaheim, CA
Disneyland Hotel

OPD Scheduled Meetings
OPD Program Committee
Sunday, November 9, 2014
OPD Executive Committee
Sunday, November 9, 2014
Utility Working Conference Planning Committee
Sunday, November 9, 2014

These meetings are open to all OPD members, and everyone is encouraged to attend or participate via teleconference.

See Our Website at . . .
opd.ans.org
pressures we feel, the focus will be current and the organizers ready to build upon what we learned this year to help the industry become stronger. Conducting a conference like this takes time and expertise. We are constantly seeking new perspectives and expertise to assist in bringing together the experts and best practitioners to address our industry’s challenges. I encourage each of you to consider helping with the 2015 UWC. If you would like to know how, please e-mail me at michael.spellman@duke-energy.com.

Mike Spellman
Past Chair – ANS Operations Power Division
2015 UWC Technical Program Co-Chair

Plenary Session and Speakers

Michaele (Mikey) Brady Raap, President, American Nuclear Society, provided the opening remarks and a welcome to all participants.

Commissioner Kristine L. Svinicki, US Nuclear Regulatory Commission, provided a welcome from the Commission and an NRC update.

Danny Bost, Southern Nuclear CNO, followed the commissioner with a discussion of the Cumulative Impact Initiative. Mr. Bost provided the motivation for cost containment by showing graphically the cost drivers over the past 10 years. He provided the industry Strategy Paths as “Improve management and leadership behaviors used to address performance problems [and] identify and address areas that can be streamlined, modified, or eliminated [specifically] Human Performance, Corrective Action Program and Work Management.”

Tuesday plenary session titled The Vendor’s Role in Partnering for Cost-Effective Excellence featured Michael McMahon (President, Engineering, Construction & Maintenance, Day & Zimmerman), Dave Studley (VP Power Group, Enercon Services), Craig Ranson (COO, Areva North America) and Delfo Bianchini (SVP, Sargent & Lundy).
The final plenary featured Neil Wilmshurst (VP & CNO, EPRI), with a talk EPRI Products and Services Available to Utilities to Contribute Towards Cost-Effective Excellence. These products and services include CoSeq® Resin for Co-60 sequestration, Tablet Based maintenance Apps, Flexible Operations approaches, Accident Tolerant Fuels, the Acoustic Mouse and Powder Metallurgy among others.

Operations Power Division Awards Presented at the 2014 UWC

Utility Leadership Award
This award was established in 1994 by the Operations and Power Division (OPD) and became a national award in 2005 to recognize an individual who has demonstrated outstanding leadership and has contributed greatly to the success of the nuclear power industry. The criteria are nonspecific. Therefore the nomination must provide supporting details and enough facts for the selection committee to make an informed decision. The 2014 Utility Leadership Award recipients are Jeffrey B. Archie (South Carolina Electric & Gas) and Danny G. Bost (Southern Nuclear Operating Company).

Utility Achievement Award
This award was established in 1994 by the OPD and became a national award in 2005 to recognize the commercial nuclear power plant(s) that demonstrate outstanding achievements in performance. The criteria are nonspecific, but the achievement may be either sustained outstanding performance or outstanding improvement in performance. The 2014 Utility Achievement Award recipient is Palo Verde Nuclear Generating Station.

Walter H. Zinn Award
Established in 1976, this award is administered OPD to recognize outstanding contributions to the advancement of nuclear power. It honors Walter H. Zinn, the Society’s first president. This award is granted to an individual for a notable and sustained contribution to the nuclear power industry that has not been widely recognized. It may be a technical contribution, one of leadership, or other notable service to the industry. The 2014 Walter H. Zinn award recipient is Kyle H. Turner, Ph.D.
2014 UWC Track Summaries

Business

Track Leaders
Vince Gilbert, Excel Services
Tim Schlimpert, MCR Performance Solutions

The Business Track focused on sharing information and generating solutions to help manage nuclear power plants given both internal and external challenges. Topics included: How Can Utilities Preserve Diversity in our Generating Mix and Avoid Disruption of Power Market? and Lessons Learned and Economic Consequences for Recent Nuclear Plant Closure. The track held a combined session with the Executive Track titled Cost Effective Excellence from a Regulatory Perspective. The three combined sessions with Engineering focused on Risk-Informed Applications that Result in Station Cost Reduction, Optimizing Preventive Maintenance and Project Reliability. The Business Track organizers also joined with the Maintenance and Work Management Tracks to focus on Burden Reduction, First-Line Supervisor Effectiveness, Improvement to increase wrench time and multi-department issues with Engineering/Operations and Maintenance.

Learning and Best Practices

- Risk-Informed Surveillance Frequency Control Programs have been very successful at reducing the annual man-hours required for performing Surveillances but require an initial investment. NEI 04-10 Rev. 1, Risk-Informed Technical Specification Initiative 5B, provides the needed guidance for the implementation of a generic Technical Specification improvement. Roland F. Dunn, South Texas Project.


- “Explicitly incorporating generation risk into the cost analysis can provide managers more assurance that they are adequately addressing the range of possible financial outcomes associated with returning a system to operation.” Tim Schlimpert, MCR Performance Solutions.


- For Cost Effective Plant Modifications: 1) Ensure testing and the turnover is in the design process, 2) ensure adequate time for test preparation, 3) staff appropriately, 4) execute the plan. Rick Stadtlander, Xcel Energy.

Engineering

Track Leader
Len Rajkowski, PSEG Nuclear

The Engineering Track presented Phased Array Ultrasonic Inspection to Save Time and Improve Quality, an Advanced Engineering Training Initiative to Address Industry Knowledge Transfer at an Affordable Cost, Industry “Best Practices” in Equipment Obsolescence. The Track organizers joined with the Business Track for Risk-Informed Applications that Result in Station Cost Reduction and Optimizing Preventive Maintenance. Work Management joined Engineering to address Increasing the Effectiveness of Preventive Maintenance and Burden Reduction. The presenters also addressed the challenge of Cyber Security for Nuclear Power Plants and provided Regulatory Status and Lessons Learned.

Learning and Best Practices

- “EPRI has been studying Phased Array Ultrasonics technology for 20 years.” “Benefits…[include], Improved defect characterization and flaw sizing accuracy, increased data acquisition speed, reduced number of probes and increased examination coverage.” Jack Spanner, EPRI.

- “Industry NDE leaders [need] to work with regulators to codify and encourage [a] shift to UT [ultrasonic testing] from RT [radiographic testing].” Mark Huting, Xcel Energy.

- “PAUT [Phased Array Ultrasonics Technology] has been demonstrated to provide a superior...
technology to supplant both conventional UT and radiography.” J. Fred Hall, Curtiss-Wright.

- “Until studies are complete that demonstrate the ability of UT to replace RT for PRRA…the NRC staff will not generically allow the substitution. However, the NRC staff will continue to review plant specific relief requests…” Anthony Cinson, NRC.

- In the area of Cyber Security, “[the] NRC approved for use consequence-based process, NEI 13-10, to provide a graded approach to assessment of CDAs [Critical Digital Assets]…[and is] reviewing templates for indirect impact of CDA assessment.” Russ Felts, NRC.

- Andrew Wilkerson, Southern Company, provided a status report on the Advanced Engineering Training Initiative to “…develop generic, highly technological computer based training modules…to cover standard industry codes, requirements, programs, etc…” which will provide “each utility…a huge payback for the amount invested.”

Equipment Innovations/Supply

**Track Leaders**
Greg Keller, AZZ|NLI
Jim Kitchens, Utilities Service Alliance

The Equipment Innovations/Supply Track kept a focus on overall cost reduction through cooperation between the suppliers and nuclear plants. Topics included: Introducing New Technologies to the Nuclear Industry focusing on the challenge of the high cost of maintaining quality programs and qualifying new equipment with a small customer base; Cost-Effective Technical Specifications Improvement with a focus on “how licensees can leverage the tremendous number of Technical Specifications improvements available for plant-specific use”; and Excellence in Supplier Performance…Lowering Total Cost of Ownership which focused on the current environment of competitive pricing as well as customers and supplier committed to excellence in execution to prevent hidden costs. Other sessions included Alloy 600 and Stress Corrosion Mitigation Strategies, System Upgrades – Introducing New Methodologies to the Nuclear Industry, Meeting the Challenge to Thrive – Supply Chain Opportunities in a Changing Nuclear Landscape and Burden Reduction through Equipment and Process Solutions.

Learning and Best Practices

- Implementing a Surveillance Frequency Control Program requires “leadership and sponsorship” as well as a “site and fleet strategy.” Gene Kelly, Exelon Nuclear Risk Management.

- Internal Mechanical Stress Improvement techniques will provide a method of creating a “deep layer of compression in both hoop and axial directions on the wetted weld surface” which will be “a quick process” that “does not require external accessibility at the [welded] nozzle.” Charlie England, B&W and David Rackiewicz, MPR.


- EPRI is updating its Commercial Grade Item Dedication Guidance based on 25 years of experience. Details were provided. Marc Tannenbaum, EPRI.

Executive

**Track Leader**
John Christensen, Utilities Service Alliance
Aldo Capristo, Xcel Energy
Don Eggert, AMEC AES
Richard Cole, RC Consulting

The Executive Track sessions included Cost-Effective Excellence from a Regulatory Perspective, Leadership That Drives Cost-Effective Excellence, and Operational Insights into Cost-Effective Excellence and New Construction Insights into Cost-Effective Excellence.

Learning and Best Practices
While there are “positive” and “not-so-positive” examples of the benefits of the regulatory environment, “Frank and “pen dialogue on lessons learned from previous experience can only facilitate continuous improvements.” Tony Pietrangelo, NEI.

The future of regulation includes “Improved Planning, Agility and Execution”, better “resolution of technical issues [and]…policy issues.” Michael r. Johnson, NRC.

To achieve an “ideal regulator environment,” we need to “focus on safety & long-term reliability” as well as “communication and cooperation” with policy makers. Bill Mohl, Entergy Wholesale Commodities.

“Cost-Effective Decisions During Ongoing Equipment Challenges” require leaders to “Stay True to Systematic Evaluation of Risk AND Consequences”. Details of the Susquehanna experience with turbine blade cracking and results were provided. Tim Rausch, PPL Susquehanna.

Improvements to Salem and Hope Creek Inprocessing provided a cost savings of $750,000 for one outage. Chris Schwarz, PSEG.

“Great opportunities for cost reduction [using material Expense Reductions Strategies] are available [and] require human intervention….at the purchase requisition level.” Also, “Collaboration between utilities makes sense and is starting to happen.” Bob Tilton, PSEG.

From Watts Bar 2, among other learnings shared, is the need to “Develop a clear execution strategy at the start.” Mike Skaggs, TVA.

To achieve Cost Effectiveness, stay focused on the goal to “eliminate low-value work, freeing up leaders and station resources to work on more important issues and thereby enhance safety and reliability.” Preston Gillespie, Duke Energy.

The Fukushima Response and Emergency Preparedness Track provided an Update on Fukushima Recovery and Inside Perspective of the Event and Response which included an extensive update and post-event history of the Fukushima site by Kenji Tateiwa, Nuclear Power Programs Manager for TEPCO. Other session included Assessing Readiness for Fukushima Response Actions, a Beyond Design Basis Natural Disaster – SAFER National Response Center Update, Changes to the Role of Emergency Preparedness as a Result of the Fukushima Accident and Disposition of Seismic and Flooding Level Study Results.

Learning and Best Practices

- Mike Crowthers, PPL Susquehanna, provided an in depth view of the peer panel review provided to USA member sites.
- BDB (Beyond Design Basis) Event Response Program Manual will “Provide a one-stop source”/”home” for programmatic descriptions necessary to address current and pending regulatory requirements and elated guidance.” David Young, NEI.
- “Integrated Assessments [of flooding range from] Simple to Complex.” Details of the Fort Calhoun event were provided. Joseph Gasper, OPPD - Retired.

The Maintenance Track started with a 2013/2014 Work Management and Work Management Overall Summary with the Work Management Track. Cost Control was addressed through the Cumulative Impact (Burden Reduction) Use and Benefits of the Electronic Work
Order session along with other joint session included under the Work Management and Business summaries. Some back to the basics sessions included Lifting and Rigging, Learning from our Past, Establishing and Maintaining an Effective Leak Control Program and Nuclear power: Managing Technology. The SMR the Road to a Nuclear Future included a discussion on the potentiality of Small Nuclear Reactors.

Learning and Best Practices

- Hope Creek’s “FIN Improvements” use of “single person tasks” and a “Management Operating System” have resulted in “Maintenance backlogs [in the ] Top Quartile…Craft Engagement in Identifying Causes of Lost Time…[and] Increased Productivity” Fred Mooney, Hope Creek.

- “FLMUG [Fluid Leak Management Users Group] has defined the parameters of an ‘effective’ Fluid Leak Management Program.” Kenneth Hart, Curtiss Wright.

- Concerning “Technological methods that are under development and may soon be available…staying aware of what is coming can help influence important business decisions.” Brian Rymer, PCG.

Operations

Track Leader
Shawn Hafen, Xcel Energy

Operations performance and Cost-Effective operational excellence were the themes of the Operations Track sessions Improving Operational Performance and Reliability, Operations Involvement with Chemistry and Maintaining our Nuclear Units Cost-Effective (which included extensive OE from several plants that are closing with emphasis on Crystal River and SONGS), Operational Cost Savings, Minimizing Events Through Improved Awareness and Identification of Triggers and Project Implementation and Successful Turnovers Between Engineering and Operations. Energy Northwest Columbia Station provided insights into other operators’ potential futures’ concerning Load Following and the Impacts on Fuel Costs and Reliability.

Learning and Best Practices

- Events can be avoided when certain ‘Triggers’ are identified. “Although these triggers are present, people often rationalize or justify moving forward without STOPPING, resulting in an event.” Rey Gonzalez, HOPE Consulting.

- Pilot CEI-2, the first indicator ever piloted, is designed to “Protect the asset from corrosion to meet…60 to 80 years operation…Minimize the risk associated with replacement of major components… [with a focus on] In specification chemistry.” Dick Labott, PSEG.

- “Nuclear industry productivity or ‘wrench time’ is about 30-35%...Eliminating just 1 hour of waste per day adds 33% more productivity to the work force.” Brian Booth, PSEG.

- System turnovers between Engineering and Operations should be designed to ensure plant readiness and minimize costs involved. Early engagement with Operations leadership can facilitate this goal.

Performance Improvement

Track Leader
William Mattingly, PSEG Nuclear
Mark L. Venaas, Exelon Nuclear Partners, LLC

The Performance Improvement Track focused much of their effort on CAP (the Corrective Action Process) including the efforts to Reduce Corrective Actions Created, Define the CAP and Reduce the CAP Backlog, Manage Actions in Other Processes and Analyze Fewer Individual Issues and More in Aggregate. They teamed with Maintenance to present Cumulative Impact (Burden Reduction) Use and Benefits of the Electronic Work Order and First Line Supervisor Effectiveness and Improvement to increase wrench time and getting workers in the field. Other sessions included Supervisor Coaching and Observation Program which emphasized the need for coaching and a reduced effort toward capturing and trending observations and Preserving a Healthy Safety Culture while Implementing Cumulative Impact Initiative.

Learning and Best Practices
2014 UWC
Track Summaries

- Effective “Supervisor Led” coaching includes the following attributes: “High standards are...being used, Effective pre- and post-job briefings, work is observed in the field, with feedback provided, Expected behaviors are reinforced positively, and behavioral shortfalls are corrected.” Brad Sawatzke, Columbia Generating Station.

- Concerning CAP, “CAPRs [Corrective Actions to Prevent Recurrence] must remain in CAP, Eliminate dual tracking of issues (except CAPRs) and utilize qualified processes to manage some items.” Mark Venaas, Exelon.

- The preliminary results of CAP-4 at Exelon are an increase in identified potential trends, a reduction in person-hours and an alignment of resources around important plant issues. The desired end stat is that a plant will “analyze fewer individual issues, close more issues to trend and cognitively identify bins.” Mark Venaas, Exelon.

- Coaching documentation should “Capture only two major items: Behavior that we want to see replicate and Behavior that deviates most from our standards.” Don Goble, Xcel Energy.

- Results from Monticello are that “No safety culture CAPs as a result of the CAP reduction efforts, No adverse impact on SCWE [Safety Conscious Work Environment] through ECP assessment, [and] Pulse Survey Results have not been adversely affected.” Kristin Zastrow, Xcel Energy.

Regulatory Relations/Oversight

**Track Leader**
John Tripoli, PPL Susquehanna, LLC
Trent Wertz, NRC

The Regulatory Relations Track partnered with the Innovations and Supply Track to present *The TSTF Traveler Process, 20 Years of Cost-Effective Technical Specifications Improvement* with a focus on “how licensees can leverage the tremendous number of Technical Specifications improvements available for plant-specific use”. Other topics included *Working with New Regulatory Affairs Staff* which dealt with the challenge of preparing the next generation of regulatory affairs professionals, *Cumulative Effects of Regulation and Risk Prioritization* and the *Use of Technology within Regulator Processes.*

Learning and Best Practices

- The TSTF (Technical Specification Task Force) “Travelers...are designed for plants with Technical Specifications based on ITS [Improved Technical Specifications]. Non-ITS plants can submit LARs based on Travelers, however [they]: Must explain and justify the differences between their TS and the ISTS and must explain how the justification and model Safety Evaluation applies to their plant.” Brian Mann, EXCEL Services.

Risk Management

**Track Leader**
Ching Guey, TVA
Jim Chapman, Scientech Curtiss-Wright Nuclear

The Risk Management Track focused their work on the continued improvement of Risk Management applications including: *Ongoing Risk-Informed Applications, External Event Risk Assessment and Management, Cumulative Impact of Regulation and Role of PRA* [Probabilistic Risk Assessment] and *Defense in Depth (Applying PRA Insights in a Defense in Depth Framework).*

Learning and Best Practices

- The “Feasibility of [Probabilistic Flooding Hazard Analysis] (PFHA) was confirmed” and provides key insights including “likelihood’ information [which] provides improved understanding of extreme flood levels and event occurrence timing, methods [which] include events and combinations of event elements that have not occurred [and a] better technical understanding of flood hazard and improved knowledge of plant margins” among many others. Gene Kelly, Exelon
• “Benefits of Risk Informed Applications – [include] Improved Plant Safety through Risk Insights, Improved Flexibility, Improved Regulatory Predictability, Reduced Costs [and] Improved Quality of Life.” Mike Macfarlane, Southern Company.

• “The Commission [NRC] has approved an initiative to further explore the idea of enhancing safety by applying probabilistic risk assessment (PRA) to determine the risk significance of current and emerging reactor issues in an integrated manner and on a plant-specific basis.” Currently “6 licensees [are] participating in [a] demonstration pilot of [the] NEI process.” Joseph G. Giitter, NRC.


Training

Track Leader
Pat Chambers, PPL Susquehanna, LLC
Marios Kafantaris, PSEG Nuclear

The Training Track focused their attention on more efficient and effective ways of providing value added training. Cost Savings and improved student interaction was introduced by the use of iPad Technology in the Classroom. Addressing Cumulative Impacts with DevonWay added to the iPad Technology session toward efficient training. Training for improved performance was presented in the sessions Eliminating Emergency Diesel Generator (EDG) Errors and Associated Burdens Using EDG Simulator and Simulator Modeling which described the benefits and showed methods of modeling the simulator to show the effects of internal and external flooding and beyond design basis events.

Work Management

Track Leader
Peter J. Arthur, INPO
Jon G. Anderson, ACA Inc.

The Work Management Track, under the leadership of Pete Arthur, brought together the industry leaders to describe their successes and lead discussion in the areas of Improvement to increase wrench time, Increasing the Use of Minor Maintenance at your Station (Cumulative Impact WM5) and Increasing the Effectiveness of the Preventative Maintenance Feedback/Review Process and Transitioning from T-26 to T+1 Review (Cumulative Impact WM1). Break out session led by the top performers were also held for Establishing a Risk Informed Plant Accountability for Work Load Management, Reducing Urgent/Emergent Work That is Disrupting Work Schedules and Establishing a Gatekeeper to Ensure New Work is Technically and Cost Justified. A final session Work Management and Maintenance Challenges at your Station and the Next Steps to Improve Efficiency wrapped up the week and sent the attendees away with much to consider and apply.

Learning and Best Practices

• “Two reasonable process improvement goals…Reduce Pre-Work Admin by 20% [and]…Reduce Training burden by 10% [can have a real reduction in the required full time equivalent man-power needs].” Adam Dow and Tim Schlimpert, MCR Group.