



# ANS Meetings

## Utility Working Conference and Vendor Technology Expo

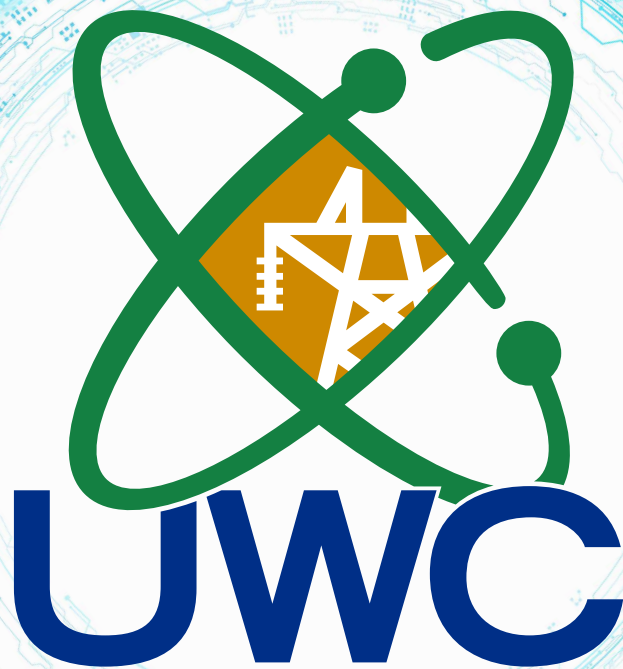
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*Innovating for a Sustainable Nuclear Future*

# 2019

## Official Program

August 4-7, 2019  
Omni Amelia Island Plantation  
Amelia Island, FL





# ANS Meetings

## 2019 Utility Working Conference and Vendor Technology Expo

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# Exhibit Hall Passbook

## PASSPORT TO PRIZES

All attendees will receive a passport game card with participating sponsor logos and exhibit booth numbers. During exhibit hall hours, attendees must visit each booth to get their passbook stamped. Completed passbooks will be entered into a drawing during Tuesday's Vendor Reception for a chance at the grand prize! Passbooks must be completed and submitted by Tuesday at 7:00 pm at the Nuclear News booth. **Winners will be announced at 7:30 pm. See page 14 for prizes.**



BOOTHS 502, 504



BOOTH 510



BOOTH 315



BOOTH 214



BOOTH 415



BOOTHS 306, 308



BOOTH 216



BOOTH 09



BOOTHS 12, 402



BOOTH 416



BOOTHS 303, 305



BOOTH 408



BOOTH 413



BOOTH 508



BOOTH 215



BOOTH 212



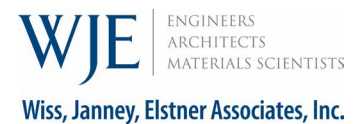
BOOTH 310



BOOTH 202



BOOTH 205



BOOTH 511

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# Program Committee

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## Planning Team

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### GENERAL CHAIR

Marilyn Kray (*Exelon Corporation*)

### TECHNICAL PROGRAM CHAIRS

Dan Doran (*Exelon PowerLabs*)

Dan Churchman (*Southern Nuclear*)

### ASSISTANT TECHNICAL PROGRAM CHAIR

Vince Gilbert (*Principal Model Performance, LLC*)

## Track Leaders and Organizers

---

### BUSINESS/ECONOMIC PERFORMANCE

Tim Schlimpert (*MCR Performance Solutions*)

Maria Hernandez (*Duke Energy*)

Frank Nelms (*ScottMadden*)

### DECOMMISSIONING

Jim Byrne (*Byrne & Assoc., LLC*)

### ENGINEERING/EQUIPMENT RELIABILITY

Ted Quinn (*Technology Resources*)

Ray Herb (*Southern Nuclear*)

### EXECUTIVE/LEADERSHIP

Sean Clark (*AMMI Risk Solutions*)

Bob Coward (*MPR*)

### INNOVATION IN TECHNOLOGY AND SUPPLY

William Fry (*Duke Energy*)

Jim Ripple (*Southern Nuclear*)

Greg Keller (*Curtiss-Wright*)

### MAINTENANCE/WORK MANAGEMENT

Pete Arthur (*INPO*)

Bryant Hearne (*INPO*)

Jon Anderson (*ACA Proactive*)

### OPERATIONS/OPS TRAINING

Dan Randolph (*Exelon Corporation*)

### PERFORMANCE IMPROVEMENT

Fred Lake (*WD Associates*)

Peg Lucky (*Entergy Nuclear*)

Kim Leffew (*Consolidated Nuclear Security*)

### REGULATORY RELATIONS

Garry Young (*Entergy*)

Jeanne Johnston (*NRC*)

### RISK MANAGEMENT

Gene Kelly (*Exelon Corporation*)

### TECHNOLOGY AND INNOVATION

John Downing (*John Downing Consulting LLC*)

## Knowledge Managers

---

Thomas Butcher (*Exelon Nuclear*)

Morgan Cagle (*Southern Nuclear*)

Sarah Camba Lynn (*Luminant*)

Timothy Crook (*EPM*)

Webster Gomez (*Duke Energy*)

Alyse Huffman (*ANS Congressional Fellow*)

Ruba Kachlan (*Duke Energy*)

Jason Lanier (*Duke Energy*)

Trey Lewis (*Duke Energy*)

Tracy Marc (*ANS*)

Joseph Rendemonti (*The Wharton School*)

Gregory Swain (*Duke Energy*)

Courtney Tampas (*Dominion*)

Ashley Thompson (*Duke Energy*)

Matthew Wargon (*TerraPower*)

Elliott White (*Southern Company*)

## Interns

---

Meredith Eaheart (*Virginia Commonwealth University*)

George Eason (*Virginia Commonwealth University*)

Griffin Hartz (*Pennsylvania State University*)

Andrew Hoffman (*Missouri University of Science  
and Technology*)

Cameron Maras (*North Carolina State University*)




Hawk Yang (*McMasters University*)

# Daily Schedule

## Saturday, August 3

4:00-6:00 pm	Exhibitor Move-In	Expo Hall
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## Sunday, August 4

6:30-7:45 am	Golf Tournament “Grab & Go” Breakfast Sponsored by 	Marsh View Terrace
8:00 am-1:30 pm	UWC Golf Tournament	Oak Marsh Golf Course
8:00 am-5:00 pm	Exhibitor Move-In	Expo Hall
1:30-3:00 pm	UWC Golf Tournament Awards Luncheon Sponsored by 	Cumberland B/C
2:00-7:00 pm	Registration	Amelia Foyer
6:00-8:00 pm	Opening Reception in the Vendor Technology Expo Sponsored by 	Expo Hall
6:00-8:00 pm	Vendor Technology Expo	Expo Hall



# Daily Schedule

## Monday, August 5

7:00 am-4:00 pm	Registration	Amelia Foyer
7:00-8:00 am	Continental Breakfast in the Vendor Technology Expo	Expo Hall
7:00 am-4:30 pm	Vendor Technology Expo	Expo Hall
8:00-10:00 am	Industry Awards Presentation & Opening Plenary	Amelia Ballroom 1-4
10:00-10:30 am	Refreshment Break in the Vendor Technology Expo Sponsored by 	Expo Hall
10:30 am-12:00 pm	Educational Sessions 1 <ul style="list-style-type: none"> <li>• Value Modeling to Optimize Capital Investments at TVA</li> <li>• Decommissioning Funding</li> <li>• Advanced Reactors</li> <li>• The Intergenerational Transition Challenge - Passing the Torch</li> <li>• Craft Labor: Market, Technology, and Utility Impacts and Methodologies</li> <li>• INPO Analysis of Trends for 2018 and 2019, Including Issues with Maintenance Fundamentals</li> <li>• Building an Operations Department from the Ground Up</li> <li>• Culture; Willful Violations, Best Practices</li> <li>• PRA Models: Extracting Actionable Insights</li> <li>• Innovation from the US and Canada National Labs and Academic Research of Nuclear Industry Trend</li> </ul>	Talbot A Ossabaw A Amelia Ballroom 2/3 Conference Room 2/3 Amelia Ballroom 4  Amelia Ballroom 1 Cumberland C Ossabaw B Talbot B  Cumberland A
12:00-1:30 pm	Walk-Around Lunch in the Vendor Technology Expo	Expo Hall
1:30-3:00 pm	Educational Sessions 2 <ul style="list-style-type: none"> <li>• Innovations Improving Operational and Financial Performance at Duke Energy</li> <li>• Decommissioning Planning, Estimating, and Assumptions</li> <li>• Digital Modernization Part 1: Myth-Busting Digital I&amp;C</li> <li>• Care to Lead</li> <li>• Panel on Utility/Supplier Negotiations</li> <li>• Using the Demand - Supply Model to Measure and Improve our Productivity and Efficiency</li> <li>• Risk Informed Completion Time Implementation and Change Management</li> <li>• Conducting Cause Analysis for Personnel Injuries &amp; Fatalities</li> <li>• Panel Discussion on Fostering a Culture of Technology and Innovation</li> </ul>	Cumberland A Ossabaw A Amelia Ballroom 2/3 Conference Room 2/3 Amelia Ballroom 4  Amelia Ballroom 1 Cumberland C Ossabaw B Cumberland A
3:00-3:30 pm	Refreshment Break in the Vendor Technology Expo Sponsored by 	Expo Hall
3:30-5:00 pm	Educational Sessions 3 <ul style="list-style-type: none"> <li>• Subsequent License Renewal Activities - Past, Present, and Future</li> <li>• Regulatory Perspectives and Updates on the Commercial Decommissioning Process</li> <li>• Digital Modernization Part 2: Closing the Deal</li> <li>• Knowledge Transfer and Retention, Young Professionals' Perspective</li> <li>• IT Advancement and Resulting Cyber Security Risks to the Business Unit and Supply Chain</li> <li>• Are We OK With Our Current Productivity and if not, what can we do about it?</li> <li>• Advancing Operations and Training through Technology</li> <li>• Risk Informed Decision Making</li> <li>• Wearable Technology and the Future of Creating an Innovation Telepresence</li> </ul>	Cumberland B  Ossabaw A Amelia Ballroom 2/3 Conference Room 2/3  Amelia Ballroom 4 Amelia Ballroom 1 Cumberland C Talbot B Cumberland A

# Daily Schedule

## Tuesday, August 6

7:30 am-5:30 pm	Registration	Amelia Foyer
7:30-8:30 am	Sunrise Breakfast Sponsored by 	Expo Hall
7:30 am-7:30 pm	Vendor Technology Expo	Expo Hall
8:30-10:00 am	Plenary 2	Amelia Ballroom 1-4
10:00-10:30 am	Refreshment Break in the Vendor Technology Expo	Expo Hall
10:30 am-12:00 pm	Educational Sessions 4 <ul style="list-style-type: none"> <li>• Aggregate Risk Associated with Backlogs of Work on What Was Critical Equipment That is Now Non Critical</li> <li>• Transitioning to Permanently Defueled Status</li> <li>• Innovative Leadership Techniques</li> <li>• Effective Use of Technology and Supply Chain in Disaster Response</li> <li>• Causal Analysis for HU Events or Investigation</li> <li>• SDP/ROP Experience and Lessons Learned</li> <li>• Embracing Technology and Its Transformational Impact</li> </ul>	Amelia Ballroom 1 Ossabaw A Conference Room 2/3 Amelia Ballroom 4 Talbot A/B Amelia Ballroom 2/3 Cumberland A
12:00-1:30 pm	Walk-Around Lunch in the Vendor Technology Expo	Expo Hall
1:30-3:00 pm	Educational Sessions 5 <ul style="list-style-type: none"> <li>• 50.69 - Road to Savings</li> <li>• Decommissioning Project Overview</li> <li>• The Unintended Consequences of Buying Less</li> <li>• Actions to Improve Plant Status Control and Electrical Safety - Actions to Prevent Arc Flash Events</li> <li>• Soup to Nuts, Automating the Work Management Value Chain</li> <li>• Managing and Measuring Proficiency</li> <li>• Engage and Innovations for HU/IS</li> <li>• Regulatory Process Innovations and Innovation at NRC</li> <li>• Improve Performance, Safety, and the Bottom Line with Innovative Solutions Engine Technologies</li> </ul>	Cumberland B Ossabaw A Amelia Ballroom 4  Amelia Ballroom 1 Talbot A/B Cumberland C Ossabaw B Amelia Ballroom 2/3  Cumberland A
3:00-3:30 pm	Refreshment Break in the Vendor Technology Expo	Expo Hall
3:30-5:00 pm	Educational Sessions 6 <ul style="list-style-type: none"> <li>• Optimizing Safety, Security and Safeguards for Decommissioning</li> <li>• Declining Trend in Fuel Performance Due to Debris Failures</li> <li>• Closing the Gap in Organizational Effectiveness: A Process Improvement for Selection and Development of Managers and Leaders</li> <li>• Advancements in Technology That Enable Business Unit O&amp;M Reduction</li> <li>• Crew Performance Evaluation Changes</li> <li>• INPO 18-001 Implementation, Best Practices and Innovations for “Must Know” OE</li> <li>• Regulatory Innovation for Resolving Tornado Missile Protection Issues</li> <li>• Flex Human Reliability Assessment Advances</li> <li>• Improvements in Measurement to Enhance Engineering, Planning, and Testing of Steam Generator Tube Generation of Cobalt 58</li> </ul>	Ossabaw A Amelia Ballroom 1  Conference Room 2/3 Amelia Ballroom 4 Cumberland C Ossabaw B Amelia Ballroom 2/3 Talbot AB  Cumberland A
5:00-7:30 pm	Cocktail Reception & Vendor Raffle in the Vendor Technology Expo	Expo Hall
7:30-10:00 pm	Tuesday Evening Event: Casino Nuclear  Sponsored by	Amelia Ballroom 1-4



# Daily Schedule

## Wednesday, August 7

7:30-10:30 am	Registration	Amelia Foyer
7:30-8:30 am	Attendee Breakfast in the Vendor Technology Expo	Expo Hall
7:30-9:00 am	Vendor Technology Expo	Expo Hall
8:30-10:00 am	Educational Sessions 7 <ul style="list-style-type: none"> <li>• Preparation and Implementation of Work – A Solid Action to Increase Productivity and Efficiency</li> <li>• Joint Supply Chain Gap Closure Working Session for ANS Organizational Member Group and the United Nuclear Industry Alliance</li> <li>• Innovation to Achieve Success in Decommissioning</li> <li>• Light Water Reactor Sustainability: An Update on R&amp;D Efforts to Extend Plant Life</li> <li>• The Carrot, The Stick-or Something Else? Understanding the Keys to Engaging Employees</li> <li>• OPS Track Rollup / Takeaways / Considerations</li> <li>• PI/CAP &amp; HU/IS Proficiency or Best Practices</li> <li>• Data Collection: Methods and Model Impact</li> </ul>	Amelia Ballroom 1 Amelia Ballroom 4 Ossabaw A Cumberland B
10:00-10:30 am	Refreshment Break	Conference Room 2/3 Cumberland C Ossabaw B Talbot A/B
10:30 am-12:00 pm	Plenary 3: Controlling our Destiny and Delivering for Society	Amelia Foyer
12:30-2:00 pm	UWC 2019 Wrap-up/2020 Planning Meeting	Amelia Ballroom 1-4 Talbot



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# General Information

## MEETING INFORMATION

The Utility Working Conference and Technology Expo (UWC) is an annual meeting of the minds that consistently generates strong, practical recommendations designed to address the industry's most pressing needs. The focus of the 2019 UWC is to analyze cost drivers common to all nuclear power plants and recommend programs and processes to improve their efficiency and effectiveness and to provide innovative solutions that enable a significant reduction in operating expenses. For more information about the UWC, make sure to visit <http://uwc.ans.org/>.

## REGISTRATION

**Location:** Magnolia Foyer

Name badges must be worn during all technical sessions and events. Some events require a ticket, and may entail an additional cost.

Sunday, August 4 2:00 pm-7:00 pm

Monday, August 5 7:00 am-4:00 pm

Tuesday, August 6 7:30 am-5:30 pm

Wednesday, August 7 7:30 am-10:30 am

## NOTICE TO SPEAKERS:

All speakers providing a presentation MUST upload their presentation via the link below no later than Friday, July 26th. To submit presentations, go to <http://uwckb.ans.org/upload/>.

## UWC VENDOR TECHNOLOGY EXPO

Build your network: make sure to stop by and visit UWC's 70+ Exhibitors!

Sunday, August 4 6:00 pm-8:00 pm

Monday, August 5 7:00 am-4:30 pm

Tuesday, August 6 7:30 am-7:30 pm

Wednesday, August 7 7:30 am-9:00 am

## ATTENDEE WIFI

Wifi at the UWC is proudly sponsored by

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YOUR REGULATORY EXPERTS

For log-in information, visit Booth 09

## 2019 WRAP UP/2020 PLANNING MEETING

**Location:** Talbot

Anyone interested in organizing and planning the 2020 UWC is welcome to attend. Wednesday, August 7, 12:30-2:00 pm.

## UWC 2019 APP

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Scan this QR code or type in Attendee Hub to your phone or tablet's app store to download the app. Then type uwc2019 in the find your event field and login to experience all of the app features!



**If you already have Attendee Hub on your phone:**

1. From the event homescreen, tap the three white lines icon on the top left.
2. Choose Switch Event, then type uwc2019 on the search screen to find this years meeting.

You may also access the content at the online event guide at [event.crowdcompass.com/uwc2019](http://event.crowdcompass.com/uwc2019), even if the app is not available for your device.

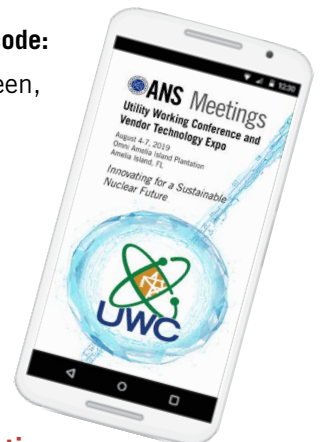
**Logging into the app:**

**If you still have the invitation email from ANS Meetings:**

1. Open the invitation in your inbox. Tap Verify Account.
2. Tap Open App to complete the verification via the new mobile app.

**To retrieve your verification code:**

1. From the event homescreen, tap the three white lines icon on the top left.
2. Tap Log in for more features and enter your name and tap Next.
3. Tap Resend Code to have a verification code sent to your email address.



**NOTE: All session evaluations will be done in the app only.**

# General Information

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## ABOUT ANS

### **Mission**

ANS provides its members with opportunities for professional development. It also serves the nuclear community by creating a forum for sharing information and advancements in technology, and by engaging the public and policymakers through communication outreach.

### **Statement on Diversity**

The American Nuclear Society (ANS) is committed, in principle and in practice, to creating a diverse and welcoming environment for everyone interested in nuclear science and technology. Diversity means creating an environment – both in ANS and in the profession – in which all members are valued equitably for their skills and abilities and respected equally for their unique perspectives and experiences. Diverse backgrounds foster unique contributions and capabilities, and so creation of an inclusive Society ultimately leads to a more creative, effective, and technically respected Society.

ANS believes that everyone deserves opportunities for learning, networking, leadership, training, recognition, volunteering in Society activities, and all the other benefits that involvement in the Society brings, regardless of age, color, creed, disability, ethnicity, gender identity and expression, marital status, military service status, national origin, parental status, physical appearance, race, religion, sex, or sexual orientation. The selection of a member to serve in ANS's volunteer leadership structure shall be based solely on the member's ability, interest and commitment to serve. In particular, ANS encourages members at each level of the Society and in each Professional Division and Technical Group to make special efforts to recruit underrepresented minorities and women to ensure that they are adequately represented in the Society.

### **Respectful Behavior Policy (Abbreviated)**

The open exchange of ideas, freedom of thought and expression, and productive scientific debate are central to the mission of the American Nuclear Society (ANS). These require an open and diverse environment that is built on dignity and mutual respect for all participants and ANS staff members, and is free of bias and intimidation.

ANS is dedicated to providing a safe, welcoming, and productive experience for everyone participating in Society events and other Society activities regardless of age, color, creed, disability, ethnicity, gender identity and expression, marital status, military service status, national origin, parental status, physical appearance, race, religion, sex, or sexual orientation. Creation of a safe and welcoming environment is a shared responsibility held by all participants. Therefore, ANS will not tolerate harassment of or by participants (including ANS volunteer leaders and staff members) in any form. Disciplinary action for participants found to have violated this principle may include reprimand, expulsion from an event or activity with or without a refund, temporary or permanent exclusion from all ANS events and activities, suspension or expulsion from volunteer leadership positions or groups, and/or suspension or expulsion from Society membership, as appropriate.

If you or someone else experiences harassment, regardless of how you otherwise choose to initially handle the situation, you are encouraged to report the situation to ANS. It is possible that the behavior you experienced is part of a larger pattern of repeated harassment. Please alert ANS to behavior you feel to be harassment regardless of the offender's identity or standing in the Society.

The designated contact for reports at UWC 2019 is ANS Executive Director Bob Fine. He can be reached during regular business hours at 708-579-8200. At other times, he can be reached at 708-476-7096. He can also be reached by email at [rfine@ans.org](mailto:rfine@ans.org).

The complete Respectful Behavior Policy can be found at [ans.org/about/rbp](http://ans.org/about/rbp). If you have questions about the policy, please contact ANS Executive Director Robert C. Fine at 708-579-8200 or [rfine@ans.org](mailto:rfine@ans.org).

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# General Information

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## ANS CODE OF ETHICS

### **Preamble**

Recognizing the profound importance of nuclear science and technology in affecting the quality of life throughout the world, members of the American Nuclear Society (ANS) are committed to the highest ethical and professional conduct.

### **Fundamental Principle**

ANS members as professionals are dedicated to improving the understanding of nuclear science and technology, appropriate applications, and potential consequences of their use.

To that end, ANS members uphold and advance the integrity and honor of their professions by using their knowledge and skill for the enhancement of human welfare and the environment; being honest and impartial; serving with fidelity the public, their employers, and their clients; and striving to continuously improve the competence and prestige of their various professions.

ANS members shall subscribe to the following practices of professional conduct:

### **Principles of Professional Conduct**

1. We hold paramount the safety, health, and welfare of the public and fellow workers, work to protect the environment, and strive to comply with the principles of sustainable development in the performance of our professional duties.
2. We will formally advise our employers, clients, or any appropriate authority and, if warranted, consider further disclosure, if and when we perceive that pursuit of our professional duties might have adverse consequences for the present or future public and fellow worker health and safety or the environment.
3. We act in accordance with all applicable laws and these Practices, lend support to others who strive to do likewise, and report violations to appropriate authorities.
4. We perform only those services that we are qualified by training or experience to perform, and provide full disclosure of our qualifications.
5. We present all data and claims, with their bases, truthfully, and are honest and truthful in all aspects of our professional activities. We issue public statements and make presentations on professional matters in an objective and truthful manner.
6. We continue our professional development and maintain an ethical commitment throughout our careers, encourage similar actions by our colleagues, and provide opportunities for the professional and ethical training of those persons under our supervision.
7. We act in a professional and ethical manner towards each employer or client and act as faithful agents or trustees, disclosing nothing of a proprietary nature concerning the business affairs or technical processes of any present or former client or employer without specific consent, unless necessary to abide by other provisions of this Code or applicable laws.
8. We disclose to affected parties, known or potential conflicts of interest or other circumstances, which might influence, or appear to influence, our judgment or impair the fairness or quality of our performance.
9. We treat all persons fairly.
10. We build our professional reputation on the merit of our services, do not compete unfairly with others, and avoid injuring others, their property, reputation, or employment.
11. We reject bribery and coercion in all their forms.
12. We accept responsibility for our actions; are open to and acknowledge criticism of our work; offer honest criticism of the work of others; properly credit the contributions of others; and do not accept credit for work not our own.

# Speaker Biographies

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**MARILYN C. KRAY**

*ANS President  
2019-2020*

## UWC 2019 GENERAL CHAIR

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As Vice President of Nuclear Strategy & Development for Exelon, Marilyn Kray leads major initiatives on current and advanced reactor designs to create growth opportunities that leverage Exelon's nuclear operations competency. These initiatives include pursuing operational service agreements, both domestically and internationally, as well as engaging with advanced reactor developers in order to evaluate potential business opportunities and future technology deployment.

She served as President of NuStart Energy Development LLC, an industry consortium formed to develop the process for preparing the combined construction and operating license applications for the first new nuclear plant construction in the United States in over 30 years.

Her in-depth knowledge of the global nuclear industry comes from years of experience including as Vice President of Exelon Nuclear Partners. In this role, she led international business development. Prior to this, she served as Exelon's Vice President of Nuclear Acquisition Support, where she pioneered internal processes for due diligence and plant transitions. The result was the successful purchases of the Three Mile Island, Clinton, and Oyster Creek generating stations. More recently, she led the acquisition of the FitzPatrick nuclear power plant.

Marilyn began her career with Exelon in the licensing organization for the Peach Bottom Atomic Power Station. Prior to joining Exelon, she was a reactor engineer and project manager for the U.S. Nuclear Regulatory Commission. She has testified in front of Congress on multiple occasions regarding nuclear development in the United States. Throughout her career Marilyn has served in leadership roles as Exelon's representative to the Nuclear Energy Institute and the Electric Power Research Institute.

Marilyn has been a member of ANS since 2007 and serves in the Education, Training, and Workforce Development Division as well as the Operations and Power Division. In 2007, she received the American Nuclear Society's Utility Leadership Award. Other recognitions Marilyn has received include the World Nuclear Association award for Distinguished Contribution to the Peaceful Use of Nuclear Technology, and under her leadership the NuStart organization was one of four finalists for the 2012 Edison Award.

Marilyn is a graduate of Carnegie-Mellon University, with a Bachelor of Science degree in Chemical Engineering.



**ANNIE CAPUTO**  
*NRC Commissioner*

## OPENING PLENARY SPEAKERS

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The Honorable Annie Caputo was sworn in as a Commissioner of the U.S. Nuclear Regulatory Commission on May 29, 2018 and is currently serving the remainder of a five-year term ending June 30, 2021.

Commissioner Caputo previously served as senior policy advisor for Chairman John Barrasso (R-WY) on the Senate Environment and Public Works Committee. She also held this position for then-Chairman James Inhofe (R-OK) from 2007 to 2012. From 2005-2006 and 2012-2015, Commissioner Caputo worked for the House Committee on Energy & Commerce, handling nuclear energy issues.

Prior to her positions on Capitol Hill, she worked for Exelon Corporation.

A graduate from the University of Wisconsin-Madison, she holds a bachelor's degree in nuclear engineering.



**STEVE KUCZYNSKI**  
*CEO Southern Nuclear*

Steve Kuczynski is chairman, president and chief executive officer of Southern Nuclear, located in Birmingham, Ala. In this role, he is responsible for all operations of Southern Company's six nuclear reactors at plants Farley, Hatch and Vogtle. He is also responsible for new nuclear development initiatives, including the construction of Plant Vogtle units 3 and 4 near Augusta, Ga. He was elected chairman, president and CEO, effective July 11, 2011.

Kuczynski has more than 33 years of experience in the nuclear industry. Previously, he was the Senior Vice President of Engineering and Technical Support for Exelon Nuclear, responsible for performance of outage services, training, emergency preparedness, security, chemistry, radiation protection, operations, maintenance, work control, and industrial safety for the Exelon Nuclear fleet. Prior to that role, Kuczynski was the Senior Vice President of Exelon Nuclear's Midwest Operations. In that role, he was responsible for oversight of Exelon Nuclear's six Illinois operating facilities and 11 reactors.

Kuczynski holds a bachelor of science degree in electrical engineering technology from the Milwaukee School of Engineering and is a graduate of the Harvard Advanced Management Program. He earned a senior reactor operator license from the NRC.

Kuczynski serves as a member the U. S. Department of Energy-Office of Nuclear Energy, Nuclear Energy Advisory Committee. Kuczynski served as chair of the Nuclear Energy Institute's ("NEI") Advanced Reactor Working Group and the New Plant Advisory Committee. He also previously served on the board of directors and the executive committee of the Nuclear Energy Institute, the Terrestrial Power Industry Advisory Board, the board of advisors of X-Energy, the Institute of Nuclear Power Operations National Nuclear Accrediting Board, as well as the advisory boards for the Oak Ridge National Laboratory Nuclear Science and Engineering Directorate, and the Department of Energy's Gateway for Accelerated Innovation in Nuclear. He has served on advisory boards for Georgia Institute of Technology's Nuclear and Radiological Engineering Program and Fluoride High Temperature Reactor Program, Holtec International SMR advisory council and ClearPath advisory Board.

Kuczynski received the Special Achievement Award from the US Nuclear Infrastructure Council and the Presidential Citation from the American Nuclear Society.



# Speaker Biographies

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**MARGARET DOANE**

*NRC Executive Director for Operations*

## PLENARY 2 SPEAKERS

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Margaret “Margie” Doane became the Executive Director for Operations in July 2018. This is the highest-ranking career position in the agency, with responsibilities for overseeing the agency’s operational and administrative functions, and serving as the chief operating officer.

Doane previously served as the agency’s General Counsel from November 2012 to June 2018. In that position, she oversaw the Office of General Counsel and directed matters of law and legal policy; provided legal opinions, advice, and assistance to the agency; monitored adjudicatory proceedings; provided legal interpretations; and represented and protected the interests of the NRC in legal matters, among other responsibilities.

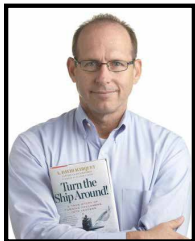
Prior to that position, Doane served for five years as the Director of the NRC’s Office of International Programs. She was the principal liaison between the international regulatory community and the members of the Commission as well as civilian nuclear policy-making bodies within the federal government involved in international activities. She also served for three years as the office’s Deputy Director.

Doane began her career at the NRC in 1991 as a Special Assistant (Legal) in the Office of the Secretary. She later served for seven years as an attorney in the Office of Commission Appellate Adjudication before joining the office of Commissioner Jeffrey S. Merrifield, where she held progressively responsible positions before ultimately serving as his Chief of Staff. She is a 2004 graduate of the NRC’s SES Candidate Development Program.

Doane received the NRC Meritorious Service Award in 2005 and the Presidential Meritorious Service Award in 2018.

Prior to joining the NRC, Doane was an attorney advisor for the Department of Veterans Affairs, Board of Veterans Appeals. Doane received a bachelor’s degree in Economics from Loyola College in Baltimore. She holds a law degree from the University of Maryland School of Law.

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**DAVID MARQUET**

*Author: Turn the Ship Around! And The Turn the Ship Around! Workbook*

Student of leadership and organizational design, former nuclear submarine commander, Author of Amazon #1 Best Seller: *Turn the Ship Around!* And *The Turn the Ship Around! Workbook*, and one of Inc. Magazine’s Top 100 Leadership Speakers for 2018.

David Marquet imagines a work place where everyone engages and contributes their full intellectual capacity, a place where people are healthier and happier because they have more control over their work—a place where everyone is a leader.

A 1981 U.S. Naval Academy graduate, Captain Marquet served in the U.S. submarine force for 28 years. After being assigned to command the nuclear powered submarine USS Santa Fe—then ranked last in retention and operational standing—he realized the traditional leadership approach of “take control, give orders,” wouldn’t work. He “turned the ship around” by treating the crew as leaders, not followers, and giving control, not taking control. This approach took the Santa Fe from “worst to first,” achieving the highest retention and operational standings in the navy.

After Captain Marquet’s departure, the Santa Fe continued to win awards and promoted a disproportionate number of officers and enlisted men to leadership positions, including ten subsequent submarine captains. Stephen R. Covey said it was the most empowering organization he’d ever seen and wrote about Captain Marquet’s leadership practices in his book, *The 8th Habit*.

Captain Marquet is the author of *Turn the Ship Around! A True Story of Turning Followers Into Leaders*. Fortune magazine named it the #1 must-read business book of the year, and USA Today listed it as one of the top 12 business books of all time. He is also the author of *The Turn the Ship Around Workbook*, which is a companion workbook for implementing Intent-Based Leadership.

Captain Marquet retired from the Navy in 2009, and now speaks to audiences around the globe who want to create empowering work environments that release the passion, initiative, and intellect of each person. This bold and highly effective framework is summarized as “give control, create leaders.”

He is a life member of the Council on Foreign Relations, and in 2015 was named to the American Management Association’s “Leaders to Watch” list.



## SUNDAY, AUGUST 4


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### GOLF TOURNAMENT “GRAB & GO” BREAKFAST

**Location:** Marsh View Bar & Terrace

6:30-7:45 am

The shuttle will pick up from the main hotel lobby between 6:30-7:15 a.m. dropping off for breakfast from 6:30-7:30 a.m. at the Marsh View Bar and Terrace. Check in at the UWC Golf Registration desk to receive your foursome assignment and other materials.

Grab & Go Breakfast is proudly sponsored by 

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### UWC GOLF TOURNAMENT

**Location:** Oak Marsh Golf Course

8:00 am-1:30 pm

The 2019 ANS Utility Working Conference (UWC) Golf Tournament will be held at the Oak Marsh Golf Course starting at 8 a.m. This tournament is open to all conference attendees and guests. However, attendees must pay the appropriate fee to participate.

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### UWC GOLF TOURNAMENT AWARDS LUNCHEON

**Location:** Cumberland B/C

1:30-3:00 pm

The shuttle will pick-up from the golf course and return to the hotel from 1:00-2:00 p.m. The Awards Luncheon will take place at the hotel in Cumberland BC.

The Awards Luncheon is proudly sponsored by 

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### OPENING RECEPTION IN THE VENDOR TECHNOLOGY EXPO

**Location:** Expo Hall

6:00-8:00 pm

Join UWC attendees and vendors for a reception to celebrate the opening of the Vendor Technology Expo and to kick off yet another great Utility Working Conference! Heavy hors d'oeuvres, desserts and beverages will be provided. We look forward to seeing you there!

This event is included in a full registration or an Adult or Child Meal Pass. Additional tickets are available for purchase online or on-site. All attendees will need a badge to enter the Expo Hall.

The Opening Reception is proudly sponsored by



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## MONDAY, AUGUST 5

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### INDUSTRY AWARDS PRESENTATION & OPENING PLENARY: IN THE FACE OF UNCERTAINTY, BE INNOVATIVE

**Location:** Amelia Ballroom 1-4

8:00-10:00 am

**Speakers:** Steve Kuczynski (*CEO Southern Nuclear*)  
Annie Caputo (*NRC Commissioner*)

Plenary,  
Special  
Events  
and  
Sessions

## TUESDAY, AUGUST 6

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### PLENARY 2: UNLOCKING THE POWER OF PEOPLE

**Location:** Amelia Ballroom 1-4

8:30-10:00 am

**Speakers:** Margie Doane (*NRC Executive Director for Operations*)  
David Marquet (*Author: Turn the Ship Around! And The Turn the Ship Around! Workbook*)

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### VENDOR RECEPTION & BOOTH RAFFLE/PASSPORT TO PRIZES

**Location:** Expo Hall

5:00-7:30 pm

#### Vendor Technology Expo Raffle

Don't miss out on an exciting opportunity to network with exhibitors and win fantastic prizes by attending the Vendor Raffle and Reception! To participate in the raffle, drop off your business card or have your badge scanned at the participating booths before 3:30 pm on Tuesday. Winners will be posted on large screens located in the exhibit hall foyer and at registration. Prizes must be claimed from the exhibitors' booths before 7:00 pm. There will be an area set up for photographs of the winners and exhibitor reps in the exhibit hall foyer. A follow-up drawing is scheduled for 7:00 pm for any unclaimed vendor prizes. All registered attendees are invited.

#### Passport to Prizes

All attendees will receive a passport game card with participating sponsor logos and exhibit booth numbers. During exhibit hall hours, attendees must visit each booth to get their passbook stamped. Completed passbooks will be entered into a drawing during Tuesday's Vendor Reception for a chance at the grand prize! Passbooks must be completed and submitted by Tuesday at 7:00 pm at the ANS/Nuclear News booth. Winners will be announced at 7:30 pm. You must be present to win.

#### Prizes Include:

- Grand Prize: Complimentary Full 2020 UWC Conference Registration, and three complimentary nights in the Marriott Marco Island Beach Resort Hotel
  - Second Prize: Apple iPad Pro 12.9inch
  - Third Prize: GoPro Hero HD Waterproof Action Camera with battery and Head Strap
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### TUESDAY EVENING EVENT: CASINO NUCLEAR

**Location:** Amelia Ballroom 1-4

7:30-10:00 pm

Immediately following the reception, join us to celebrate another successful conference! Event is complimentary to all full meeting registrants and Adult or Child Meal Passes. All attendees will need a ticket to enter the event. Additional tickets are available for purchase on-site. \*Ticket is required for entry\*

Proudly sponsored by



## WEDNESDAY, AUGUST 7

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### PLENARY 3: CONTROLLING OUR DESTINY AND DELIVERING FOR SOCIETY

**Location:** Amelia Ballroom 1-4

10:30 am-12:00 pm

This plenary will feature a panel discussion on the path forward for our industry.

## MONDAY AUGUST 5

EDUCATIONAL SESSIONS 1: 10:30 AM-12:00 PM

### BUSINESS/ECONOMIC PERFORMANCE

#### Value Modeling to Optimize Capital Investments at TVA

**Session Organizer:** Tim Schlimpert (*MCR Performance Solutions*)

**Participants:** John Alfultis (*TVA*), John Crawford (*TVA*), Phil Jones (*Copperleaf*), Alex Payne (*Copperleaf*)

**Room:** Talbot A

Licensees are consistently challenged to meet restricted or reduced capital budgets while maintaining improved plant performance. Pragmatic capital investment is the key to extended safe and reliable nuclear plant operation. The challenge licensees face is implementing the highest value investments at the optimum time to make the best use of limited capital funding. This session will examine approaches used by TVA and others to identify the portfolio of projects which adds the most value while reducing the most risk over the life of a plant, fleet and company. Value modelling considers multiple risk factors, opportunities and investment cost to develop a comparative cost-benefit analysis for each project. These analyses support project portfolio development and optimization across the enterprise.

### DECOMMISSIONING

#### Decommissioning Funding

**Session Organizer:** Jim Byrne (*Byrne & Assoc., LLC*)

**Participants:** John Matthews (*Morgan, Lewis & Bockius LLP*), Nick Capik (*ABZ Inc.*), Rich Turtill (*NRC*), Tom Magette (*Talisman*)

**Room:** Ossabaw A

Decommissioning Funding: A Broad look and the funding, reporting, and expenditure processes. Insights and lessons learned on the regulatory and practical frame work of decommissioning financial assurance. Changes to trust fund financial rules, access to funds, commingling of funds, and hypothetical examples of improper fund use will be examined.

### ENGINEERING/EQUIPMENT RELIABILITY AND REGULATORY RELATIONS

#### Advanced Reactors

**Session Organizers:** Garry Young (*Entergy*), Amir Afzali (*Southern Nuclear*)

**Participants:** Amir Afzali (*Southern Nuclear*), John Monninger (*NRC*), Jim Kinsey (*INL*), Jeff Merrifield (*Pillsbury Winthrop Shaw Pittman LLP*), Doug True (*NEI*)

**Room:** Amelia Ballroom 2/3

The most pressing set of national priorities are 1) generation of affordable, reliable, sustainable, resilient, and clean energy, 2) energy independence, 3) developing national human capital and infrastructure, and 4) protecting national security interests through global leadership. Nuclear energy is the only energy production option that consistently supports all these priorities. The future of nuclear energy will include advanced nuclear non-light water reactor (non-LWR) systems which promise superior economics, improved efficiency, greater fissile fuel utilization, reduced high level waste generation, and increased margins of safety. It is well recognized that it takes decades and significant financial investment to mature, deploy, and optimize nuclear energy systems. It is also recognized that an efficient and cost-effective licensing framework that facilitates safe and cost-effective construction and operation of such systems is a critical element for incentivizing private sector investment and enabling innovation. This session provides an opportunity to present and discuss the ongoing and planned activities to modernize US regulatory framework to enable innovation while protecting health and safety of the public.

Breakout  
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## MONDAY AUGUST 5

EDUCATIONAL SESSIONS 1: 10:30 AM-12:00 PM

### EXECUTIVE/LEADERSHIP

#### **The Intergenerational Transition Challenge - Passing the Torch**

**Session Organizers:** Jim Little, Sean Clark (*AMMI Risk Solutions*)

**Participants:** Jim Little, Dan Vega, Latonya Mahlahla (*US NRC*), Greg Sanborn

**Room:** Conference Room 2/3

Perhaps the most immediate and impacting challenge facing the nuclear industry is the loss of its Baby Boomer generation of knowledge workers due to retirements, and the transition to reliance to a new generation of workers who do not have the benefit of past knowledge and experience. The nuclear power industry is at a critical point in its evolution in a cost competitive environment, as it strives to maintain the standard of EXCELlence in operation for the existing fleet of reactors while developing new, better, and more cost-effective technologies for the future. Key to the continued success and future development of the industry will be innovative approaches to attract and energize a new generation of workers who can bring new thinking and technologies while accessing the knowledge base of the previous generation.

New approaches, which will require fundamental changes in business and management cultures as well as the aggressive implementation of intelligent technologies, will be required to access and make available the knowledge and experience of the past generation in a framework that is accessible and that allows the next generations to focus on innovations that improve operations and cost effectiveness - needs critical to the future viability of the industry.

Come interact with this unique panel of nuclear industry speakers from the commercial nuclear industry, the U.S. Department of Energy, and the U.S. Nuclear Regulatory Commission who will discuss the challenges they are facing along with the results of their efforts to address this significant industry issue.

### INNOVATION IN TECHNOLOGY AND SUPPLY

#### **Craft Labor: Market, Technology, and Utility Impacts and Methodologies**

**Session Organizer:** Dale Holden (*Duke Energy*)

**Participants:** Dale Holden (*Duke Energy*)

**Room:** Amelia Ballroom 4

Within the past decade US nuclear operators have placed considerable attention improving efficiency and cost management at operating nuclear plants. One of the areas of significant spend is support relative to contract resources for on-line and outage staffing. Refueling activities now take less days to complete and fewer workers. Maintaining focus on critical path activities for predictable and timely completion has also improved. Although these measures have proven successful to reduce spend on contract labor, unintended consequences of shortening outage duration and ultimately contractor engagement has negatively impacted resource availability of needed labor. Additionally, a growing national construction boom is enticing many previously employed nuclear seasonal workers to choose other market opportunities. Some nuclear utilities that previously experienced year over year returnee rates of 70% to 90% are now struggling to capture 50%. Although the rate of returnees can vary throughout the country, what is consistent is the demand for skilled craft labor. This discussion will review the challenge of obtaining skilled resources under current and project market conditions and what strategies can be considered to mitigate potential labor shortages for staffing nuclear refueling outages and various nuclear projects.

### MAINTENANCE/WORK MANAGEMENT

#### **INPO Analysis of Trends for 2018 and 2019, Including Issues with Maintenance Fundamentals**

**Session Organizer:** Jon Anderson (*ACA Proactive*)

**Participants:** Pete Arthur (*INPO*), Bryant Hearne (*INPO*)

**Room:** Amelia Ballroom 1

This session starts with a presentation by INPO on the current trends in performance, including Maintenance Fundamentals. The session then opens to a discussion of what is working and not working by plant personnel. Participants will take away from this session a deep understanding of industry performance and contact personnel they can talk to about what is working and what is not working. Maintenance fundamentals will be highlighted because it is a top issue at INPO.

### OPERATIONS/OPS TRAINING

#### **Building an Operations Department from the Ground Up**

**Session Organizer:** Scotty Scott (*Harris Nuclear Plant*)

**Participants:** Ron Gibbs (*South Texas Project*), Alex Trespacios (*Exelon - Braidwood*), Matthew Norris (*Southern Nuclear - Vogtle 1&2*), Brian Reed (*Southern Nuclear*)

**Room:** Cumberland C

If you could start with a clean slate, how would you start a new Operations Department in 2019? In this session, presenters will build a department from its foundation that understands and mitigates the current issues with the industry and how it relates to Operations and Operations Training.

## MONDAY AUGUST 5

EDUCATIONAL SESSIONS 1: 10:30 AM-12:00 PM

### PERFORMANCE IMPROVEMENT

#### Culture; Willful Violations, Best Practices

**Session Organizer:** Kim Leffew (*Consolidated Nuclear Security*)

**Participants:** Riz Shah (*Department of Energy*), Ron Gaston (*Entergy*), Elmo Collins (*EXCEL Services*)

**Room:** Ossabaw B

A troubling trend in our industry is an apparent increase in willful violations of important plant safety requirements such as safety checks, inspection records, and falsification of important records. These events are cultural in nature and have the potential to severely undermine regulator and public confidence, and threaten our sustainable nuclear future. In this session we will explore potential drivers for this trend, best practices for responding to these type of events, and insights into how to evaluate and correct the underlying organizational and cultural causes of these events.

### REGULATORY RELATIONS

#### See Engineering/Equipment Reliability

### RISK MANAGEMENT

#### PRA Models: Extracting Actionable Insights

**Session Organizer:** Greg Zucal (*Jensen Hughes*)

**Participants:** Greg Zucal (*Jensen Hughes*), CJ Fong (*US NRC*), Steve Mongeau (*Entergy*), Bob Rishel (*Duke Energy*), Gene Kelly (*Exelon Corporation*)

**Room:** Talbot B

PRA models have become increasingly important due to the adoption of risk informed programs at nuclear power plants, however the ability to extract insights is becoming more challenging as the models become more complex by including additional hazards. Additionally, what constitutes “insights” from a PRA model is not necessarily clear. CDF/LERF metrics, basic event importance measures, high risk fire areas, and other immediately available data provide meaningful insights, but how can we leverage the PRA model to obtain other actionable insights? The PRA models represent a uniquely integrated model of the as-built and as-designed plant response to various plant challenges and therefore it is prudent that we look for new or improved ways to extract actionable insights. This session will explore innovative tools and methods developed to help better interrogate PRA models, and provide some examples of the insights obtained.

### TECHNOLOGY AND INNOVATION

#### Innovation from the US and Canada National Labs and Academic Research of Nuclear Industry Trend

**Session Organizer:** John Downing (*John Downing Consulting LLC*)

**Participants:** Kemal O. Pasamehmetoglu (*INL*), Corey McDaniel (*CNL*), Ruba Kachlan (*Duke Energy*)

**Room:** Cumberland A

Since 1946 the seventeen United States Department of Energy National Labs have been the innovation engine for the commercial, peaceful use of nuclear power. These labs, and especially Oak Ridge, Idaho, and Argonne National Labs have positively influenced the operation, reliability, safety and capacity factors of the commercial nuclear generating fleet with research projects of importance. In addition to discovering 22 elements of the periodic table, DOE labs developed nuclear Reactor Excursion and Leak Analysis Program (RELAP) and other tools used by the commercial nuclear generating fleet. This session is intended to highlight some of the new and exciting research underway at the DOE National Labs.

This session will also feature Dr. Corey McDaniel, Chief Commercial Officer of Canadian Nuclear Laboratories (CNL), who will speak about CNL’s unique approach to supporting utilities through the Centre for Reactor Sustainability (CRS) and how light and heavy water reactors could benefit from the results of collaboration between CNL and DOE Labs. Dr. McDaniel’s presentation is titled - “Challenges and Opportunities in Sustainability – A Canadian Perspective. Dr. McDaniel will present highlights on the research and operations that CNL is performing in support of nuclear utilities and sustainable operations. Topics will include the latest activities of the Centre for Reactor Sustainability (CRS) with a focus on new capabilities in fuel PIE, a case study on providing emergent support for utilities as a national lab, and CNL’s innovative research in Instrumentation and Control System (ICS) cyber security for nuclear power plants.

The final speaker in this session is a senior electric engineer from Duke Energy who is also MBA graduate student. She will deliver a synopsis of some of her MBA research into changes and recent technological developments and related influencing factors and their impacts on the commercial nuclear industry.

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**MONDAY AUGUST 5**  
EDUCATIONAL SESSIONS 2: 1:30-3:00 PM

**BUSINESS/ECONOMIC PERFORMANCE**

**Innovations Improving Operational and Financial Performance at Duke Energy**

**Session Organizer:** Maria Hernandez (*Duke Energy*)

**Participants:** Danny Wiles (*Duke Energy*), Dale Holden (*Duke Energy*)

**Room:** Talbot A

While the utility environment in the United States is rapidly changing in response to low natural gas prices and regulations, Duke Energy is taking a lead role in creative use of innovations to achieve key financial metrics while meeting shareholder expectations for reducing cost. In this session, we will see the latest use of innovative approaches to reduce spending while improving overall company operations.

Our first presentation will examine the financial balancing act utilities must manage in meeting shareholder expectations and managing key financial metrics. The presenter will discuss the key financial metrics used in managing utilities and the challenges of keeping all metrics in a healthy range despite conflicting objectives associated with growing earnings, maintaining liquidity, minimizing debt and paying dividends all while reducing O&M costs, making investments and managing rate case lag. The presentation will also discuss the Duke Energy Nuclear Fleet and the cost cutting measures Duke nuclear has undergone over the last few years to contribute to meeting the company's financial objectives and operating in a more efficient digital environment. Lastly, the presentation will also touch on the impacts and current events related to the decommissioning of the Crystal River 3 plant and the impacts of Coal Ash Clean Up.

Innovation is a term used broadly in nearly every industry expressing the desire, and often ability, to demonstrate relevance improving cost efficiency in our technological age. Applying technological solutions offers an array of opportunities to make efficient step-change improvements. As electric utilities holding nuclear generation look to extend operations with existing assets, sustainability will undoubtedly require improved efficiencies for mid-century operations. Competition with renewables, natural gas, emerging technologies and independent producers has created very real disruption for existing nuclear generation. But innovation may not be enough to create a competitive edge with a business that has significant regulatory requirements, safety and reliability infrastructure and high operating and maintenance costs that must be confronted. Even when innovation can provide some of these improvements, can enough inefficiencies be removed that will reap a harvest of savings that can create a sustainable and proactive competitive position moving forward? What else may be needed to capitalize on innovative opportunities that can create a formula for success? In this presentation these topics will be explored sharing some learnings from the nuclear industry and Duke Energy's efforts to apply and sustain a business model that will position nuclear operators for long-term generation.

**DECOMMISSIONING**

**Decommissioning Planning, Estimating, and Assumptions**

**Session Organizers:** Rich St. Onge (*7th Factor Services*), Dustin Miller (*Chase Environmental Group*)

**Participants:** Joe Carignan (*Carignan & Associates LLC*), Nick Capik (*ABZ Inc.*), Rich McGrath (*EPRI*), Rich St. Onge (*7th Factor Services*)

**Room:** Ossabaw A

Speakers will provide insights on managing Decommissioning Cost Estimates and the challenges that owners face as they defend those estimates against an increasing critical public and private audience. Best practices will be highlighted based on lessons learned in the industry. Insights into potential decommissioning cost reductions through the application of technological advancements will be discussed.

**ENGINEERING/EQUIPMENT RELIABILITY AND REGULATORY RELATIONS**

**Digital Modernization Part 1: Myth-Busting Digital I&C**

**Session Organizers:** Ray Herb (*Southern Nuclear*), Pareez Golub (*EXCEL Services*)

**Participants:** Ray Herb (*Southern Nuclear*), Eric Benner (*NRC*), Pareez Golub (*EXCEL Services*), John Connelly (*Exelon Corporation*)

**Room:** Amelia Ballroom 2/3

This first session is about the myths surrounding Digital Modernization. It is aimed at changing long-held beliefs related to digital modernization like problems related to platform maintenance, lifecycle issues, regulatory hurdles, and negative NPVs. This panel will challenge the myth that digital comes with unnecessary additional burdens over analog including cyber, obsolescence, software, and complexity. Hear about NRC initiatives that reduce regulatory burden and increase regulatory certainty in digital implementation. This session will also address the myth that digitization, including protection systems, do not provide a good return on investment. Busting these long-held digital myths will help change the perceptions and lead to implementing digital modernizations to support sustainability of the operating fleet. This is a two-part Modernization panel, stay around for Part 2: Closing the Deal.



## MONDAY AUGUST 5

### EDUCATIONAL SESSIONS 2: 1:30-3:00 PM

#### EXECUTIVE/LEADERSHIP

##### Care to Lead

**Session Organizer:** Alec McGalliard (*McGalliard Consulting*)

**Participant:** Alec McGalliard (*McGalliard Consulting*)

**Room:** Conference Room 2/3

CARE To Lead: How to Master and Implement Four Keys to Leadership – Communication, Accountability, Relationships and Example of EXCELlence was written by Alec McGalliard, Owner and CEO of McGalliard Consulting, with one primary goal- to help people be better leaders. As someone who started at the bottom, worked his way up and goes to work every day trying to be a better leader, Alec developed the CARE Leadership Tools through being self-critical and through a lessons learned approach with a desire to create a simple, cost effective set of leadership tools based on treating people like we want to be treated. The CARE Leadership Tools are meant to compliment and work in conjunction with other leadership models as we do not believe any one set of leadership tools addresses the many issues leaders face or the many different personalities at our places of employment. However, we do believe that the CARE Leadership Tools provide a solid foundation for working with people of all ages, genders, nationalities, races, and in many professions.

#### INNOVATION IN TECHNOLOGY AND SUPPLY

##### Panel on Utility/Supplier Negotiations

**Session Organizer:** Brandon Zimmerman (*Southern Nuclear*)

**Participants:** Bill Fry (*Duke Energy*), Joseph McAvoy (*Day & Zimmermann*), Ryan Fitzpatrick (*Exelon*), Robert Cole (*Framatome Inc.*)

**Room:** Amelia Ballroom 4

This session will feature a panel of utility and supplier participants discussing how to achieve a win-win during negotiations. Discussions will also include instances where negotiations went sour and the best practices that got negotiations back on-track. The panel will also discuss how recent technological changes have impacted negotiations. This will be valuable information for the first-time contract writers and seasoned CPOs alike.

#### MAINTENANCE/WORK MANAGEMENT

##### Using the Demand - Supply Model to Measure and Improve our Productivity and Efficiency

**Session Organizer:** Jon Anderson (*ACA Proactive*)

**Participants:** JD Miller (*Duke Energy*), Tom Morris (*Exelon Corporation*), Tim Schlimpert (*MCR Performance Solutions*)

**Room:** Amelia Ballroom 1

In this session we will hear from those that are using a Demand - Supply Model to make significant improvements in their organizational performance. One of the topics we will discuss is getting durations right in our Work Orders, for example, with interns. Durations is one of the issues some organization have with measuring demand. This session will provide insights into how to automate the development of this model and provide sample workbooks others can use to develop their model. In this session we will start our list of actions we can implement to increase our productivity.

#### OPERATIONS, AND RISK MANAGEMENT

##### Risk Informed Completion Time Implementation and Change Management

**Session Organizer:** Jesse Key (*Southern Nuclear*)

**Participants:** James Landale (*Exelon Corporation*), Adam Coker (*Southern Nuclear*), Jesse Key (*Southern Nuclear*), Ron Gibbs (*South Texas Project*)

**Room:** Cumberland C

The Risk Informed Completion Time (RICT) program is now being licensed and is available for use. TSTF-505 has been the subject of considerable interaction between NRC and industry, to refine the scope and execution of the program. The needed infrastructure - procedures, training, and configuration risk management tools - have been developed and PRA models are being streamlined as so-called "one-top" models to allow faster computation time. The program will work under the umbrella of the mature online Maintenance Rule work control process to successfully manage configuration risk by calculating a configuration-specific allowed outage time and employing risk management actions. This innovative program allows operators sufficient time to address equipment problems and removes undue stress and time pressure on the organization. It also eliminates the need to develop contingency NOED's and regulatory relief, but few plants have been licensed or are implementing to date, as the process is new. This session will explore the tools and methods developed to effectively implement risk-informed Technical Specifications, and provide early lessons learned.

Breakout  
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## MONDAY AUGUST 5

### EDUCATIONAL SESSIONS 2: 1:30-3:00 PM

#### PERFORMANCE IMPROVEMENT

##### Conducting Cause Analysis for Personnel Injuries and Fatalities

**Session Organizer:** Peg Lucky (*Entergy Nuclear*)

**Participant:** Fred Lake (*WD and Associates*)

**Room:** Ossabaw B

Learn how recent investigations into fatalities at non-nuclear facilities, such as T&D, Hydro Plants, Fossil Plants, Helicopter Line Operations, and vegetation management activities, can provide insights in examining these types of events at our facilities. This session explores 1) strategies for examining these events to get past the human error cause (i.e., situational awareness, did not follow procedures, etc.), 2) tools found to be useful in these types of analyses, 3) examining programmatic and organizational issues, 4) appropriate depth of analysis for these types of events, and 5) how to deal with the unique nature of injury RCA's (i.e., dealing with lawyers & legal perspective, OSHA perspective, public perspective, etc.).

#### REGULATORY RELATIONS

##### See Engineering/Equipment Reliability

#### RISK MANAGEMENT

##### See Operations/Ops Training

#### TECHNOLOGY AND INNOVATION

##### Panel Discussion on Fostering a Culture of Technology and Innovation

**Session Organizer:** Sally White (*EchoWolf Solutions*)

**Participants:** Ashok Shetty (*DataGlance*), Bruce O'Brien (*Marathon Consulting Group Inc.*), Jody Blackshear (*URENCO USA*), Randy Prewett (*Energy Northwest*)

**Room:** Cumberland A

Transformative eWork Mobile Solutions, exemplified by Exelon's 2015 TIP Award, revolutionized plant maintenance through availability, usability and portability of work documents. Employing an agile digital platform supports the predictive analytics, high-reliability organizations need to drive improved personnel and equipment safety, reliability and productivity, concurrently reducing risk and costs by an order of magnitude. Augmented reality, remote collaboration, data availability, enhanced training and knowledge consolidation transcends generations; enabling the collaborative, thinking workforce of the future.

### EDUCATIONAL SESSIONS 3: 3:30-5:00 PM

#### BUSINESS/ECONOMIC PERFORMANCE AND REGULATORY RELATIONS

##### Subsequent License Renewal Activities - Past, Present, and Future

**Session Organizers:** Emma Wong (*EPRI*), Garry Young (*Entergy*)

**Participants:** Emma Wong (*EPRI*), Albert Piha (*Exelon Corporation*), Eric Oesterle (*NRC*), Greg Robison (*Duke Energy*), Paul Phelps (*Dominion*)

**Room:** Cumberland B

In the past 20 years, the NRC has approved 94 license renewals for up to 20 years of additional operation. Despite these license renewals, five of the units with renewed licenses have permanently shutdown and additional units are being considered for permanent shutdown prior to reaching the end of their renewed licenses. By 2040 half of the operating U.S. nuclear reactors will have reached the licensed limit of 60 years of operation, while electricity demand, according to forecasts, will continue to increase. At that time, the closure of a large group of reactors reaching the end of their operating license could lead to significant increases in greenhouse gas emissions and electricity costs while threatening the reliability of the electric system and reducing energy diversity and security. Subsequent License Renewal (SLR) activities to allow U.S. nuclear plants to obtain an operating license for up to 80 years of operation have recently reached a major milestone with the submittal of three SLR applications to the NRC in the last year. This session will include a summary of the efforts that led up to the submittal of SLR applications, the status of NRC review of the applications, and future plans for SLR.

#### DECOMMISSIONING, AND PERFORMANCE IMPROVEMENT

##### Regulatory Perspectives and Updates on the Commercial Decommissioning Process

**Session Organizers:** Jim Byrne (*Byrne & Assoc., LLC*), Rich St. Onge (*7th Factor Services*)

**Participants:** Jack Parrott (*US NRC*), Rhonda Felumb (*Entergy*), Gerry Van Noordennen (*EnergySolutions*), Rhex Edwards (*US NRC*)

**Room:** Ossabaw A

Regulatory perspectives and updates on Commercial Decommissioning processes. Perspectives on current state of affairs on regulatory changes past, present, and looking forward. Also explored is the role of the Corrective Action Program as it applies to permanently shut down facilities in both Safestor and Decon.

## MONDAY AUGUST 5

### EDUCATIONAL SESSIONS 3: 3:30-5:00 PM

#### ENGINEERING/EQUIPMENT RELIABILITY

##### Digital Modernization Part 2: Closing the Deal

**Session Organizers:** Ray Herb (*Southern Nuclear*), Pareez Golub (*EXCEL Services*)

**Participants:** Pareez Golub (*EXCEL Services*), Robert Atkinson (*Dominion*), Chris Whitfield (*Southern Nuclear*), Rob Austin (*EPRI*), John Connelly (*Exelon Corporation*)

**Room:** Amelia Ballroom 2/3

This is the second session after Digital Myth-busting. The utilization of digital technology is critically important to the sustainability of the current operating fleet and the next generation of reactors. The regulatory and technical framework is in place for largescale I&C modernization. Come hear our panel discuss strategies utilities are using to ensure their long-term modernization initiatives achieve the forecasted reductions in O&M costs. Specifically, panel members will address their modernization framework, plans to capitalize on digital enablers to fundamentally changing plant operations, and maintenance strategies to increase equipment reliability - all to reduce cost to maintain their nuclear asset. Learn how EPRI's plant modernization strategies support industry O&M cost reductions and increase collaboration amongst industry resources (e.g., INL and other labs, NEI, etc.).

#### EXECUTIVE/LEADERSHIP

##### Knowledge Transfer and Retention, Young Professionals' Perspective

**Session Organizers:** Sarah Lynn (*Luminant*), Tim Crook (*EPM, Inc*)

**Participants:** Sarah Lynn (*Luminant*), Trey Lewis (*Duke*), Latonya Mahlahla (*US NRC*)

**Room:** Conference Room 2/3

With the cancelation of the VC Summer plant and cost overruns of new builds, we have witnessed firsthand the problems that arise from losing experience, knowledge, and expertise in the sector of nuclear plant design and construction. Counter to that, we know the gains across the industry from shared knowledge and lessons learned; that's why outages can be less than a month and capacity factors exceed 90%! Yet the potential impacts of lost expertise now loom large across the whole industry. A generational employment dip, along with the retirement of experienced leadership, makes knowledge transfer and retention (KT&R) between senior and junior staff more important than ever. But just as the US nuclear industry must evolve to survive, so must the methods by which knowledge is transferred. This session will explore various approaches to KT&R that are being utilized to bridge the age divide, primarily from the perspective of the younger generations. Additionally, we will explore the key factors that contribute to educating, inspiring, and retaining top young talent. This will include a discussion of organizational adaptations that may be necessary for nuclear to compete for top tech talent when the motivations, loyalties, and career paths to leadership can be quite different from the generation that came before.

#### INNOVATION IN TECHNOLOGY AND SUPPLY

##### IT Advancement and Resulting Cyber Security Risks to the Business Unit and Supply Chain

**Session Organizer:** Anthony Souza (*Duke Energy*)

**Participants:** Anthony Souza (*Duke Energy*), Robert Ammon (*Curtiss-Wright*)

**Room:** Amelia Ballroom 4

As the modes of generation and delivery of energy rapidly evolve to include much more distributed resources (wind, solar, etc.), utilities are seeking innovative ways to improve efficiency. Rapidly evolving technologies such as AI/Machine Learning, Cloud Computing, and Advanced Analytics provide the potential to drive efficiencies horizontally across business units such as Nuclear, Transmission, and Distribution, as well as vertically down the energy value chain. These IT advancements present new cyber security challenges in the form of new, external connections that have typically not existed and integration across the IT/OT boundary which has traditionally been separated. Taking full advantage of the IT advancements will require new cyber security architectures/designs, innovative thinking and close coordination with vendors in the supply chain.

The NRC has recently released the Safety Evaluation Report for the first FPGA based diverse hardware and software Digital Safety System. This fully deterministic design can be licensed under the current regulatory standards with no licensing uncertainty or risk. Further the comprehensive real-time diagnostics can reduce or eliminate all surveillance and rounds during operation of the plant. This presentation will discuss the innovative application of both hardware and software technology to achieve the ultimate goals of enhancing plant efficiency, ensuring safety margins, reducing manpower requirements and managing obsolescence through the end of plant life.

Breakout  
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## MONDAY AUGUST 5

EDUCATIONAL SESSIONS 3: 3:30-5:00 PM

### MAINTENANCE/WORK MANAGEMENT

#### Are We OK With Our Current Productivity and if not, what can we do about it?

**Session Organizer:** Jon Anderson (*ACA Proactive*)

**Participants:** TBD

**Room:** Amelia Ballroom 1

Productivity is not just a Maintenance problem, it is an organizational problem. In the last session we learned about using a demand - supply model to identify gaps in our performance. In this session we will discuss gaps that many organizations have and how to fix them to improve our productivity. We will hear about tools, such as Syntempo to help automate processes. In this session we will add to our list of actions we can implement to increase our productivity.

### OPERATIONS/OPS TRAINING

#### Advancing Operations and Training through Technology

**Session Organizer:** John Austin (*Southern Nuclear - Farley*)

**Participant:** Bruce Hennigan (*Exelon Corporation*)

**Room:** Cumberland C

While the Operations Departments lead the core of the organizations, we tend to lag in technological advances. What innovations have worked, and what is on the forefront of improving our ability to work effectively and efficiently? Additionally, what do we need to develop for the Operations departments of the future?

### PERFORMANCE IMPROVEMENT

See [Decommissioning](#)

### REGULATORY RELATIONS

See [Business/Economic Performance](#)

### RISK MANAGEMENT

#### Risk Informed Decision Making

**Session Organizer:** Fernando Ferrante (*EPRI*)

**Participants:** Fernando Ferrante (*EPRI*), Jeff Stone (*Exelon Corporation*), Mike Franovich (*US NRC*), Bob Rishel (*Duke*)

**Room:** Talbot B

Risk informed decision making (RIDM) is a philosophy whereby risk insights are considered with other factors to better focus attention on issues. An integrated RIDM process provides an objective means to assess the safety significance of regulatory issues, plant design and operational issues, and effective risk management. Such a process uses insights from PRA models - more valuable than just the numbers - but not intended to supplant deterministic requirements. PRA tools provide the capability to measure the residual risk and implementation of risk informed applications serve as a foundation to enable the broader use of RIDM. This session will explore how we can break down the barriers to effective RIDM and provide innovative examples on how to move forward on areas that have been challenged with deterministic, non-RIDM aspects, which may require different, innovative approaches to RIDM implementation. A panel will focus on how to move forward, in the spirit of current transformation-oriented initiatives, to achieve a modern and flexible integrated approach to decision making.

### TECHNOLOGY AND INNOVATION

#### Wearable Technology and the Future of Creating an Innovation Telepresence

**Session Organizer:** Vincent Williams (*Southern Nuclear*)

**Participants:** Brian Hamilton (*RealWear, Inc*), Lorne Pondexter (*Ameren*), Feroz Mohummed (*RealWear, Inc*)

**Room:** Cumberland A

Wearable Technology permeates almost all facets of our lives, including its initial infiltration into the nuclear power production industry. Wearable Technology in combination with the Internet-of-Things (IOT) creates a phenomenon known as a Telepresence.

Telepresence can be defined as a 'a set of technologies' which allow a person not normally in one location to digitally give the appearance of being present in an entirely different location. This could be a system that include a combination of hardware and software components, including: Augmented Reality (AR), Virtual Reality (VR), Merged Reality (MR), Robotics, Drone Technology (aerial, ground, and submersible), Thermography, and 3D-Laser scanning. Why is focusing on creating a reliable Telepresence important? Come enjoy this exciting, innovative, and informative session to find out!

## TUESDAY AUGUST 6

EDUCATIONAL SESSIONS 4: 10:30 AM-12:00 PM

### **BUSINESS/ECONOMIC PERFORMANCE, ENGINEERING/EQUIPMENT RELIABILITY, OPERATIONS/OPS TRAINING AND MAINTENANCE/WORK MANAGEMENT**

#### **Aggregate Risk Associated with Backlogs of Work on What Was Critical Equipment That is Now Non Critical**

**Session Organizers:** Jon Anderson (*ACA Proactive*), Frank Nelms (*ScottMadden*)

**Participants:** Dan Randolph (*Exelon Corporation*), Rich Weisband (*Exelon*), Jordan Marshall (*Bruce Power*), Frank Nelms (*ScottMadden*)

**Room:** Amelia Ballroom 1

This topic started with one Operator who asked, “Why are we inflicting maintenance on the plant?” He asked, “Why did we take apart a perfectly operating pump and then have it fail shortly after return to service?” The topic expanded with the Equipment Reliability Working Group (ERWG) concern that we are growing the aggregate risk to the plant by not completing work on Non-Critical equipment that used to be called Critical, before Revision 5 to INPO AP-913. Participants will take away a better understanding of Operations perspective on equipment reliability, actions we can take to improve our reliability and a factual understanding of the concern with this aggregate risk.

Equipment reliability has become a major focus for the nuclear industry, where Maintenance, Engineering, and Work Management all play key roles. Bruce Power addressed recurring equipment reliability and performance challenges by launching the Equipment Performance Division (EPD), with the goal of achieving EXCELlence in equipment reliability and performance. EPD combines Maintenance, Component Engineering, and Work Management into a single team, who are responsible for troubleshooting, planning, scheduling, and executing work (online and outage) across site for the components they own. This session will examine the drivers for change, how Bruce Power structured the new organization, efficiencies and improvements achieved so far, lessons learned, and expectations going forward.

### **DECOMMISSIONING**

#### **Transitioning to Permanently Defueled Status**

**Session Organizers:** Noah Featherston (*Omega Consulting LLC*), Lynne Goodman (*Goodman Nuclear Consulting*)

**Participants:** Trevor Orth (*Exelon*), Ivan Wilson (*Duke*), Bob Nichols (*Fluor*), Mike Lackey (*EnergySolutions*)

**Room:** Ossabaw A

End of Plant Operations: Where do we go from here? Speakers would provide experiences and lessons learned from facilities having made the decision to permanently shut down and provide insight into why they chose their post shutdown USNRC Option (License Transfer and immediate Decon, Immediate Decon, or safstor); lessons learned throughout the decommissioning phases including transition of the site to the decommissioning entity.

### **ENGINEERING/EQUIPMENT RELIABILITY**

#### **See Business/Economic Performance**

### **EXECUTIVE/LEADERSHIP**

#### **Innovative Leadership Techniques**

**Session Organizer:** Sally White (*EchoWolf Solutions*)

**Participants:** Bruce O'Brien (*Marathon Consulting Group Inc.*), Karen Fili (*URENCO*), Nathan Ives (*DataGlance*)

**Room:** Conference Room 2/3

This panel will be discussing Management 2.0. - Innovative ways being used, latest research\*, creating a thinking organization, integrating knowledge, proven learning techniques, social and generational styles and collaboration that maximizes the strengths of the entire team, while recognizing the areas needing bolstering. We will explore the best uses of technology to amplify and achieve stellar, and cost-effective performance, in addition to leadership techniques that are working and providing profitable results. Successful management systems provide the vehicle to facilitate predictability, sustainability and leverages technology to build a culture of leadership for current and future generations.

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## TUESDAY AUGUST 6

EDUCATIONAL SESSIONS 4: 10:30 AM-12:00 PM

### INNOVATION IN TECHNOLOGY AND SUPPLY

#### Effective Use of Technology and Supply Chain in Disaster Response

**Session Organizer:** Charles Poliseno (*Duke Energy*)

**Participant:** Charles Poliseno (*Duke Energy*)

**Room:** Amelia Ballroom 4

A Review of the Duke Energy Response to Hurricanes Florence and Michael in 2018: Hurricane Florence impacted a significant part of Duke Energy's North Carolina and South Carolina Service Territory with high winds and record rainfall. The rainfall caused historic flooding along the Carolinas' coastal communities and more than 1.8 million of Duke Energy customers lost power. Duke Energy was able to restore power to nearly 1.2 million customers in the first three days after the storm made landfall. Duke Energy has received the Edison Electric Institute's (EEI) "Emergency Recovery Award" for the company's power restoration efforts after Hurricane Florence hit North Carolina and South Carolina in September 2018. Duke Energy's Brunswick Nuclear Plant (BNP), the major baseload generation for the region, was an island surrounded by flood waters for days. This informative session will cover the significant logistical challenges during abnormal disaster response scenarios, from supporting isolated personnel to safely restoring power to these flooded communities, and Duke Energy's effective utilization of technology and supply chain mitigating the effects of a devastating hurricane. Specific challenges included: physically getting restoration crews to and through the flooded areas, supporting generating plants' repair/restoration efforts as well as supplying resources (people and supplies) to a nuclear power plant for round-the-clock operations. Do your current emergency response plans include provisions for supplying/resupplying staff that can't receive relief under "normal" response conditions? Have you integrated your Supply Chain organization into your response plans, ahead of time?

### MAINTENANCE/WORK MANAGEMENT

See Business/Economic Performance

### OPERATIONS/OPS TRAINING

See Business/Economic Performance

### PERFORMANCE IMPROVEMENT

#### Causal Analysis for HU Events or Investigation

**Session Organizer:** Fred Lake (*WD and Associates*)

**Participants:** Stacie Fontenot (*Entergy Nuclear*), Kim Leffew (*Consolidated Nuclear Security*)

**Room:** Talbot AB

Organizations search for quick fixes to Human error because they may lack understanding or time to perform a deep dive into a true HU problem. A human performance analysis should be integrated into the Causal Analysis process and not be a segregated piece. This methodology is from a system thinking perspective to help design smart, enduring solutions to HU problems. This briefing will help give you a more accurate view of the reality of Work-as-Done at the job performer level and how it is impacted by how work is planned and imagined to be done at the organizational level.

### REGULATORY RELATIONS AND RISK MANAGEMENT

#### SDP/ROP Experience and Lessons Learned

**Session Organizer:** Ron Gaston (*Entergy*)

**Participants:** Ron Gaston (*Entergy*), Gene Kelly (*Exelon*), Chris Miller (*NRC*), Leonard Sueper (*Xcel Energy*), Larry Parker (*STARS Alliance*)

**Room:** Amelia Ballroom 2/3

The NRC Reactor Oversight Process (ROP) has reduced unnecessary regulatory burden in the last 20 years by better focusing on safety significant matters. Utility self-assessment and continuous plant improvement - fundamental aspects of the ROP - have also been notably effective over its course. NRC's current environment of transformation has prompted ideas how the process can be enhanced. This session will explore recommendations from internal and external stakeholders on ways to further improve the process, including changes to the significance determination process (SDP) infrastructure, performance indicators (e.g. MSPI), licensing and inspection. SDP consumes considerable resources to arrive at significance conclusions, and 'regulates' in a low safety significance regime in most cases ... several orders of magnitude below the Public Safety Goals. There exist very few greater than green findings - evidence of continued industry plant performance - so perhaps it's time to rethink the 'color and column' approach. This session will explore innovative approaches and ideas to improve upon the ROP, and useful lessons learned from SDP cases.

### RISK MANAGEMENT

See Regulatory Relations

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## TUESDAY AUGUST 6

EDUCATIONAL SESSIONS 4: 10:30 AM-12:00 PM

### TECHNOLOGY AND INNOVATION

#### Embracing Technology and Its Transformational Impact

**Session Organizer:** John Mahoney (*High Expectations International*)

**Participants:** Al Casas (*BCP Engineers and Consultants*), Gregory Lormand (*BCP Engineers & Consultants*), Frank Botdorf (*EON Reality, Inc.*), Doug Kibler (*KAP Project Services, LTD*)

**Room:** Cumberland A

How will the existing nuclear generation plants play in the energy markets of tomorrow? With utility customers wanting safe, reliable, green and efficient energy, what is nuclear's long-term role in delivering on these demands and how can nuclear plants embrace innovative technologies that will have a major long-term transformational impact on plant sustainability. These questions will be discussed and answered with an infusion of lessons learned and example case studies from within and outside the energy industry in leveraging, implementing, and managing technological innovation and culture shift. The coming changes within your operations will redefine the manner with which your staff, contractors, and partners, will work and prosper in the new energy future.

### EDUCATIONAL SESSIONS 5: 1:30-3:00 PM

### BUSINESS/ECONOMIC PERFORMANCE, ENGINEERING/EQUIPMENT RELIABILITY AND RISK MANAGEMENT

#### 50.69 - Road to Savings

**Session Organizer:** Preeti Furtado (*Exelon*)

**Participants:** Preeti Furtado (*Exelon*), Lance Sharrett (*Arizona Public Service*), Dan Monahan (*Southern Nuclear*), Mike Franovich (*US NRC*)

**Room:** Cumberland B

"Where is the road to savings?" This combined session – with Engineering and Risk Management perspectives - will include an informative presentation about 50.69 business plan development, implementation considerations, alternative treatment processes, and articulation of savings. The presentation will include examples of savings realized due to the exemption of various special treatments. The session will also explore change management challenges associated with this fundamentally new approach to expanded categorization of systems/components, reduced scope/treatment of certain Part 50 programs, and "graded quality". Participants will have the opportunity to ask panel members questions on their actual experience with the program, examples of some "early wins", and what to expect during the licensing process and implementation of 50.69.

### DECOMMISSIONING

#### Decommissioning Project Overview

**Session Organizers:** Mark Kirshe (*ReNuke Services*), Noah Featherston (*Omega Consulting LLC*)

**Participants:** Wayne Norton (*3Yankees*), Richard Sexton (*AECL*), Bob Nichols (*Fluor*), John Sauger (*Energy Solutions*), Bruce Hinley (*EnergySolutions*)

**Room:** Ossabaw A

Overview of the Decommissioning Projects in progress and completed to date. "If you had to do it over again, what would you do differently?"

### ENGINEERING/EQUIPMENT RELIABILITY

See Business/Economic Performance

### EXECUTIVE/LEADERSHIP

#### Cost-Effective Responses to the Upcoming Flooding Issues NUREG.

**Session Organizer:** John Antignano (*Fisher Engineering*)

**Participants:** John Antignano (*Fisher Engineering*)

In light of the Fukushima plant damage from the extreme earthquake and tsunami, the NRC requested U.S. nuclear power plants operators to perform detailed "walkdown" inspections of their installed seismic and flooding protection features. The operators ensured the features met current requirements, and identified, corrected, and reported any degraded conditions. NRC inspectors performed follow-up reviews and found flooding seals, assemblies and components installed in NPPs credited for flooding may not meet the criteria or actually provide flooding resistance.

Based on advances in the knowledge and understanding of seismic and flooding hazards and given the severity of the event at Fukushima Daichi, the NRC requested the licensees of operating reactors to reanalyze potential flooding and seismic effects. These reevaluations used updated information and methodologies to inform plant operators of potential impacts to their sites. As a result, several nuclear power plant owners modified the protection of certain plant structures, systems, and components, or they identified alternative strategies to maintain the safety of the reactors in the event of a flooding, (external and internal) which is why the flooding test methodology was developed for basis of testing flood seals, components and assemblies for the application use. It provides a path to provide documentation to installed configurations and manufactures materials, to prove flood installations will perform their design functions. This session will discuss the new flooding test methodology, and how licensees can ensure compliance in the most cost-effective manner.

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## TUESDAY AUGUST 6

### EDUCATIONAL SESSIONS 5: 1:30-3:00 PM

#### INNOVATION IN TECHNOLOGY AND SUPPLY

##### The Unintended Consequences of Buying Less

**Session Organizer:** Greg Keller (*Curtiss-Wright*)

**Participants:** Dan Pasquale (*Nuclear Regulatory Commission*), Marc Tannenbaum (*EPRI*), Greg Keller (*Curtiss-Wright*)

**Room:** Amelia Ballroom 4

The DNP has pressured plants to purchase only what is needed and do so at the latest possible date. Buying fewer items with shorter-lead times both increase the unit costs of items purchased and this is having unintended consequences. One impact has been several vendors dropping their Appendix B QA programs. And whenever the costs of items increase, the incentive for counterfeit and fraud increases. This session explores some of the market impacts to the supply chain, the NRC's heightened concern on the potential impacts to quality, and an innovative approach to save costs without adversely impacting parts quality.

#### MAINTENANCE/WORK MANAGEMENT

##### Actions to Improve Plant Status Control And Electrical Safety - Actions to Prevent Arc Flash Events

**Session Organizer:** Bryant Hearne (*INPO*)

**Participants:** TBD

**Room:** Amelia Ballroom 1

This session combines two extremely important current industry issues. INPO will lead this conversation and recent issues associated with loss plant control incidents and arch flash incidents that resulted in injuries to personnel.

#### MAINTENANCE/WORK MANAGEMENT

##### Soup to Nuts, Automating the Work Management Value Chain

**Session Organizer:** Jon Anderson (*ACA Proactive*)

**Participants:** Tim Johnson, John Manogian, Rich Weisband (*Exelon*)

**Room:** Talbot A/B

INPO AP-928 provides guidance in the automation of work management functions. However, the real value is in automating the entire value chain. Many organizations are working on that challenge now. This session will bring together nuclear, non-nuclear and vendor personnel that are well down this path. Takeaway's will include concrete actions participants can take, with their existing resources to start this automation. Participants will leave this session with an understanding of the status of this change and the challenges involved. This session will allow us to add to our list of actions we can take to improve productivity and efficiency.

#### OPERATIONS/OPS TRAINING

##### Managing and Measuring Proficiency

**Session Organizer:** Bruce Hennigan (*Exelon*)

**Participants:** Sara Lange (*Ameren - Callaway Energy Center*), Ron Gibbs (*South Texas Project*)

**Room:** Cumberland C

IER 17-5 asserts that leadership proficiency among operators is as important as their abilities to manage within their roles and responsibilities. How do we—as an industry—adequately measure the proficiency of our operators and leaders, and what are we doing to adapt training and imbue the importance of proficiency on the next generation?

#### PERFORMANCE IMPROVEMENT

##### Engage and Innovations for HU/IS

**Session Organizer:** Kim Leffew (*Consolidated Nuclear Security*)

**Participants:** John Schaefer (*Williams Industrial Services Group, LLC*), John Thompson (*OPG's Pickering Nuclear Generating Station*), Robert Spencer (*TVA*)

**Room:** Ossabaw B

Nuclear industry has undertaken human performance improvement initiatives in recent years with various degrees of effectiveness when measured by results achieved and sustainability. Effective improvement initiatives at one site/company were not effective when duplicated at another site/company. Analysis determined that engagement was significantly lower during the duplicated efforts leading to suboptimal results. Conclusion was high levels of front line worker engagement was a key factor determining success or failure of these initiatives.

## TUESDAY AUGUST 6

EDUCATIONAL SESSIONS 5: 1:30-3:00 PM

### REGULATORY RELATIONS

#### Regulatory Process Innovations and Innovation at NRC

**Session Organizer:** Everett "Chip" Perkins

**Participants:** Elizabeth English (*NuScale*), Michelle Thomas (*CERTREC*), Stephenie Pyle (*Entergy*), Eric Benner (*NRC*)

**Room:** Amelia Ballroom 2/3

The US commercial nuclear industry currently is under pressure to reduce operating costs and maintain strong nuclear safety performance while supporting costs are increasing at the same time. Since there will always be crucial work that needs to be accomplished, how can we solve this problem? The smart solution is to use less people to complete the necessary work more efficiently and effectively. In this session, we will explore examples where the industry and NRC staffs are using innovation to implement required business processes. Today's sophisticated, online technology allows for automated tools that more closely match business processes at individual sites and companies. Such tools enable fewer people to collaborate and cooperate to accomplish the same amount of work with more consistency, with fewer errors, and at lower cost. Customizable, state-of-the-art, existing on-line solutions can be modified without additional coding. They do not require software to be downloaded onto company servers or on individual desktops. Such solutions can be designed and implemented in months instead of a year or more. Some specific case studies, with the projected savings, will be presented.

### RISK MANAGEMENT

See Business/Economic Performance

### TECHNOLOGY AND INNOVATION

#### Improve Performance, Safety, and the Bottom Line with Innovative Solutions Engine Technologies

**Session Organizer:** David Garcia (*AMMI Risk Solutions*), John Downing (*John Downing Consulting*)

**Participants:** David Garcia (*AMMI Risk Solutions*), Rick Raber (*Northern Apex/Alpha Source*), Robert Ammon (*Curtiss-Wright*)

**Room:** Cumberland A

One of the greatest challenges to the commercial viability of the nuclear industry is finding a way to reduce staff sizes without impacting plant safety and performance. Reductions in force and early retirement programs have been ineffective as they tend to eliminate the staff whose knowledge and expertise is most needed, the Baby Boomers. Without some major development, the loss of this knowledge and expertise and its unavailability to younger staff is inevitable over the next five years as the Baby Boomers retire. However, as developments in the Japanese nuclear fleet show, US developed intelligent solutions engine technologies are already being used to capture expertise, knowledge, regulations, and rules in easy to use applications that provide fast, predictable, and certain responses to activities and events that impact their plants. This same innovative technology can play an immediate and significant role in ensuring proper knowledge transfer and retention (KT&R) between the retiring Baby Boomer generation and the Gen X/Millennial/Gen Z generations to help maintain today's high levels of safety, availability, and performance while dealing with smaller, less experienced staffs. Take the opportunity to interact with executives from AMMI Risk Solutions, Northern Apex and Curtiss-Wright who have developed and implemented this technology for such applications as outage management, fire protection, emergency planning, and other areas; and find out how this innovative technology can truly improve your performance and bottom line immediately and into the future.

## EDUCATIONAL SESSIONS 6: 3:30-5:00 PM

### DECOMMISSIONING

#### Optimizing Safety, Security and Safeguards for Decommissioning

**Session Organizer:** Mark Campagna (*DESD*)

**Participants:** Vince Gilbert, Mark Campagna (*DESD*), Skip Young (*US NRC- Retired*), Cory DeWitt (*Comprehensive Decommissioning International*), Tom Behringer (*Sargent & Lundy LLC*)

**Room:** Ossabaw A

Achieving a major contribution towards optimal DDER Cost profile/ project results by application of an integrated and therefore optimal Safety, Security and Safeguards approach. This panel of speakers will explore 21st Century methods and tools available that would optimize project planning and performance now; these methods would be deployable during both NPP operation and transition to DDER. These techniques are simultaneously being developed with increased pace/urgency benefiting from recent progress in the Advanced Reactors and SMR sector.

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## TUESDAY AUGUST 6

### EDUCATIONAL SESSIONS 6: 3:30-5:00 PM

#### ENGINEERING/EQUIPMENT RELIABILITY AND MAINTENANCE/WORK MANAGEMENT

##### Declining Trend in Fuel Performance Due to Debris Failures

**Session Organizers:** Bryant Hearne (*INPO*), Craig Faulkner (*INPO*)

**Participants:** Bryant Hearne (*INPO*), Craig Faulkner (*INPO*), Bill Spahr (*Exelon-Braidwood*)

**Room:** Amelia Ballroom 1

U.S. Industry fuel performance has slowly declined since the beginning of 2013 as described in IER L4-16-5 rev 1 Adverse Trend in Debris-Related Nuclear Fuel Failures. As of January 2019, twelve cores were operating with failed fuel rods; eight boiling water reactors (BWRs) and four pressurized water reactors (PWRs). These failures are breaches of the first fission product barrier and have an adverse impact on plant personnel and operations, including increased worker dose, lost generation to support power suppression testing, mid-cycle outages to remove failed fuel, and slower ramp rates for power level changes. Prior “Zero by 10” initiative improvements did not result in sustained performance as, it did not sufficiently address most forms of debris-related challenges, and needed improvements in foreign material control. A cultural shift towards improved ownership and focus on fuel reliability, cross-functional engagement, and failure prevention strategies is required to address debris-related challenges. In some cases, there are shortfalls in compliance with existing industry standards for fuel performance.

#### EXECUTIVE/LEADERSHIP

##### Closing the Gap in Organizational Effectiveness: A Process Improvement for Selection and Development of Managers and Leaders

**Session Organizer:** Nila Jennings (*Fusion Coaching and Consulting Group, Inc.*)

**Participants:** Nila Jennings (*Fusion Coaching and Consulting Group, Inc.*), Lisa Chamely-Aqui (*LCA Partnerships*), Robert F. LoCurto (*AECOM Nuclear Services*)

**Room:** Conference Room 2/3

“INPO has identified that weak leadership teams and weak organizations have continued to challenge industry performance and have been key drivers of plant declines.”

This was the opening statement for INPO 15-005, released in 2015, as a the comprehensive guide to Leadership and Team Effectiveness, providing guidelines for improving leaders and leadership teams in the nuclear industry.

Though many large utilities and their vendors have leadership training and development programs in place, organizations still struggle with human performance which adversely impacts station performance. Where is the magic wand that can be waived to help your organizations to:

- Gain Organizational Maturity
- Increase Rigor to Your Management Model
- Prevent Normalization of Average or Even Poor Performance
- Maintain Intrusive and External Oversight
- Increase Ownership at All Levels
- Prepare Early and Mid-Career Talent to Become Future Leaders

While it may not be a magic wand, advances in technology in both neuroscience and behavioral sciences provide new insights and tools to better inform when selecting and developing leaders and managers. Although human behavior is not an exact science, use of these tools and insights help to foster a culture of stronger leadership teams centered around greater accountability, creativity and innovation.

Join Nila Jennings and Lisa Chamely-Aqui, experts in organizational behavior and management, in this interactive, candid session to learn more about proven processes for selecting and developing leaders and managers with engineering backgrounds.

#### INNOVATION IN TECHNOLOGY AND SUPPLY

##### Advancements in Technology That Enable Business Unit O&M Reduction

**Session Organizer:** Greg Keller (*Curtiss-Wright*)

**Participants:** Jim Ripple (*Southern Nuclear*), Julio Adame (*Curtiss-Wright*)

**Room:** Amelia Ballroom 4

RFID – first giant step to Virtual Warehousing: RFID technology has been around for many, many years but we have now reached a point where the costs of the tags and the capability of the software and implementing hardware are such that the traditional model of warehouse operations is rapidly becoming outdated. This presentation will explore the potential for manpower reductions and gains in efficiency by changing our 1950’s model of how to run a warehouse into the current day, and beyond.

#### MAINTENANCE/WORK MANAGEMENT

##### See Engineering/Equipment Reliability

#### OPERATIONS/OPS TRAINING

##### Crew Performance Evaluation Changes

**Session Organizer:** Bruce Hennigan (*Exelon*)

**Participants:** Sara Lange (*Ameren - Callaway Energy Center*)

**Room:** Cumberland C

Last year, the Crew Performance Evaluation program changed significantly, highlighting the theme of simplification. In this session, presenters will share their experiences with the revamped CPE format to include lessons learned and potential future changes.

Breakout  
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## TUESDAY AUGUST 6

EDUCATIONAL SESSIONS 6: 3:30-5:00 PM

### PERFORMANCE IMPROVEMENT

#### INPO 18-001 Implementation, Best Practices and Innovations for “Must Know” OE

**Session Organizer:** Peg Lucky (*Entergy Nuclear*)

**Participants:** Jason Hennen (*Entergy Nuclear*)

**Room:** Ossabaw B

INPO recently issued INPO 18-001 Implementation, which includes Best Practices and Innovations for “Must Know” OE. Speakers will provide innovated ways for using “Currently Relevant” and “Historical Relevant” SOERs/IERs and methods to make “Must Know OE” applicable to the workforce.

### REGULATORY RELATIONS

#### Regulatory Innovation for Resolving Tornado Missile Protection Issues

**Session Organizer:** Ken Lowery (*Southern Nuclear*)

**Participants:** Ken Lowery (*Southern Nuclear*), Christian Williams (*Exelon Corporation*), Jordan Vaughan (*Duke Energy*), Chris Miller (*NRC*)

**Room:** Amelia Ballroom 2/3

The nuclear industry has been challenged with legacy design issues where the regulatory requirements, as applied in the post-Fukushima era, have in many cases resulted in significant capital expenditures. The NRC issued Regulatory Issue Summary (RIS) 2015-06, Tornado Missile Protection, on June 10, 2015 stating that there have been several instances of plants that have been identified as not being in conformance with their tornado-generated missile licensing basis. The nuclear industry has been working with the NRC to develop innovative, simple, and cost-effective options to resolve legacy design issues related to tornado missile protection. These options include the following: (1) development of the tornado missile risk evaluator (TMRE) and pilot plant implementation and approval of TMRE via the license amendment process; (2) post-pilot plant implementation of TMRE via the 50.59 process; (3) clarification of the licensing basis; and (4) re-evaluation of the plant configuration for tornado missile protection against the UFSAR, initial safety evaluation report issued by the USNRC, and any other NRC approvals, exemptions, or regulations. This session will explore these options for resolving tornado missile protection issues and provide a forum for discussion with industry and NRC experts.

### RISK MANAGEMENT

#### Flex Human Reliability Assessment Advances

**Session Organizer:** Bruce Morgen (*EPM*)

**Participants:** Mike Franovich (*US NRC*), Mary Presley (*EPRI*), Jeff Julius (*Jensen Hughes*), Michael Powell (*Arizona Public Service*)

**Room:** Talbot A/B

FLEX is now fully deployed and available for use, providing important defense in depth capability for a variety of scenarios (not just ELAP). Training has been provided, the equipment is being tested, reliability data are being compiled, and we are incorporating FLEX into our base PRA models (internal events, fire and seismic), to accurately reflect the as-built/as-operated plant. However, assumptions for component reliability and human action remain in debate and have been challenged. There exists considerable skepticism in certain circles about the reliability of portable equipment, the success of the operator actions to deploy FLEX, and the actual declaration of ELAP (decision and timing). Industry has invested considerable resources to develop FLEX capability; we should expect a reasonable return on that investment, including realistic and innovative risk benefit. This session will explore innovative tools and methods developed to help better incorporate FLEX into our PRA models, discuss recent estimates of human error probabilities, and provide examples of the insights obtained.

### TECHNOLOGY AND INNOVATION

#### Improvements in Measurement to Enhance Engineering, Planning, and Testing of Steam Generator Tube Generation of Cobalt 58

**Session Organizer:** Lee Borthwick (*Borton-Lawson Engineering*)

**Participants:** Lee Borthwick (*Borton-Lawson Engineering*), Kip McCabe (*Talen Energy*), Brian Irving (*Sandvik Nuclear Power-America's*), Johan Frodigh (*Sandvik Materials Technology*), Jerry Dougherty (*Sandvik Materials Technology*)

**Room:** Cumberland A

Advances in measurement precision and accuracy can greatly improve the engineering and confidence for on-schedule construction completion and labor skills and manhours. They allow survey of indoor and exterior space and three-dimensional measurement and complete characterization of equipment modules to a level that ensures precise planning and confidence in transport, lifting and fit ups.

A second presentation will discuss the results of research into how nickel tube materials in a steam generator generate cobalt 58 and how oxide films can reduce the rate of release of this radioactive component. The presentation will discuss the research methods and results and the costs anticipated for development and maintenance of a quality oxide film on the steam generator tubes.

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## WEDNESDAY AUGUST 7

### EDUCATIONAL SESSIONS 7: 8:30 AM-10:00 AM

#### **BUSINESS/ECONOMIC PERFORMANCE AND MAINTENANCE/WORK MANAGEMENT** **Preparation and Implementation of Work – A Solid Action to Increase Productivity and Efficiency**

**Session Organizer:** Jon Anderson (*ACA Proactive*)

**Participants:** Pete Arthur (*INPO*), Bryant Hearne (*INPO*)

**Room:** Amelia Ballroom 1

This session includes a very effective approach to increasing productivity and efficiency. In this approach Work Management plays the schedule preparation role and then turns the schedule over to Maintenance. Maintenance owns and is responsible for getting the scheduled work done. This session will allow us to add to our list of actions we can take to improve productivity and efficiency. The group will discuss the actions they are going to implement to increase productivity and efficiency. Participants will receive an email with the actions identified through this track to increase productivity and efficiency.

#### **DECOMMISSIONING**

##### **Innovation to Achieve Success in Decommissioning**

**Session Organizer:** Jim Byrne (*Byrne & Assoc., LLC*)

**Participants:** George Vaughn (*NAC International*), Richard Sexton (*AECL*), Sheldon Lefkowitz (*Pentek, Inc*), Rich McGrath (*EPR*)

**Room:** Ossabaw A

Speakers will provide insights on means and methods to reduce the foot print of permanently shutdown nuclear facilities, with a focus on innovative approaches. The penultimate goal of decommissioning projects is to reduce on-site hazards below regulatory limits to protect the health & safety of its workers and the public. The ultimate goal of decommissioning is to complete the closure of the nuclear power lifecycle through the final closure and license termination of these facilities.

#### **ENGINEERING/EQUIPMENT RELIABILITY**

##### **Light Water Reactor Sustainability: An Update on R&D Efforts to Extend Plant Life**

**Session Organizers:** Bruce Hallbert (*INL*), Ted Quinn (*Technology Resources*)

**Room:** Cumberland B

This session will focus on public-private partnerships through DOE-sponsored research and development activities within the Light Water Reactor Sustainability program to extend existing plant life and optimize safety and economic performance. Speakers will emphasize recent efforts and provide updates on progress and plans that are ongoing with industry through this program.

#### **EXECUTIVE/LEADERSHIP**

##### **The Carrot, The Stick - or Something Else? Understanding the Keys to Engaging Employees**

**Session Organizer:** Nila Jennings (*Fusion Coaching and Consulting Group, Inc*)

**Participants:** Nila Jennings (*Fusion Coaching and Consulting Group, Inc*), Lisa Chamely AQUI (*LCA Partnerships*), Tom Petz (*AECOM Nuclear Services*), George Piccard (*AECOM Nuclear Services*)

**Room:** Conference Room 2/3

Let's face it. Managing people is challenging. Today's workplaces are diverse, made up of different demographics, and now, the millennials and the Gen -Ys bring expectations and demands to their jobs that are quite different from those of the baby-boomers. If the Nuclear Power industry is going to attract – and keep - these generations, then the typical carrot and stick style of management must change.

Change can be challenging, too. For instance, Harvard research indicates that poor managerial habits can, and often does, hobble managers for their entire career, as they rely on tactics learned from their parents, teachers, or other managers or leaders they've worked under in spite of numerous training and development opportunities. Not only can poor management habits hobble the leader, but they often lead to disengaged and disillusioned workers. Is there a formula, a solution, or (yes, please!) a magic wand that can help managers improve performance and up employee engagement? The answer is yes!

In this session you will learn about what really motivates people, and how as a manager or leader, you can acquire and teach your employees the skill of optimal motivation, regardless of the task or assignment they've been given.

Learning how to activate optimal motivation for yourself and others is a significant skill to acquire, as research suggests that optimally motivated employees:

- Deliver 31% higher productivity
- Demonstrate three times higher creativity on the job
- Are 10 times more engaged by their jobs
- Are three times more satisfied with their jobs

Join Nila Jennings and Lisa Chamely-AQUI, experts in organizational behavior and management, in this interactive session and learn more about creating a workplace where people flourish through high-quality motivation.

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## WEDNESDAY AUGUST 7

EDUCATIONAL SESSIONS 7: 8:30 AM-10:00 AM

### INNOVATION IN TECHNOLOGY AND SUPPLY AND TECHNOLOGY AND INNOVATION Joint Supply Chain Gap Closure Working Session for ANS Organizational Member Group and the United Nuclear Industry Alliance

**Session Organizer:** Greg Gibson (*Executive Director of UNI*)

**Participants:** Greg Gibson (*United Nuclear Industry Alliance*), Vince Gilbert (*Model Performance, LLC*)

**Room:** Amelia Ballroom 4

On June 12, 2019 The ANS Organizational Members Group (OMG) and the United Nuclear Industry Alliance (UNI) met at the ANS Annual Meeting to discuss the need for improved supplier coordination and collaboration to identify and close significant gaps related to fleet sustainment services, decommissioning projects, advanced reactor development and new build construction efforts. In particular the success rate in winning international build contracts requires improvement. The purpose of the session is to continue these discussions and to explore ways OMG and UNI can work effectively together.

### MAINTENANCE/WORK MANAGEMENT

See [Business/Economic Performance](#)

### OPERATIONS/OPS TRAINING

[OPS Track Rollup / Takeaways / Considerations](#)

**Session Organizer:** Dan Randolph (*Exelon Corporation*)

**Participants:** TBD

**Room:** Cumberland C

The 2019 Utility Working Conference has been a unique experience, focused on the future. From abstract ideas such as building a department from scratch to the more concrete of present-day innovations, the industry and Operations departments are quickly catching up to the contemporary concepts of leading organizations. This wrap-up session will bring together the learnings of the Conference and provide an open forum for any unanswered questions or unaddressed concerns and serve as a jumping off point for the Operations track at the 2020 ANS UWC.

### PERFORMANCE IMPROVEMENT

[PI/CAP & HU/IS Proficiency or Best Practices](#)

**Session Organizer:** Kim Leffew (*Consolidated Nuclear Security*)

**Participants:** Open Forum

**Room:** Ossabaw B

Open Discussion; PI/CAP & HU/IS Proficiency or Best Practices. Participants can discuss or request best practices or challenges currently being faced. This forum is created for sharing what is going well, need to change and seek help from others.

### RISK MANAGEMENT

[Data Collection: Methods and Model Impact](#)

**Session Organizers:** Owen Scott (*Southern Nuclear*), CJ Fong (*US NRC*)

**Participants:** Roy Linthicum (*Exelon Corporation / PWROG*), Owen Scott (*Southern Nuclear*), CJ Fong (*US NRC*)

**Room:** Talbot A/B

Accurate data is critical to PRA models. With over 4000 reactor years of operation in the US fleet, the risk management community has more data (e.g., component failure rates, initiating event frequencies, recovery curves) than ever before. But are the models themselves actually “better”? This session will explore how data collection methods impact the accuracy of PRA models and – more importantly – the ability to make risk-informed decisions. Specific topics include: modeling of FLEX, recent trends in initiating event frequency and component reliability, the impact of Maintenance Rule 2.0, proposed changes to MSPI and 50.69 considerations. The session will explore how this data is used for regulatory decisions, difficulties in compiling reliability data, and progress with failure recovery models. A new repair approach will be discussed, as well as lessons learned from the newly developed Methods Peer Review Process. Finally, the session will address improvements in data monitoring for risk-informed applications (SFCP, RICT and 50.69) and other uses of data that allow us to get more information from our models.

### TECHNOLOGY AND INNOVATION

See [Innovation in Technology and Supply](#)

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# ANS

## 2019 Utility Working Conference Vendor Technology Expo

Omni Island Plantation Resort  
Amelia Island, Florida

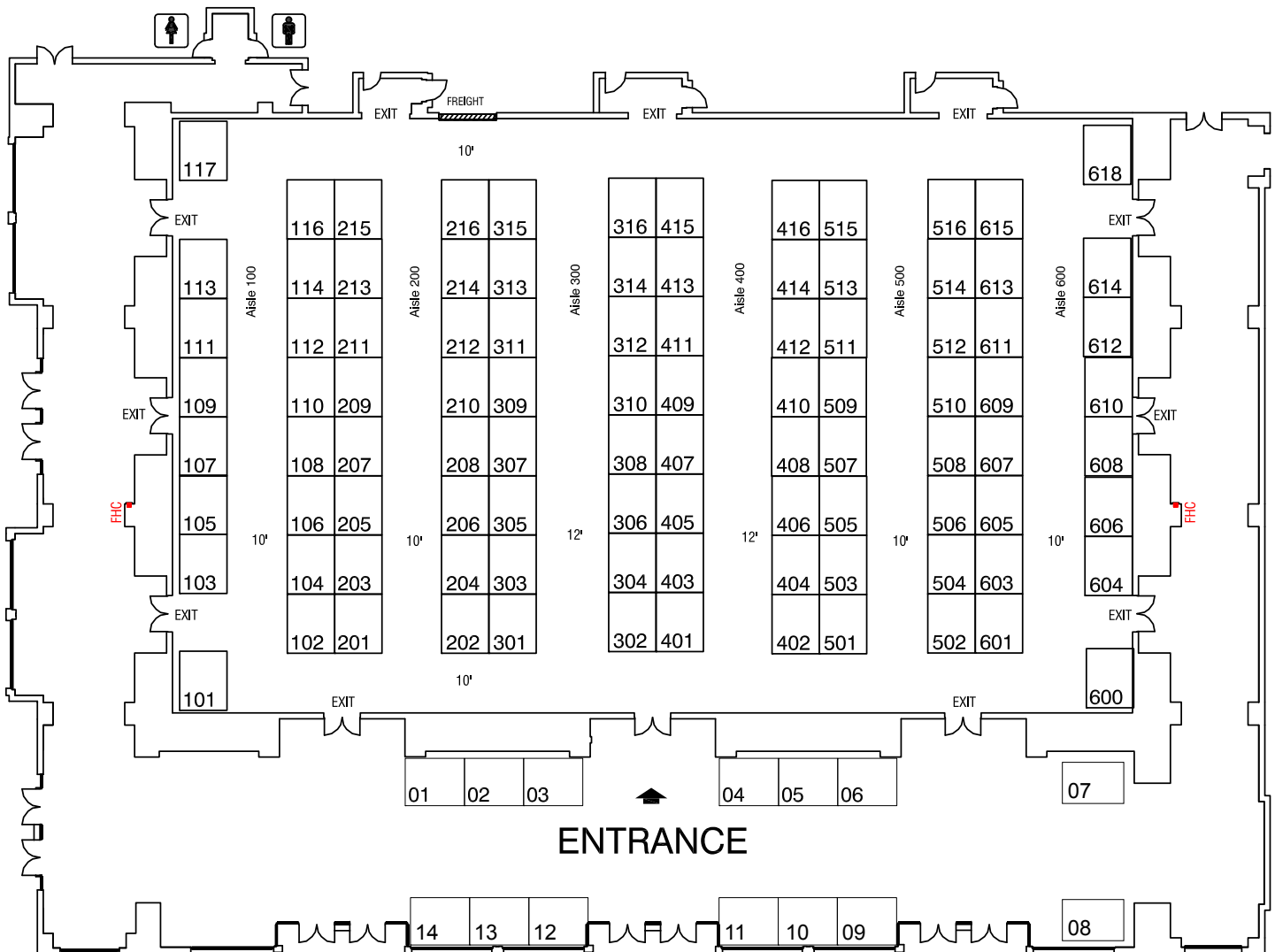
### EXPO HOURS:

Sunday, August 4 6:00 pm-8:00 pm

Monday, August 5 7:00 am-4:30 pm

Tuesday, August 6 7:30 am-7:30 pm

Wednesday, August 7 7:30 am-9:00 am



# Exhibitors List

3M Advanced Materials	Booth 316	Joseph Oat Corporation	Booth 403
AECOM	Booth 404	Kinectrics	Booths 303, 305
Aecon-Wachs	Booth 607	Konecranes Nuclear Equipment & Services	Booth 304
Aerofin	Booth 210	Lockheed Martin	Booth 408
Alion Science and Technology	Booth 209	Maxeta Technologies	Booth 413
Alithya Digital Technology Corporation	Booth 512	Mirion Technologies (IST) Corp.	Booth 211
Alphasource, Inc.	Booths 502, 504	New York Blower Company   SSM Industries	Booth 508
American Nuclear Society	Booth 614	NextAxiom Technology, Inc.	Booth 311
ANS Center for Nuclear Science and Technology Information	Booth 608	NTS	Booth 215
Arc Energy Services, Inc.	Booth 609	Nuclear News	Booth 612
The Austin Company	Booth 510	Nuclear Plant Journal	Booth 411
AZZ Nuclear Group	Booth 315	Paragon	Booth 207
Barnhart	Booth 409	Power Services Group	Booth 212
BCP Engineers & Consultants	Booth 600	Premier Technology, Inc.	Booth 615
Bechtel	Booth 214	Prometheus Group	Booth 414
BHI Energy	Booth 415	Radwaste Solutions	Booth 610
Black & Veatch	Booth 601	RealWear Inc.	Booth 05
Burns & McDonnell	Booth 407	ReNuke Services, Inc.	Booth 03
BWX Technologies, Inc.	Booths 306, 308	Rolls-Royce	Booth 302
CableLAN Nuclear	Booth 216	RSCC Wire & Cable, LLC	Booth 515
Canadian Nuclear Laboratories	Booth 505	SANDVIK	Booth 516
Certrec Corporation	Booth 09	Sarens USA, Nuclear	Booth 509
ChemStaff	Booth 603	SNC-Lavalin	Booth 503
The Colt Group	Booth 203	Structural Technologies	Booth 507
Copperleaf	Booth 309	Structural Integrity Associates, Inc.	Booth 310
Curtiss-Wright Nuclear Division	Booths 12, 402	Sulzer Pumps (US) Inc.	Booth 506
DataGlance	Booth 405	System One	Booth 204
Day & Zimmermann	Booth 501	Technologie Inovaweld Inc.	Booth 514
EK USA	Booth 01	TECNATOM, S. A.	Booth 314
Electrical Builders, Inc. (EBI)	Booth 07	Teledyne Brown Engineering	Booth 206
Emerson Automation Solutions	Booth 213	Thermo Fisher	Booth 406
ENERCON	Booth 307	Transco Products Inc.	Booth 202
Energy Steel	Booth 416	Ultra Electronics Energy	Booth 04
EPM, Inc.	Booth 412	United Controls International	Booth 205
EXCEL Services Corporation	Booth 06	Urenco USA	Booth 313
Exelon PowerLabs	Booth 604	ValvTechnologies	Booth 301
Flowserve Corporation	Booth 401	Williams Industrial Services Group, LLC	Booth 11
Framatome Inc.	Booth 08	Wiss, Janney, Elstner Associates, Inc.	Booth 511
GLSEQ, LLC	Booth 208	Zachry Nuclear Engineering, Inc.	Booth 201
High Bridge Associates	Booth 513		
Imperia Engineering Partners, LLC	Booth 410		
INL Light Water Reactor Sustainability Program	Booth 312		
James C. White Company, Inc.	Booth 605		

# Exhibitors

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## **3M Advanced Materials**

St. Paul, MN (Booth 316)

3M stable isotopes have been helping the nuclear industry operate more efficiently and safely for nearly 30 years. From reactor criticality control to fuel and waste management, our neutron absorbing materials are helping to make nuclear power a safer and more affordable option for powering tomorrow's world. [www.3m.com/boron](http://www.3m.com/boron)

## **AECOM**

Indian Land, SC (Booth 404)

AECOM is a global network of design, engineering, construction and management professionals partnering with clients to imagine and deliver a better world. We provide support for new nuclear technologies, the small modular reactor market, major component replacements and facilities that support the nuclear fuel cycle, as well as D&D. [aecom.com](http://aecom.com)

## **Aecon-Wachs**

Jackson, SC (Booth 607)

Aecon-Wachs has been servicing the Energy Market for nearly 30 years, bringing in-depth expertise to deliver projects safely, on time and within budget. Utilizing our state-of-the-art welding, machining and fabrication knowledge, we help clients meet the demands of planned and unplanned nuclear outages, managed tasks and major component replacements or repairs.

## **Aerofin**

Lynchburg, VA (Booth 210)

Aerofin is a leading manufacturer of Safety Related and Non-Safety Related heat transfer equipment including extended surface cooling & heating coils, shell & tube heat exchangers, vessels, and parts. Aerofin holds ASME Certificates of Authorization for ASME N, NPT, NS, S, U and PP, and we are NUPIC audited.

## **Alion Science and Technology**

Albuquerque, NM (Booth 209)

At Alion, we combine large company resources with small business responsiveness to design and deliver engineering solutions. With an 80-year technical heritage, our engineers, technologists, and program managers bring together an agile engineering methodology and the best tools on the market to deliver success faster at lower costs. Visit [www.alionscience.com](http://www.alionscience.com).

## **Alithya Digital Technology Corporation**

Toronto / Ontario / Canada (Booth 512)

Alithya is a leader in strategy and digital technology, with 2,000 professionals across Canada, the US and Europe. Our integrated offerings position us as a leading digital technology partner, highly skilled in designing and building innovative and efficient digital solutions for complex business challenges. Our clients cover a large spectrum of sectors including banking, investment and insurance, energy, manufacturing, retail and distribution, telecommunications, transportation, professional services, healthcare and government.

## **Alphasource, Inc.**

Philadelphia, PA (Booths 502 & 504)

Alphasource® is the leading custom manufacturer and distributor of quality FME maintenance supplies and Toolsaver® drop-prevention for tools, RFID asset tracking solutions and innovative safety supplies for the Nuclear Power Industry.

Benefit from our award-winning turnkey programs: FME, Toolsaver® Drop-Prevention for Tools, Toolsaver® RFID-Barcode Nuclear Asset Tracking and Operational Efficiency Solutions, Tarps/Protective Covers, MRO, Safety, and Nuclear-Grade Cleaning Supplies.

Count on us for field-proven products and services backed by three generations of practical experience with quick turnaround capabilities that ensure your deadlines and compliance needs are satisfied.

## **The American Nuclear Society**

LaGrange Park, IL (Booth 614)

The American Nuclear Society (ANS) is the premier society for nuclear industry professionals. ANS is comprised of more than 10,000 engineers and scientists that are devoted to peaceful and beneficial applications of nuclear science and technology and are dedicated to advancing the nuclear field. Learn more at [ans.org](http://ans.org).

## **ANS Center for Nuclear Science and Technology Information**

La Grange Park, IL (Booth 608)

Learn about the ways the Center, an ANS education and outreach initiative, informs policy, engages communities, and inspires future generations. The Center promotes a deeper understanding of nuclear science through programs reaching policymakers, the public, and thousands of students and teachers across the country. <http://nuclearconnect.org/>

## **Arc Energy Services, Inc.**

Rockhill, SC (Booth 609)

Arc Energy Services, Inc. is a Veteran-Owned business that provides welding, machining, heat treating, NDE, heavy lifting / rigging and specialty engineering services in the Energy Industry. We offer turnkey solutions through new construction, planned outages, emergent work and/or staff augmentation. We hold stamps NB, R, S, U & NR.

## **The Austin Company**

Cleveland, OH (Booth 510)

The Austin Company, founded in Cleveland, Ohio, in 1878, provides planning, architectural design, engineering, design-build, EPC, construction management, and construction solutions for nuclear support facilities throughout North America. We deliver "Results, not Excuses®".

# Exhibitors

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## **AZZ Nuclear Group**

Fort Worth, TX (Booth 315)

A global supplier of equipment, service, and engineering to the nuclear power industry, AZZ offers a wide array of electrical, mechanical, I&C, and HVAC products and services under its 10CFR50 Appendix B QA Program and ASME III N-Stamp. Additionally, AZZ Specialty Welding is the global leader in specialty welding solutions with over 40 years of experience solving critical issues to the nuclear power industry including repair, replacement and overhaul solutions and services.

## **Barnhart**

Memphis, TN (Booth 409)

Over the last three decades, Barnhart has built an impressive nuclear project résumé. Our team of nuclear experts includes personnel with backgrounds from both the construction and operations side of the nuclear industry. And that experience directly translates into innovative solutions that provide our customers with the same outcome they desire – a safely executed and quality project that reduces schedule and overall project cost.

## **BCP Engineers & Consultants**

Gretna, LA (Booth 600)

BCP is an Engineering, Project Management and Specialty Services consulting firm that fills the gap between Design and Operations to deliver Safe and Reliable Power, Better. We provide trusted leadership for developing and implementing technical solutions and in bringing the right people, processes, and technologies at the right time.

## **Bechtel**

Reston, VA (Booth 214)

Bechtel is one of the most respected global engineering, construction, and project management companies. Together with our customers, we deliver landmark projects that foster long-term progress and economic growth. Since 1898, we've completed more than 25,000 extraordinary projects across 160 countries on all seven continents.

## **BHI Energy**

Weymouth, MA (Booth 415)

BHI Energy celebrates 40 years of experience providing integrated specialty maintenance, professional and technical staffing solutions to nuclear and other power generation, transmission & distribution, oil & gas, industrial and government facilities. We provide project management, technical personnel and craft labor who understand the demands of our customers and deliver quality services utilizing proven infrastructure and innovative technologies.

## **Black & Veatch**

Overland Park, KS (Booth 601)

Black & Veatch is an employee-owned company with more than 110+ offices worldwide. Our work results in long-lasting client relationships, reliable infrastructure improvements, and recognition from the industry as a global leader. Since 1915, we have provided comprehensive services to our clients across the globe. Learn more at [bv.com](http://bv.com).

## **Burns & McDonnell**

Kansas City, MO (Booth 407)

We are a full-service engineering, architecture, construction, environmental and consulting solutions firm, based in Kansas City, Missouri. Our staff of 6,600 includes engineers, architects, construction professionals, planners, estimators, economists, technicians and scientists, representing virtually all design disciplines. We plan, design, permit, construct and manage facilities all over the world, with one mission in mind: Make our clients successful.

## **BWX Technologies, Inc.**

Lynchburg, VA (Booths 306 & 308)

Headquartered in Lynchburg, Va., BWX Technologies, Inc. (NYSE:BWXT) is a leading supplier of nuclear components and fuel to the U.S. government; provides technical and management services to support the U.S. government in the operation of complex facilities and environmental remediation activities; and supplies precision manufactured components, services and fuel for the commercial nuclear power industry. With approximately 6,250 employees, BWXT has 11 major operating sites in the U.S. and Canada. In addition, BWXT joint ventures provide management and operations at more than a dozen U.S. Department of Energy and NASA facilities.

## **CableLAN Nuclear**

Norfolk, MA (Booth 216)

CableLAN Nuclear is an Appendix B, NQA-1 distributor that supplies fiber optic and electrical communication products designed specifically for nuclear power plants. CableLAN Nuclear has decades of experience in specifying, designing and manufacturing fiber optic and electrical safety related cable - from outages to new reactors. We are active in IEEE nuclear standards development.

## **Canadian Nuclear Laboratories**

Ontario, Canada (Booth 505)

Canadian Nuclear Laboratories (CNL) is Canada's premier nuclear science and technology laboratory, dedicated to developing peaceful and innovative applications from nuclear technology through its expertise in physics, metallurgy, chemistry, biology, and engineering. We address global issues across the nuclear lifecycle and develop novel medical isotopes and devices.

## **Certrec Corporation**

Fort Worth, TX (Booth 09)

Founded in 1988, CERTREC is a regulatory compliance process expert that helps utilities manage the regulatory process to their advantage. With more than 1,000 cumulative years of regulatory and industry experience with the Nuclear Regulatory Commission (NRC), the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and other Regional Entities, Certrec's Office of Licensing and Compliance, Office of NERC Compliance, Office of Assessment and Recovery, and New Plant services are used by utilities across North America.



# Exhibitors

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## **ChemStaff**

Naperville, IL (Booth 603)

ChemStaff is an engineering consulting company serving the global power industry with core expertise in Chemistry, Engineering, Environmental, Radwaste & Health Physics Programs. We are headquartered in Naperville, Illinois, with 40+ consultants located throughout the US. Our team brings decades of experience working directly for leading US utilities and new power plant producers to solve problems and help optimize plant performance, reduce cost and operator burden, reduce radiation fields, improve compliance and build enduring value. Contact ChemStaff at [info@chemstaff.com](mailto:info@chemstaff.com)

## **The Colt Group**

Flowery Branch, GA (Booth 203)

The Colt Group sets the industry standard in safely providing Under Pressure Leak Repair solutions to American Industry. Colt owns the entire leak sealing process and all functions, from design/engineering, manufacturing, QA/QC, EHS, to service and installation, are completed by Colt personnel. The Colt Group – Providing Intelligent Leak Repair Solutions.

## **Copperleaf**

Vancouver / BC / Canada (Booth 309)

Copperleaf™ is a global provider of decision analytics solutions to organizations facing the challenges of managing critical infrastructure. We leverage operational and financial data to empower organizations to manage risk, improve performance, and deliver the highest value to stakeholders. [www.copperleaf.com](http://www.copperleaf.com)

## **Curtiss-Wright Nuclear Division**

Brea, CA (Booths 12, 402)

Curtiss-Wright Nuclear provides a comprehensive range of products and services that sustain the safe, reliable, and cost-effective operation of nuclear power plants worldwide. We offer proactive solutions to critical plant obsolescence issues, and we provide innovative technologies in support of Subsequent License Renewal and Delivering the Nuclear Promise.

## **DataGlance**

Fremont, CA (Booth 405)

DataGlance is the leading provider of mobile work solution to the Nuclear Industry. DataGlance award winning DGPro eWork solution is used by nearly 50% of the Nuclear power plant to support paperless work package execution with configurable workflow. DGPro eKnowledge solution addresses the critical need to use and capture expert knowledge from the aging workforce.

## **Day & Zimmermann**

Charlotte, NC (Booth 501)

Day & Zimmermann is the nation's leading provider of engineering, construction, and maintenance services for the nuclear industry. We have been ranked the #1 O&M Power Contractor by ENR for 10 consecutive years. We leverage wide-ranging capabilities, industry experience, and innovative technology to deliver safe, successful outages and projects. [www.dayzim.com](http://www.dayzim.com)

## **EK USA**

Logan, UT (Booth 01)

EK USA is a USA manufacturer and premier supplier of FME solutions which include, ID lanyards, Credential holders, Dosimeter leashes, tool leashes and multi device holders. EK USA anti-fog safety eyewear kits with our #1 rated anti-fog, ANSV ISEA certified safety eyewear and safety eyewear retainer are perfect for new employee and safety awareness programs as well.

## **Electrical Builders, Inc. (EBI)**

St. Cloud, MN (Booth 07)

For 45 years, EBI has served over 75% of the U.S. nuclear fleet and earned the reputation as North America's "Bus Duct Experts". Your one stop solution for; supply, installation, design, fabrication, modification, inspections, repair and more. EBI's expertise spans all OEM designs, both current and obsolete. Visit [www.electricalbuilders.com](http://www.electricalbuilders.com).

## **Emerson Automation Solutions**

Mansfield, MA (Booth 213)

Generate nuclear power safely and efficiently leveraging Emerson's valves, actuators, regulators, and services to improve the flexibility, safety, and reliability of your power plant. Emerson's extensive lifecycle services footprint and highly trained service organization capability helps ensure your operational EXCELlence.

## **ENERCON**

Kennesaw, GA (Booth 307)

ENERCON is a diversified energy consulting company offering engineering, licensing, environmental and management services. We are currently ranked in the top 200 of all International Engineering Design firms and ranked in the top 2 for U. S. Nuclear Engineering firms. We are an employee-owned company with over 1,000 experienced and dedicated professionals, providing support to our clients from our 25 strategically located offices throughout the U.S and the Middle East. Services provided include comprehensive design, engineering, procurement and construction management related to nuclear power plants. For more information about us, visit our web site at [www.enercon.com](http://www.enercon.com).

## **Energy Steel**

Lapeer, MI (Booth 416)

Energy Steel has over 35 years of dedicated "Exclusively Nuclear" service emphasizing safety and quality first while maintaining the highest certifications in the field. Experts in providing integrated solutions through custom fabrication. Specializing in pressure vessels, mechanical components, heat exchangers, piping, pumps, fabricated structural supports, reverse engineering, commercial grade dedication, and component refurbishment including replacement of OEM legacy parts & components.



# Exhibitors

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## **EPM, Inc.**

Framingham, MA (Booth 412)

EPM is a multi-discipline engineering company providing a full range of technical consulting and engineering services, along with integrated software solutions to assist our clients in addressing regulatory compliance challenges to improve safety and reduce risk at their facilities. Our expertise includes Fire Safety, PRA/PSA, Risk-Informed Initiatives, 10CFR50.69, RITS 4B, RITS 5B, and specialty programs including Environmental Qualification (EQ) and Safety Classification (Q-List).

## **EXCEL Services Corporation**

Rockville, MD (Booth 06)

EXCEL is an industry recognized leader for providing nuclear energy producers with innovative solutions to complex problems that enhance safety and security, improve efficiency and performance, and reduce cost. EXCEL combines a broad and deep knowledge of the industry with world-class technical expertise to provide effective licensing and regulatory support to our clients.

## **Exelon PowerLabs**

Coatesville, PA (Booth 604)

Since 1911, Exelon PowerLabs has been the primary calibrations and testing laboratory for Exelon. We have four individual labs strategically located from the upper-midwest to the northeast, enabling our experienced staff of experts in engineering, metrology, and nuclear power generation to support the urgent demands of our nation's nuclear facilities, power grids, and critical supply chains. As an Approved Nuclear Supplier, we have amassed an extensive inventory of lab equipment to perform a full-spectrum of calibration, testing, and analysis services. We also maintain A2LA Accreditation, assuring our technical competence as a laboratory to ISO 17025 standards and extending our services to any quality-driven or highly regulated industry.

## **Flowserve Corporation**

Charlotte, NC (Booth 401)

Flowserve is the leader in nuclear flow management services with equipment installed in over 200 nuclear reactors worldwide. This installed base combined with services including repair, upgrades, on-site and engineering support as well as new wireless equipment monitoring and diagnostics make Flowserve your One Stop shop for your nuclear needs.

## **Framatome Inc.**

Lynchburg, VA (Booth 08)

Framatome is a major international player in the nuclear energy market recognized for innovative solutions and value-added technologies for designing, building, maintaining, and advancing the global nuclear fleet. They design, manufacture, and install components, and fuel and instrumentation & control systems for nuclear power plants and offers a full range of reactor services.

## **GLSEQ, LLC**

Huntsville, AL (Booth 208)

GLSEQ, LLC is featuring GLS Advanced I&C Hydrogen and Oxygen Monitors. GLS Severe Accident Instruments: IS-SAIL™ and Condition Monitoring Instruments: M-FI™ require no electronics in containment and directly measure hydrogen, oxygen, temperature, and pressure. The benefits are streamlined SAMG scenarios and elimination of most equipment in combustible gas control systems.

## **High Bridge Associates**

Greensboro, GA (Booth 513)

High Bridge Associates is a project management consulting and services company. Its principals have extensive experience supporting capital projects, decommissioning and closure projects, new build construction projects, operating programs, and maintenance programs in the nuclear industry. Services offered to clients are engineering, cost estimating, project controls support and design, risk assessments, due diligence evaluations, feasibility studies, readiness assessments, contract change management and claims, and technical/management assessments.

## **Imperia Engineering Partners, LLC**

Bordentown, NJ (Booth 410)

Founded in 1986 as Altran, now Imperia Engineering Partners, delivers high quality, cost conscious multi-discipline engineering solutions to the nuclear power industry. We pay particular attention to our customers' concerns and critical requirements to optimize solutions. Our specialties in the nuclear industry include digital instrumentation and controls, engineering programs, operating plant Codes and Standards analysis and design, material science, and failure analysis.

## **INL Light Water Reactor Sustainability Program**

Idaho Falls, ID (Booth 312)

The Light Water Reactor Sustainability (LWRS) program, sponsored by the U.S. Department of Energy and coordinated with industry, vendors, suppliers, and regulatory agencies conducts research to develop technologies and other solutions to improve economics and reliability, sustain safety, and extend the operation of nation's fleet of nuclear power plants.

## **James C. White Company, Inc.**

Greenville, SC (Booth 605)

The manufacturer of TUBETRACK® and CABLE-RACE®, complete systems for the support of instrumentation to control tubing, pipe, cable and instruments including solid stainless steel tube and pipe clamps. Special products available with build-to-print flexibility. Established 1954, supporting the nuclear industry since the early 1970's. Nuclear QA Program (10CFR50 Appendix B, ANSI N45.2, ASME NQA-1, ASME III NCA-3800, CSA N299.2 - 2016).

# Exhibitors

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## **Joseph Oat Corporation**

Camden, NJ (Booth 403)

Joseph Oat is a well renowned OEM designer and fabricator of Safety-Related heat exchangers, coolers, pressure vessels, and tanks for the Nuclear Power Industry and we have continuously held an 'N' Stamp certification since 1966. We currently produce components for "new builds" and support the existing fleet with replacement components due to obsolescence issues, material upgrades and/or design improvements, plant life extension programs, and power uprate projects. We Make Metal Work©.

## **Kinectrics**

Toronto / Ontario / Canada (Booths 303 & 305)

Kinectrics' offers expert capabilities and advanced lab facilities for radioactive materials and analytical chemistry testing, materials characterization, nuclear waste management, fuel channels, refurbishment, and licensing support. We provide complete life cycle management solutions for EQ and CGD, design engineering, reverse engineering, inspection and maintenance systems, and leading-edge nuclear inspection tooling. [www.kinectrics.com](http://www.kinectrics.com)

## **Konecranes Nuclear Equipment & Services**

New Berlin, WI (Booth 304)

Konecranes can expertly provide all nuclear material handling equipment, services, and equipment modernizations worldwide with a capability of servicing and modernizing any manufacturers' equipment within nuclear power plants, nuclear waste storage, fuel processing, and test facilities including the most critical safety-related lifting equipment.

## **Lockheed Martin**

Archbald, PA (Booth 408)

Headquartered in Bethesda, Maryland, Lockheed Martin is a global security and aerospace company that employs approximately 105,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

## **Maxeta Technologies**

Skillman, NJ (Booth 413)

Maxeta Technologies develops business automation software for the nuclear energy industry. RadSurv, our electronic survey (eSurvey) software, streamlines the process of completing, storing and retrieving radiological surveys. Manual surveys can be converted to a streamlined electronic process while saving time with self-service briefings. Other software includes nTAP for facilitating self-assessments, eWalkdown for performing pre-work walkdowns, and TForce for managing training requests.

## **Mirion Technologies (IST) Corp.**

Horseheads, NY (Booth 211)

Mirion (IST) designs and manufactures in-core and ex-core detectors, electrical penetrations, thermocouples, temperature sensors, cable/connector assemblies, and electrical conductor seal assemblies. Mirion also manufactures visual imaging systems for use in both high and low radiation environments, as well as high temperatures and under water, health physics radiation detection and protection instruments, radiation monitoring systems, and dosimetry radiation monitoring services.

## **New York Blower Company | SSM Industries**

Willowbrook, IL (Booth 508)

The New York Blower Company and SSM Industries have teamed together to provide filtration decommissioning skids to the nuclear industry. New York Blower is an industry leader in manufacturing premium-quality, engineered fans and blowers to the industrial, OEM and nuclear marketplace. SSM Industries, Inc. (formally Schneider Sheetmetal), is the largest Safety Related HVAC Designer-Fabricator-Installer in the United States with over 40 years continuous Nuclear Experience.

## **NextAxiom Technology, Inc.**

San Francisco, CA (Booth 311)

NextAxiom enables a seamless digital environment with its microservices middleware technology, making it possible to empower your workforce with access to real-time, unified information.

Create your seamless digital environment with NextAxiom where existing IT and OT application functionality and data are unlocked and integrated to achieve unprecedented results.

## **NTS**

Huntsville, AL (Booth 215)

NTS is the leading supplier of equipment qualification and commercial grade dedication services to nuclear utilities and equipment manufacturers. As the exclusive supplier of qualified Yokogawa products—and a radioactive material license holder—NTS provides safety relief valve testing, QME-1 valve qualification, and snubber test, inspection, and repair services.

## **Nuclear News**

LaGrange Park, IL (Booth 612)

Celebrating its 60th anniversary in 2019, *Nuclear News* is the monthly membership magazine of ANS and recognized worldwide as the flagship trade publication covering the nuclear field. Nearly 800 vendors rely on **NN** to help keep the industry informed about their products and services. Make advertising part of your business development strategy and subscribe to help stay informed: [www.ans.org/nn](http://www.ans.org/nn)

# Exhibitors

## **Nuclear Plant Journal**

Downers Grove, IL (Booth 411)

Nuclear Plant Journal, a US publication now in its 37th year, provides technical information exchange among managers and engineers in nuclear power industry worldwide with over 11,000 readers. The editorial focuses on industry innovation, I&C, new plants worldwide and Small Modular Reactors. The Journal is published six-times per year and reaches every country in the world with a civilian nuclear energy program. The Journal is published in digital as well as printed version. Digital versions of the Journal may be upgraded with rich media provided by advertisers. The Products & Services Directory is published yearly in December. Online: [nuclearplantjournal.com](http://nuclearplantjournal.com); [facebook.com/nuclearplantjournal](https://www.facebook.com/nuclearplantjournal); [twitter.com/npjtweet](https://twitter.com/npjtweet). Representative: Anu Agnihotri.

## **Paragon**

Oak Ridge, TN (Booth 207)

Paragon has provided unmatched commitment to nuclear industry's most difficult challenges with customized solutions. Dedicated to quality, safety, and reliability, Paragon prides itself delivering premium products and services including I&C Repair, Reverse Engineered Products Solving Obsolescence, Commercial Grade Dedication / Qualification, Just-in-time Inventory, Emergency Support and Innovative Supply Chain Solutions.

## **Power Services Group**

Cape Coral, FL (Booth 212)

Power Services Group (PSG) provides an alternative to the OEM for turnkey maintenance and repair of nuclear steam turbines. We focus on providing a cost-effective alternative to the OEM for steam turbine outages, with specialized expertise on steam turbine valve inspections at our nuclear qualified facility in Gainesville, Georgia.

## **Premier Technology, Inc.**

Blackfoot, ID (Booth 615)

Premier Technology Inc. (PTI) is a woman owned small business located in Blackfoot, Idaho. With 300,000 square feet of manufacturing space, Premier uses cutting edge technology to complete each project. They are also the first company in history to receive an ASME NQA-1 Certificate. Premier has experience in Nuclear, Federal Projects, Mining, and prototyping new technology.

## **Prometheus Group**

Raleigh, NC (Booth 414)

Prometheus Group is a leading global provider of comprehensive enterprise asset management software solutions that work within ERP systems and span the full work management life cycle for both maintenance and operations. Our straightforward functionality, graphical visualization, and simple processes enable customers to increase productivity, ensure safety and reduce costs.

## **Radwaste Solutions**

LaGrange Park, IL (Booth 610)

*Radwaste Solutions* was created by ANS in 1994 to provide expanded coverage of the fastest growing segments of the nuclear industry—worldwide decommissioning, environmental remediation, and waste management. If you are performing or seeking work within these specialized areas, advertise or subscribe today: [www.ans.org/rs](http://www.ans.org/rs)

## **RealWear Inc.**

Vancouver, WA (Booth 05)

RealWear® is a knowledge transfer company providing in-situ information and in-the-field training with software and hardware to help people improve safety and increase productivity at work. The company's flagship product is the HMT-1®, the first ruggedized head-mounted wearable Android-class tablet computer that frees a worker's hands for dangerous jobs.

## **ReNuke Services, Inc.**

Oak Ridge, TN (Booth 03)

ReNuke brings innovative project management and staffing programs to commercial and government nuclear power markets. ReNuke's service offerings are supported by leadership with over 300 years of collective nuclear industry experience.

We are technically qualified in project management, project controls, contract administration, engineering, licensing/regulatory affairs, operations, outage management, procurement, health physics, decommissioning, transportation, and quality assurance. ReNuke provides direct, turnkey project performance solutions for client's end of fuel cycle and radioactive waste management challenges.

## **Rolls-Royce**

Huntsville, AL (Booth 302)

Rolls-Royce provides a broad range of commercial nuclear expertise with a focus on providing nuclear utilities with integrated, long term support solutions and services. It's U.S. based Nuclear Services business provides a comprehensive suite of services and fleet solutions including remote tool design and delivery; engineering and obsolescence management services and software solutions, and extensive cyber security and plant process monitoring solutions.

## **RSCC Wire & Cable, LLC**

East Granby, CT (Booth 515)

@RSCC is a business committed to innovation and sustainability. RSCC's innovative line of Firezone® fire-resistive cable products eliminates the need for fibrous wraps in containment allowing for a more sustainable design. RSCC's recently introduced halogen free line of cables, Firewall® LSHF, meets the environmental sustainability requirements for nuclear projects all over the world.

# Exhibitors

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## **SANDVIK**

Sandviken, Sweden (Booth 516)

Sandvik has been delivering products to nuclear power plants worldwide for more than 60 years, enabling us to gain extensive experience in the materials field for nuclear power applications. Our nuclear range includes steam generator tubing, nuclear fuel tubing and a wide range of seamless tube and pipe products.

## **Sarens USA, Nuclear**

Missoula, MT (Booth 509)

SARENS IS THE RECOGNIZED WORLDWIDE LEADER AND REFERENCE IN HEAVY LIFTING AND TRANSPORT. Our noble mission is to be the reference in crane rental, heavy lifting and engineered transport for our clients. With 100 entities in 65 countries operating without borders, SARENS is the ideal partner for small-scale to megascale projects.

## **SNC-Lavalin**

Ontario / Canada (Booth 503)

SNC-Lavalin is your trusted long-term partner for nuclear. Our global track record sets us apart for your new build, mid-life refurbishment, operations & maintenance, end of life decommissioning and waste management – for any nuclear technology. Trust us to develop and use the latest technology to manage technically complex challenges with precision.

## **Structural Technologies**

Columbia, MD (Booth 507)

STRUCTURAL TECHNOLOGIES is firmly committed to its mission of making structures stronger and last longer. We develop and integrate products, engineering support, repair and maintenance services to provide value-added solutions to owners, engineers and contractors. STRUCTURAL TECHNOLOGIES provides state-of-the-art proprietary products and engineering support, and delivers repair & maintenance services through our construction companies.

## **Structural Integrity Associates, Inc.**

Huntersville, NC (Booth 310)

Structural Integrity Associates, Inc. is a recognized leader in the prevention and control of structural and mechanical failures in nuclear power plants. We offer services ranging from R&D, engineering, metallurgy, software and nondestructive testing. For over 35 years, Structural Integrity has been a trusted independent provider of innovative, best in value, fully integrated asset lifecycle solutions. Contact us today: 1-877-4SI-POWER, info@structint.com, www.structint.com.

## **Sulzer Pumps (US) Inc.**

Chattanooga, TN (Booth 506)

The Sulzer Nuclear Service Center in Chattanooga has a quality program which meets 10CFR50 Appendix B and Part 21 requirements, holds N-stamp and NPT-stamp Certificates of Authorization for ASME Section III Classes 1, 2 and 3. We test, service, repair and provide parts for Sulzer and Non Sulzer pumps.

## **System One**

Pittsburgh, PA (Booth 204)

With strong roots in the energy and power industries, System One leverages a proactive approach to quality that builds a foundation for continuous performance improvement. Our consultative and risk-based approach to QA/QC ensures improved productivity, plant and personnel safety, profitability, and minimized unscheduled downtime – across the entire lifecycle, from commissioning to maintenance.

## **Technologie Inovaweld Inc.**

Quebec, Canada (Booth 514)

We are a Canadian manufacturer of STAINLESS STEEL drums. All of our drums are SEAMLESS (Crevice Free) and LASER welded. We have drums UN (Hazardous materials) and IP-2 (Nuclear) accredited. Stainless steel manufactured in United States. We are offering OH (Open Head) and TH (Tight Head) drums.

## **TECNATOM, S. A.**

Madrid, Spain (Booth 314)

TECNATOM is an international engineering company with subsidiaries in 7 countries that provides products & services to the nuclear industry since 1957. Its main technical capabilities are Inspection & Structural Integrity, Testing, Plant Operational Support, Training Centres, Development & Manufacture of Equipment & Systems, Long Term Operation, Safety Management and Emergency Response, carrying out projects in a wide range of technological areas for all type of reactors in more than 30 countries worldwide.

## **Teledyne Brown Engineering**

Huntsville, AL (Booth 206)

Teledyne Brown Engineering, Inc. has supported the nuclear industry for over 45 years and is a leader in providing innovative systems engineering, cutting edge technology, radiological analysis, and advanced manufacturing solutions. Our strengths in both engineering and manufacturing distinguish us from our competitors and allow us to provide extensive, precise solutions.

# Exhibitors

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## **Thermo Fisher**

San Diego, CA (Booth 406)

Thermo Fisher Scientific is a leading provider of Class 1E qualified safety-related Nuclear Instrumentation systems and services for nuclear power plants world-wide. We manufacture neutron flux monitoring systems for all ranges of reactor power. Our systems demonstrate high immunity to EMI and noise and meet U.S. NRC RG 1.97 Post Accident Monitoring requirements. The company also offers radiation measurement systems, personnel dosimetry, data recorders, and radiation hardened cameras.

## **Transco Products Inc.**

Chicago, IL (Booth 202)

Transco Products Inc. is proud to introduce RadVision3D – a suite of 3D gamma detection, visualization, and mitigation products and services. With over seven decades of experience in the power industry, Transco has provided products and services to over 200 nuclear power plants around the world. Visit our website at <http://www.transcoproducts.com/products/radvision3dsolutions> to learn more.

## **Ultra Electronics Energy**

Dorset, UK (Booth 04)

Ultra Electronics Energy is an established leader in the supply of I&C to the Nuclear Industry. Specializing in the supply of Safety and Control System, Health Physics Instrumentation, Nucleonics and Sensors and Process Instrumentation. Providing custom and product solutions and working in partnership with industry.

## **United Controls International**

Norcross, GA (Booth 205)

For over 40 years, UCI has consistently provided quality services and products to the nuclear power industry. UCI performs a comprehensive range of safety-related services; including seismic and environmental qualification and commercial grade dedication. Additionally, UCI provides obsolete parts, re-engineering services, and engineering consultation. Our QA program meets the requirements of 10CFR50 and is ISO 9001:2015 certified.

## **Urenco USA**

Eunice, NM (Booth 313)

UUSA is part of an international company that operates on the cutting-edge of the nuclear energy industry, utilizing the world's most advanced method to enrich uranium. As the only enrichment facility in North America, UUSA helps provide sustainable energy while operating under the highest standards.

## **ValvTechnologies**

Houston, TX (Booth 301)

Founded in 1987 and based in Houston, Texas, ValvTechnologies is the leading manufacturer of zero-leakage, severe service isolation valve solutions. Best known for our four-year zero-leakage guarantee, ValvTechnologies has been solving problematic valve applications for almost 30 years. ASME N & NPT Authorized with a 10CFR50 Appendix B program for safety related equipment. For more information visit our website at [www.valv.com](http://www.valv.com).

## **Williams Industrial Services Group, LLC**

Tucker, GA (Booth 11)

Williams Industrial Services Group, LLC (Williams), founded in 1958, provides a comprehensive range of maintenance, modification and construction services to the Nuclear & Fossil Power Generation sector, as well as multiple other markets. The service disciplines have ranged from mechanical, electrical and civil scopes in addition to specialty services such as coatings applications, lead and asbestos abatement, condenser retubes, insulation, valve maintenance and repair, roofing systems, crane upgrades, specialty welding and enhancements and fire protection.

## **Wiss, Janney, Elstner Associates, Inc.**

Northbrook, IL (Booth 511)

WJE specializes in the investigation, analysis, testing, and repair and rehabilitation design of structures. More than two-thirds of the nuclear power plants in the United States have used WJE's services to assess a variety of structural and materials conditions associated with initial construction, modifications, structural monitoring, and license renewal.

## **Zachry Nuclear Engineering, Inc.**

Stonington, CT (Booth 201)

Zachry Nuclear Engineering is a full service engineering firm that provides Engineering, Analysis, Design, and Project Management services to the Nuclear Power Industry. Zachry offers the services of experienced mechanical, electrical, controls, civil/structural engineers and designers who are highly skilled in nuclear power plant systems, engineering analysis, including GOTHIC™, RELAP, RETRAN, RADTRAD-NAI™, and CentralStor™, as well as modification package development. For more information please visit [www.ZachryNuclear.com](http://www.ZachryNuclear.com) and [www.numerical.com](http://www.numerical.com).



# ANS Meetings

## 2019 Utility Working Conference and Vendor Technology Expo

*Our most sincere thanks to the following contributors for their support of the 2019 UWC Golf Tournament*



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Breakfast Sponsor



Luncheon Sponsor



# Golf Information

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## 2019 UWC GOLF TOURNAMENT

Sunday, August 4th, 8 am

### General Information

The 2019 ANS Utility Working Conference (UWC) Golf Tournament will be held at the Oak Marsh Golf Course starting at 8 am. This tournament is open to all conference attendees and guests. However, attendees must pay the appropriate fee to participate. When submitting your registration for the UWC, you must check the appropriate box on the registration form and make sure the golf fee is included in the “Grand Total” section.



Your foursome will be assigned after receipt of your registration, payment and e-mail, and you will be notified a week prior to the Tournament.

### Fees

A \$110 golf tournament fee is required from each UWC registered attendee. You may register your guest(s) for golf at a fee of \$135, per person. The fee includes:

- One round of golf, cart fee, and range balls prior to play
- Grab-N-Go Breakfast (at the course)
- Post-Tournament Lunch (at the hotel)
- Golf Prizes (Award Categories are TBD)

### Transportation

The Oak Marsh Golf Course is conveniently located on the property of the Omni Amelia Island Plantation Resort. Transportation will be provided to/from the main hotel and the Oak Marsh Golf Course, starting at 6:30 am.

### Format

The format of the tournament will be Captain's Choice or Super Ball. With this format each player will hit his/her drive. You select the best shot and everyone plays their next shot from that location. You continue this format until the ball is holed out.

We will make every attempt to have the teams evenly paired to keep the scores as competitive as possible. If you have someone that you wish to be paired with, please be sure to include this in the e-mail you send to the ANS Registrar.

### Cancellations

If you are unable to participate in the golf tournament after you have registered, please contact the ANS Registrar at [registrar@ans.org](mailto:registrar@ans.org), immediately. Refunds will be issued until Friday, July 5. No refunds will be issued after Friday, July 5, 2019; however, you may send a substitute.

Reminder: Registration for the ANS UWC Golf Tournament is not part of the conference registration fee. If you plan to participate in the 2019 UWC Golf Tournament, you must check the box on the conference registration form and include the payment in the “Grand Total” section. If the registration form, full payment and the required e-mail are not received, your foursome will not be assigned. Golf sponsors may contact Eileen Cullen by e-mail regarding preferred pairings at [ecullen@ans.org](mailto:ecullen@ans.org).





**LANDMARKS**

- ① Hotel Lobby
- ③ Oceanside Wing
- ⑥ Guest Breezeway
- ⑦ Sunrise Wing
- ⑩ Parking Garage
- ⑫ Real Estate
- ⑯ Plantation Chapel

**RESTAURANTS**

- ② Seaglass
- ④ Oceanisde

**MEETINGS**

- ⑧ Sunrise Café
- ⑮ Falcon's Nest
- ⑲ Natural Slice
- ⑳ Marche Burette
- ⑳ PLAZE
- ㉑ Verandah
- ㉒ Marsh View Bar & Grill
- ⑨ Conference Center
- ㉓ Racquet Park Conference Center

**RECREATION & ACTIVITIES**

- ⑤ Pools
- ⑪ Nature Center
- ⑬ Heron's Cove Adventure Golf
- ⑭ Canopy Park
- ⑰ Amella's Wheels
- ⑱ The Spa & Salon
- ㉔ Health & Fitness Center
- ㉕ Tennis Center & Pro Shop
- ㉖ Golf
- Oak Marsh Golf Course
- Ocean Links Golf Course
- Omni AIP Golf Academy

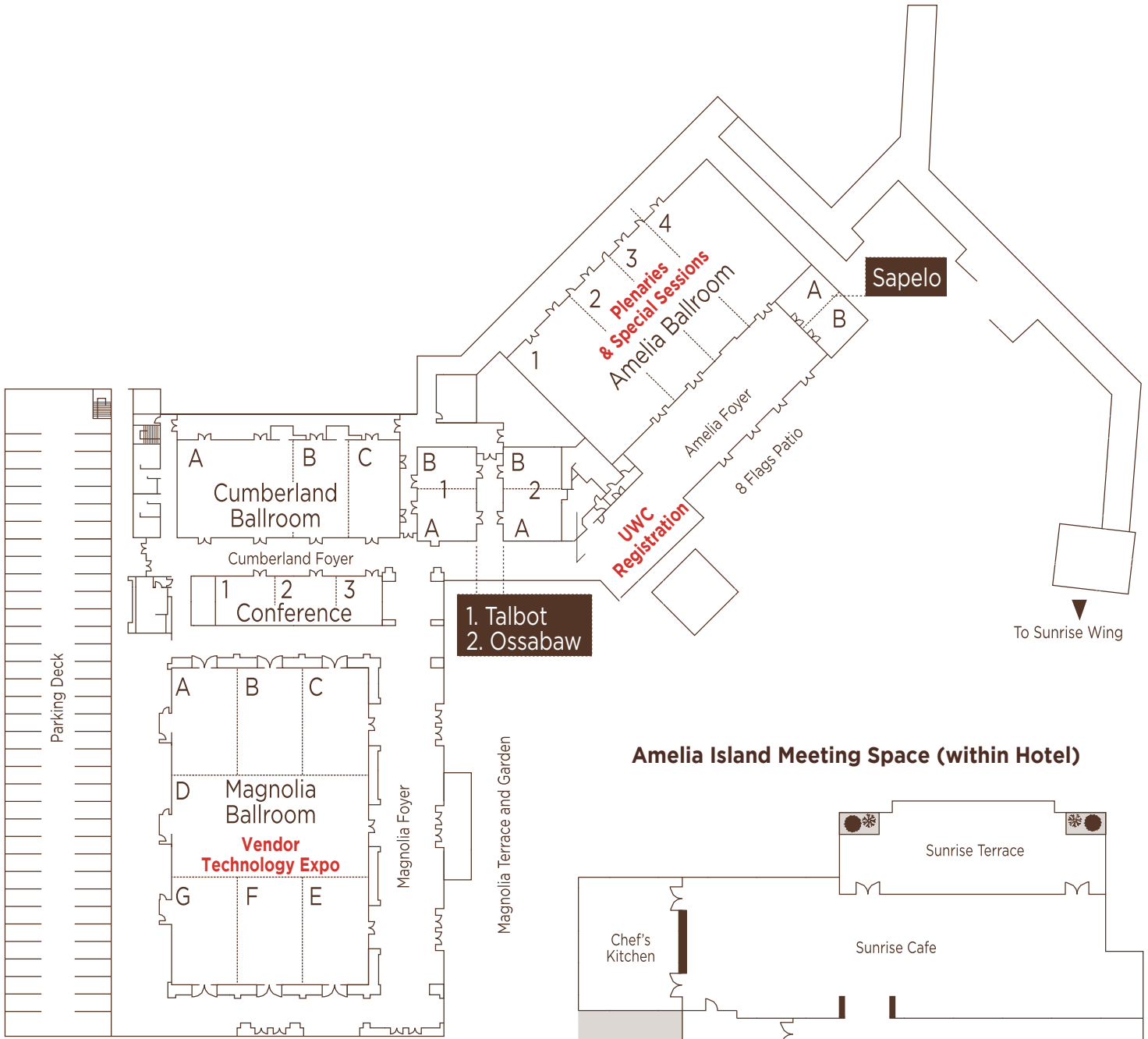
**MAP ICONS INDICATE:**

- Roadways
- - - Pedestrian Walkway
- P Parking Lots
- ☰ Ocean/Intracoastal
- 🚏 Tram Stop
- 🏖 Beach Access
- 🎣 Fishing Area
- 🌳 Nature Viewing
- 🏀 Basketball Court

**OMNI HOTELS & RESORTS**  
 amelia island plantation

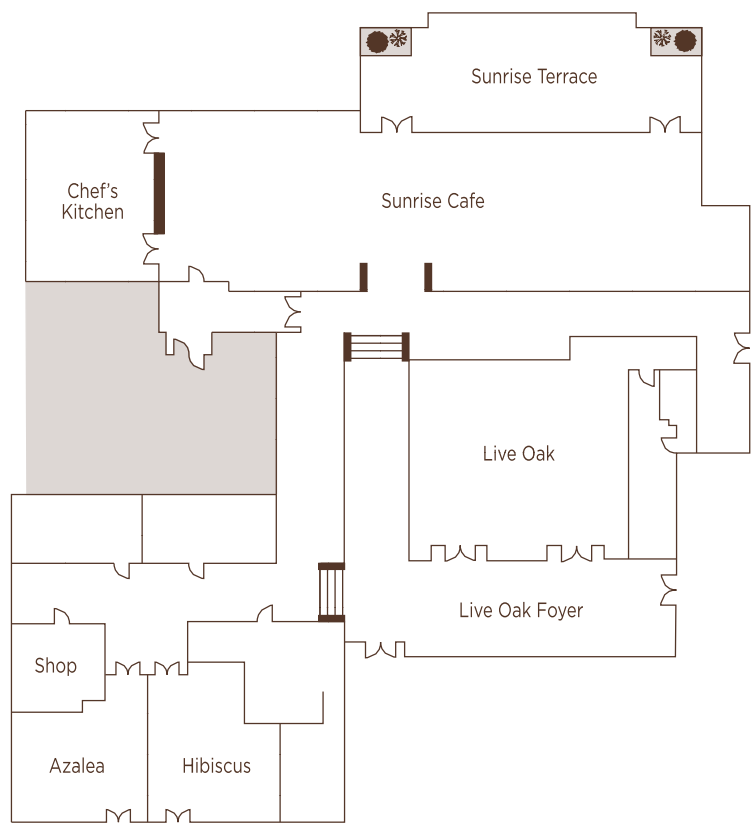
# Amelia Island Conference Center

▲ To Oceanside Wing



▼ To Sunrise Wing

## Amelia Island Meeting Space (within Hotel)







# ANS Meetings

## 19TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL DEGRADATION OF MATERIALS IN NUCLEAR POWER SYSTEMS - WATER REACTORS

AUG 18-22, 2019 | BOSTON, MA | SEAPORT HOTEL & WORLD TRADE CENTER

## 18TH INTERNATIONAL TOPICAL MEETING ON NUCLEAR REACTOR THERMAL HYDRAULICS

AUG 18-22, 2019 | PORTLAND, OR | MARRIOTT PORTLAND DOWNTOWN  
WATERFRONT

## M&C 2019

AUG 25-29, 2019 | PORTLAND, OR | MARRIOTT PORTLAND DOWNTOWN  
WATERFRONT

## GLOBAL/TOP FUEL 2019

SEP 22-26, 2019 | SEATTLE, WA | THE WESTIN SEATTLE

## MATERIALS IN NUCLEAR ENERGY SYSTEMS (MINES)

OCT 6-10, 2019 | BALTIMORE, MD | HILTON BALTIMORE

## 2019 ANS WINTER MEETING AND NUCLEAR TECHNOLOGY EXPO

NOV 17-21, 2019 | WASHINGTON, DC | MARRIOTT WARDMAN PARK  
EMBEDDED TOPICAL MEETING YOUNG PROFESSIONALS  
CONGRESS (YPC)

## 14TH INTERNATIONAL TOPICAL MEETING ON NUCLEAR APPLICATIONS OF ACCELERATORS (ACCAPP '20)

APR 5-9, 2020 | VIENNA, AUSTRIA

## TECHNOLOGY OF FUSION ENERGY (TOFE) 2020

APR 19-24, 2020 | CHARLESTON, SC

## 2020 ANS ANNUAL MEETING

JUN 7-11, 2020 | PHOENIX, AZ | ARIZONA GRAND RESORT & SPA

