

# ICC Newsletter

**Act now! Special offer to first-time utility attendees to the ICC Fall meeting – ten complimentary registrations! Please contact [billtaylor@pesicc.org](mailto:billtaylor@pesicc.org).**

## From the ICC Chair



*Bert Spear*

The 2024 Spring ICC meeting in sunny Palm Springs, California was a resounding success by many measures. With a record-breaking attendance of 535 participants, we

surpassed the previous high of 524 set in Spring 2019 in Savannah, Georgia. The sunny location was perfect for the first-ever ICC-sponsored pickleball lessons! A special thanks goes to Yingli Wen for selecting the location and hotel.

If you know colleagues who are considering attending future ICC meetings, please encourage them to join us. Our growing numbers are a testament to the value of these meetings, and we all benefit from greater attendance and the increased interactions with others.

During the Opening Session, I was very happy to introduce nine new ICC members who joined since the Fall 2023 meeting. If you have attended at least two of the last four ICC meetings and are interested in IEEE standards development, Working Groups, or ICC leadership roles, you may already be

well on your way towards qualifying for ICC membership! For more information and to apply, visit the ICC website under the "About Us" tab and select "Join the ICC" (<https://pesicc.org/ICCWP/join-icc/>).

The recent meeting also brought exciting leadership updates. The ICC Executive and Administrative Committees elected Gary Clark as the new ICC Vice-Chair/Treasurer Elect. Congratulations Gary and thanks for your willingness to serve. Additionally, Yingli Wen has taken on the role of ICC Newsletter Editor with Rachel Mosier and Harry Orton serving as Associate Editors.

Many of you may know that long-time ICC member Lauri Hiivala and his wife Jean no longer attend ICC meetings. Jean contributed significantly by coordinating ICC Spouse/Companion activities for many years, and Lauri served in various ICC leadership positions, including ICC Chair from 1994-1995 and, most recently, as Awards Chair. I've always enjoyed the spirited way and with panache that Lauri presented awards during the Opening Session. Though they may not be present in person, Lauri will continue his long-distance involvement as Awards Vice-Chair, while Rachel Mosier steps into the role of Awards Chair. Lauri will also continue to guide us as the

ICC Oracle of Robert's Rules of Order, a role he so expertly and wisely performs.

Speaking of ICC Spouses/Companions, I was pleased to see an increase in attendance from ten in New Orleans to sixteen in Palm Springs. To encourage even more participation, the registration was reduced from \$150 to \$100, which includes the ICC reception and daily breakfast. A dedicated room is provided for meals, games, and other activities. We are currently seeking a volunteer to coordinate future Spouse/Companion activities. If you know anyone, please have them contact me or any other ICC officer.

The Fall 2024 ICC meeting will be at the Hyatt Regency Coconut Point in Bonita Springs, Florida. In 2025, the Spring meeting will be at the Omni in Louisville, Kentucky and the Fall meeting at the Omni Island Resort in Amelia Island, Florida. We are close to finalizing the 2026 ICC meeting locations, and I can share that one of them will be on the beach, pending successful contract negotiations.

I look forward to seeing everyone in Bonita Springs.

*Bert*  
Albert H. Spear III  
ICC Chair (2024-2025)

## Transmission and Distribution Underground Cable Systems – Design, Installation, and Commissioning – Part 1

### Fall 2024 ICC Education Session

The upcoming Fall 2024 Education Session will kick-off a series of presentations on T&D underground cable system design, installation, and commissioning. Industry experts from North America and Europe will share their knowledge and experience designing new cable systems, solving problems during cable installation projects, and commissioning tests. Subsequent meetings will cover ampacity calculations for multiple circuits in congested urban environments, induced voltage issues, GIS and outdoor termination installations, grounding schemes, new installation techniques, and other important topics for new cable circuit designs. A Q&A session with our panelists will be included.

*Join us for an enlightening afternoon*

at the **Hyatt Regency Coconut Point Hotel in Bonita Springs, Florida** on Wednesday, October 23, 2024, 1:00-5:00 pm.

We're always looking for ideas! If you'd like to participate in future sessions as a speaker, be sure to write your ideas for future topics on the back of the session evaluation form.

## Standards Corner

By Kathryn Klement, ICC Standards Coordinator

Since the Spring 2024 meeting, the IEEE SA Standards Board has approved three revised ICC standards:

- IEEE 400.2 Guide for Field Testing of Shielded Power Cable Systems Using Very Low Frequency (VLF) (less than 1 Hz) – WG F03W Chaired by Nigel Hampton
- IEEE 1493 Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories – WG B09W Chaired by Tom Fredericks
- IEEE 1717 Standard for Testing Fire-Resistive, Circuit Integrity Cables and Cable Systems Using a Hydrocarbon Pool Fire Test Protocol – WG D17W Chaired by Robert Schmidt

Congratulations to the working groups for reaching this milestone.

To get involved in ongoing standards projects, you can attend any of the working group meetings at the next ICC or reach out to the Subcommittee chair for more information.

## Meet Your New Officer

Gary Clark was elected as ICC Vice-Chair/Treasurer Elect in the Spring of 2024. Gary has been attending the ICC since 2012. Born in the Chicago suburbs, Gary graduated from Illinois Institute of Technology with a Bachelor of Science in Computer Engineering and a Minor in Management. After relocating to Southern California, he earned his Master of Engineering Management from Penn State University. Gary is a California-licensed Professional Engineer in Electrical Engineering, with reciprocity licenses in 14 other states.



Gary has held a variety of engineering and operations leadership roles in the electric utility industry over his 20 years of working for both utilities and contractors, and he currently is the VP of Engineering for Henkels & McCoy / MasTec Power Delivery. Gary has primarily focused on underground & overhead T&D engineering in his career and appreciates the ICC network for improving his knowledge and approach to cable ampacity studies and covered conductor applications.

In his 12 years of attending ICC meetings, Gary has served as the Vice-Chair and then eventual Chair of C3D (Magnetic Fields of Underground Cables). Gary has also supported ICC Standards development for over 9 years, including as the Standards Coordinator for 6 years.

Gary's goals as an ICC Executive Committee officer include increasing ICC visibility to young electric utility professionals, facilitating greater accessibility and understanding of volunteer opportunities within ICC, and encouraging increased utility attendance to balance out growing interest from manufacturer and consulting attendees.

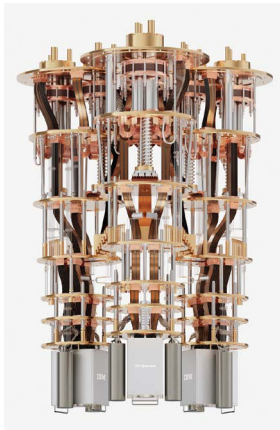
## The Quantum-enabled Grid

By Duane Martin, IBM Quantum

Since Thomas Edison revealed the country's first power plant in New York City, society has demanded electricity. That demand only increased through the 20th and 21st centuries, and today, new industries such as the heating and automotive industries are increasingly relying on electric power. Utilities have had to respond by expanding and improving the electric grid infrastructure, searching for new forms of power generation, and handling increasingly complex operations, all with the help of classical computing. However, as growth in demand accelerates, these challenges are taxing even our highest-performance computers.

Classical computers—those encoding information into binary digits to perform calculations—have long served as our sole tool for processing data and running algorithms. However, there are some problems where even classical computers falter, especially those with high levels of complexity. Today, companies like IBM are developing a new kind of computer processing technology, called quantum computing, that has the potential to outperform classical computers for some of these complex problems. Utilities companies are exploring how quantum can provide a more efficient alternative to classical computers for handling the increasing complexities of the grid.

Quantum computers employ the physics of subatomic particles to solve problems. Rather than using classical bits, quantum computers calculate with quantum bits, or qubits, that can compute using combinations of zero and one simultaneously during the calculation before outputting single binary strings. Quantum computers rely on the principles of superposition, entanglement, and quantum interference to calculate with more data simultaneously than a classical computer can and to run algorithms beyond the reach of classical computers.



Today, quantum computers have reached a point such that they can perform calculations that outperform some brute-force classical simulation methods—which we call quantum utility. It means that, for the first time, researchers can use quantum computers as a tool for discovery beyond the ability of classical computing alone. Now, companies are searching for quantum advantage, applications for which quantum computers can outperform all classical methods.

Maintaining, monitoring, and upgrading power grids requires intensive processing largely in real time. Integration of renewable energy sources brings increased complexity to grid operation and can require faster processing to monitor, optimize and stabilize the grid. Expanding and upgrading the grid requires the study of increasingly complex grid topologies. Quantum computers may provide the opportunity to navigate that complexity, faster, in real time—while providing new algorithms that can better handle these challenges.

Research and development groups are pursuing several areas to test whether quantum can provide a benefit. For example, researchers have explored the application of quantum simulation to improve battery design, the integration of supply, demand, and battery storage effects of electric vehicles on grid optimization, and the evaluation of quantum methods for pricing risk. Quantum techniques for time-series forecasting, like quantum reservoir computing, could help forecast or recover from the effects of weather-induced disruption of the grid, manage load scheduling, or incentivize renewable energy use.

Quantum computing's ultimate impact on energy and utilities aren't fully known, and quantum is still a developing technology. However, as the field matures, algorithm discovery will continue revealing potential applications for utility companies trying to optimize the supplying of power in our ever-changing world.

# Insulated Conductors Committee (ICC) Awards

By Lauri Hiivala, ICC Awards Vice-Chair

The strength of ICC is based on the wide range of expertise and collective technical knowledge of the many volunteer members. An important element of the ICC is recognition of contributions.

## ICC Certificates of Appreciation

At each ICC meeting, Certificates of Appreciation are presented for the best presentation at a Subcommittee, Working Group, Discussion Group or Educational Program meeting, such as the following:

Recipient	Citation
<b>Wayne Chatterton</b>	for Best Presentation at the Fall 2023 Subcommittee A Meeting <i>Cable Rejuvenation History: Document the Past and Shape the Future</i>
<b>James Steele</b>	for Best Presentation at the Fall 2023 Subcommittee A Meeting <i>Cable Rejuvenation History: Document the Past and Shape the Future</i>
<b>Willem Griffioen</b>	for Best Presentation at the Fall 2023 Subcommittee C Meeting <i>Progress in Cable in Pipe Installation Techniques Using Water</i>
<b>Vitor Gonçalves</b>	for Best Presentation at the Fall 2023 Subcommittee C Meeting <i>Progress in Cable in Pipe Installation Techniques Using Water</i>
<b>Joe Iamartino</b>	for Best Presentation at the Fall 2023 Subcommittee D Meeting <i>Proposed Use of Forced Air Cooling for EV Charging Cables</i>
<b>Sheri Dahlke</b>	for Best Presentation at the Fall 2023 Subcommittee D Meeting <i>Using Cable Lubricants to Reduce Friction and Increase Predictability in Cable Tension Estimation</i>
<b>Nadim Giotis</b>	for Best Presentation at the Fall 2023 Educational Program <i>Medium Voltage Cable System Maintenance –Principles and Execution</i>

## IEEE PES Technical Committee Certificates of Appreciation

Certificates of Appreciation are also presented to all outgoing Subcommittee, Working Group and Discussion Group Chairs and Vice Chairs, or upon publication of their IEEE standard or guide, such as the following:

Recipient	Citation
<b>Yingli Wen</b>	for Services Rendered as Chair, Insulated Conductors Committee Spring 2022 – Fall 2023
<b>Tom Campbell</b>	for Services Rendered as Chair, Discussion Group A19 <i>Covered Conductors Rated 5 kV through 46 kV: Weatherproof Conductors, Tree Wire and Spacer Cable Systems</i>
<b>Mike Mueller</b>	for Services Rendered as Chair, Discussion Group C31, <i>High Pressure Fluid Filled (HPFF) and High Pressure Gas Filled (HPGF) Pipe Type Cable Systems</i>
<b>Gabe Taylor</b>	for Services Rendered as Chair, Working Group D8, <i>IEEE 634-2023 Standard for Cable-Penetration Fire Stop Qualification Test</i>
<b>Tim Fallesen</b>	for Services Rendered as Secretary, Working Group D8, <i>IEEE 634-2023 Standard for Cable-Penetration Fire Stop Qualification Test</i>
<b>Robert Konnik</b>	for Services Rendered as Chair, Working Group D10, <i>IEEE 383-2023 Standard for Qualifying Electric Cables and Splices for Nuclear Facilities</i>
<b>Darrell Murdock</b>	for Services Rendered as Secretary, Working Group D10, <i>IEEE 383-2023 Standard for Qualifying Electric Cables and Splices for Nuclear Facilities</i>
<b>Carlie Crawford</b>	for Services Rendered as Chair, Working Group D15, <i>IEEE 1202-2023 Standard for Flame-Propagation Testing of Wire and Cable</i>
<b>Anthony Tassone</b>	for Services Rendered as Secretary, Working Group D15, <i>IEEE 1202-2023 Standard for Flame-Propagation Testing of Wire and Cable</i>
<b>James Conrad</b>	for Services Rendered as Chair, Working Group D21, <i>IEEE 2412-2023 Standard Test Procedure for Determining Circuit Integrity Performance of Fire Resistive Cable Systems in Passenger Rail and Road Tunnels</i>
<b>Gabe Taylor</b>	for Services Rendered as Secretary, Working Group D21, <i>IEEE 2412-2023 Standard Test Procedure for Determining Circuit Integrity Performance of Fire Resistive Cable Systems in Passenger Rail and Road Tunnels</i>
<b>Detlef Wald</b>	for Services Rendered as Chair, Discussion Group E12 <i>Networking Luncheon</i>
<b>Nigel Hampton</b>	for Services Rendered as Chair, Working Group F01, <i>IEEE 400-2023 Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems Rated 5 kV and Above</i>
<b>Lisbeth Villareal</b>	for Services Rendered as Secretary, Working Group F01, <i>IEEE 400-2023 Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems Rated 5 kV and Above</i>

## 2024 ICC Technical Committee Distinguished Service Award

Each Technical Committee is encouraged to select one individual for this award for outstanding service to the committee. This personal recognition acknowledges the efforts of an individual whose sustained performance, over many years, has contributed to the advancement of the committee technology.

**Milan Uzelac** received the 2024 Technical Committee Distinguished Service Award with the following citation: For his contributions to the Cable Accessories industry in the areas of design and field applications, and developing young engineers in the field.

# International Events Calendar

Compiled by Harry Orton

Reminder: The continuing world situation has made it very difficult to provide accurate conference listings and dates as some conferences have gone virtual while others have changed dates, relocated or have been cancelled. Please refer to the respective website for up-to-date conference information. Be very careful when searching the Internet for conferences and symposia as there are fraudulent websites advertising predatory conferences with very similar names. Their sole purpose is to collect papers and registration fees.

## 2024

### CMD 2024

(Condition Monitoring and Diagnosis)

20-25 October, Gangneung, Gangwon-do, Korea  
[www.cmd2024.org](http://www.cmd2024.org)

### CIGRE Canada Conference and Exhibition

28-31 October, Winnipeg, Canada  
[www.cigre.ca](http://www.cigre.ca)

## 2025

### Hannover Fair

31 March-4 April, Hannover, Germany  
[www.hannovermesse.de/en/](http://www.hannovermesse.de/en/)

### IEEE Rural Electric Power Conference

29 April-1 May, Westminster, CO  
[www.ieeerepc.org](http://www.ieeerepc.org)

### CIGRE International Symposium

12-15 May, Trondheim, Norway  
<https://cigreicc2025symposium2025.com>

### Interwire Trade Exhibition 2025

13-15 May, Atlanta, GA  
[www.interwire25.com](http://www.interwire25.com)

### EIC (Electrical Insulation Conference)

8-12 June, South Padre Island, TX  
<https://iee-eic.org/>

### CIRE2025

16-19 June, Geneva, Switzerland  
<http://www.cired2025.org>

### IEEE PES General Meeting

27-31 July, Austin, TX  
<https://pes-gm.org>

### ISH (24th International Symposium on High Voltage Engineering)

24-29 August, Karuizawa, Japan  
Email: [kumada@hvg.t.u-tokyo.ac.jp](mailto:kumada@hvg.t.u-tokyo.ac.jp)

### CEIDP (Conference on Electrical Insulation and Dielectric Phenomena)

14-17 September, Manchester, UK  
<https://ceidp.org/>

### Wire Southeast Asia

17-19 September, Bangkok, Thailand  
[www.wire-southeastasia.com](http://www.wire-southeastasia.com)

### CIGRE International Symposium

29 September-2 October, Montreal, Canada  
[www.cigre.ca](http://www.cigre.ca)

## A Tribute to Carl C. Landinger, Sr. P.E.

September 6, 1937 – April 8, 2024



Carl C. Landinger, Sr., a highly regarded expert member of the Utility/Wire & Cable family, passed away on April 8, 2024. Carl was born in Milwaukee, Wisconsin to parents Simon and Elizabeth Landinger.

Carl served two separate active duty tours in the US Army Signal Corps between 1956 and 1963. After the Army, he went to night school while working and supporting his family, earning his BS degree in Electrical Engineering from Marquette University. Carl began his career in the utility industry as an overhead lineman for Wisconsin Electric Power Company. During his career, Carl worked for many major power cable manufacturers, holding technical and senior management positions, including Anaconda Wire and Cable, Alcoa Conductor Prod. Co., Conductor Products Inc., and Hendrix Wire and Cable Company, to name a few. Once, a colleague of Carl's remarked, "Carl, you seem to change companies you work for quite often." His response was, "Yes, but I keep working from the same desk."

His first ICC attendance was the Fall 1970 meeting. He continued to participate in ICC until 2014, when he retired from the Hendrix Wire and Cable company. A registered PE, Carl held several patents, wrote books, and was often called upon for lectures and consulting long past the time that most people settled into retirement. He contributed to the writing of many IEEE power cable and accessory standards and shared his industry expertise in many ways, as a presenter of technical information at ICC and other conferences as well as industry technical journal papers.

Carl will be remembered for his contributions to the industry, his mentoring to colleagues and friends, his vitality, his loud booming voice when he gave his presentations and course instructions, his attentive ear and willingness to help, his kindness, and his desire to be always inclusive. In his eyes, though, his greatest accolade was being a Christian.

## IEEE PES Technical Roadmap

By Mike Mueller, Power Engineers, Inc.

As the awareness of climate change increases, electricity generators and operators are looking for ways to further reduce greenhouse gas emissions and limit the impact to the global community. Some countries have established goals to reach zero or near-zero emissions within the next 25 years. Renewable power generation technologies that rely on wind, solar, and energy storage have already been installed in many parts of the world.

In 2022, the IEEE PES Technical Council embarked on creating a roadmap for strategies and trends to accomplish "Net Zero". The Technical Roadmap Task Force chaired by Hong Chen, Vice President PES Technical Activities, contributed to a document that discusses how to achieve climate change mitigation in a strategic manner so as not to disrupt consumer demand. Yingli Wen, Past ICC Chair, and Mike Mueller, Current ICC Vice Chair, represented ICC in the Task Force.

The document charts technology solutions to meet the challenges facing the industry and educate the energy sector workforce. It also centers on achieving emission reductions over the next 10+ years to 2035. The roadmap primarily addresses potential solutions in the areas of renewable energy integration, reliability & resilience, grid edge technologies, computation, and cybersecurity.

George Becker, contributor to the roadmap, stated "My focus in this effort was to advocate for an all-of-the-above approach to the advancement and application of the most effective mix of renewable resources to the grid as well as to promote grid resiliency and security."

The roadmap, Technical Report PES-TR 123, is available for download on the PES Resource Center.

## Tell Us What You Think!

ICC welcomes your feedback. If you'd like to suggest topics for upcoming issues of the ICC Newsletter or add a colleague to our email database, please contact Yingli Wen at [y.wen@ieee.org](mailto:y.wen@ieee.org).

## Upcoming ICC Events

20-23 October 2024,

Hyatt Regency Coconut Springs, Bonita Springs, FL

18-21 May 2025,

Omniville, Louisville, KY

26-29 October 2025,

Omniville, Amelia Island Resort, FL