

ICC Newsletter

From the ICC Chair

I hope that you are finalizing your plans for the upcoming Spring ICC meeting. I look forward with great anticipation to the meeting, my first as chair.



As most of you know, ICC is a volunteer organization, and its success would not be possible without the commitment of the committee chairs, vice chairs and the many participants who attend the meeting. We've been pleased to see a growth in attendance at recent meetings, which may be attributable to exciting industry changes caused by new technologies such as renewables/green energy, microgrids, HVDC and superconductivity. The ICC meeting is a unique forum for learning and collaboration through our working groups, discussion groups and educational session.

As technology evolves, our committee must stay ahead of the curve by developing new guidelines that will shape the future of the utility industry with more reliable, innovative and proven technologies. This newsletter is designed to help; in this issue alone, you'll find information on developing standards, handy new apps and upcoming educational events such as the session on partial discharge at our Spring meeting.

As our industry continues to change, ICC members will need to become more involved by volunteering to serve on our many subcommittees. Currently, there are several vacant positions that will be posted and announced at our upcoming meeting. Please consider how your expertise and talents can make this an even more effective organization.

I am honored to serve as the chair of ICC for the next two years and look forward to working with everyone to make our future strong and productive while continuing to attract new members. I want to thank our past chair, Thomas Champion, for his dedication and success in aligning the ICC with the new requirements and regulations set by IEEE.

I look forward to seeing all of you at the meeting in Fort Lauderdale in April. Safe travels!



Frank Frentzas
Commonwealth Edison
IEEE PES ICC 2016 – 2018 Chair

ICC's Vital Role in Utility's Underground Cable Systems

By Gary Clark, P.E., NV5, Inc.

Since its first meeting in 1947, the ICC's success has depended on the involvement and dedication of attendees. During the meeting and throughout the year, ICC volunteers develop standards and guides while learning about new innovations, sharing technical knowledge and finding solutions to vexing problems.

You don't have to be a member to attend ICC events or to take advantage of standards, guides, and other services. The ICC is organized into subcommittees so you can access experts and information that are most related to the professional challenges you face. These subcommittees are:

- A) Cable Construction and Design
- B) Accessories
- C) Cable Systems
- D) Generating Station and Industrial Cables
- E) Administrative
- F) Field Testing and Diagnostics
- G) Transnational

Do you see your area of specialization or interest listed here? Remember, industry members just like you play an important role in solving these critical challenges and creating the future of our industry. Please join us!

ICC Newsletter Team

Harry Orton, ICC Communications Chair
Wim Boone, ICC Advisory Committee Chair
Ram Ramachandran, AC Task Force Chair

ICC AWARDS

By Lauri Hiivala, ICC Awards Chair

Certificates of Appreciation (COAs) were awarded for the best presentation at a subcommittee, working group, discussion group or educational program meeting for the Spring 2015 meeting as follows:

- Timothy Person, Subcommittee A Meeting, *Recent Developments in Crosslinkable Polyethylene (XLPE) Technologies for Power Applications*
- Evangeline Cometa, Discussion Group A20 Meeting, *CSA Low Voltage Testing Protocol*
- Vern Buchholz, Subcommittee B Meeting, *Current Cycle Test on Mechanical Connectors with Copper and Aluminum Alloy Conductors*
- Doug Taft, Subcommittee C Meeting,

- Carlsbad Desalination Project – 12kV Underground Design Presentation*
- Gary Clark, Subcommittee C Meeting, *Carlsbad Desalination Project – 12kV Underground Design Presentation*
- Joe Groeger, Subcommittee D Meeting, *Formulation and Long-Term Performance of Low Voltage Cable Materials*

COAs were also presented to all outgoing subcommittee, working group and discussion group chairs and vice chairs, or upon publication of their IEEE standard or guide:

- Cindy Flenniken, Chair, Working Group A20, *Low Voltage Cable Systems Rated < 600 V*
- Bruce Bernstein, Chair, Working Group C30, *Extending the Life of Extruded Power Cables in the Field*
- Robert Konnik, Chair, Working Group D10, *IEEE 383-2015 Standard for*

- Qualifying Electric Cables and Splices for Nuclear Facilities*
- Ajit Gwal, Vice-Chair, Working Group D10, *IEEE 383-2015 Standard for Qualifying Electric Cables and Splices for Nuclear Facilities*

Each year the IEEE Awards Board recommends a select group of recipients to receive the IEEE's most prestigious honors.

The IEEE Board of Directors has named George Anders as the recipient of the 2016 IEEE Herman Halperin Electric Transmission and Distribution Award "For contributions to advances in computational methods for the thermal rating of electric power cables."



Dr. George Anders

Copper Theft the Focus of New Task Force

By Wim Boone, Chair of AdHoc Task Force Copper Theft

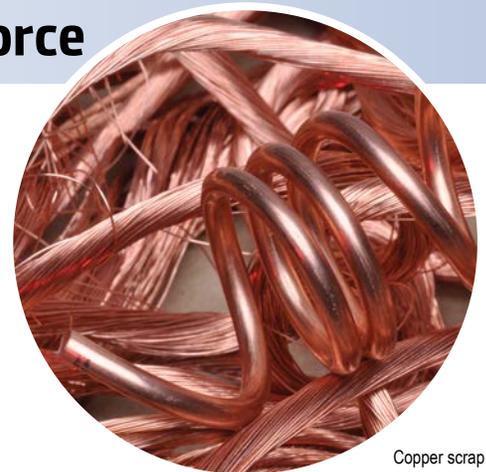
Copper theft is a persistent problem plaguing our industry. Many utilities, railway companies and other service providers are suffering from the theft of copper by individuals and, more worrisome, by international criminal organizations. These crimes can seriously threaten human safety and the reliability of utility services.

The FBI estimates the annual loss to be about \$1 billion and warns that copper theft is threatening our critical infrastructures. The high price of copper is the obvious reason for the thefts. The number of incidents is strongly correlated to the price level, as the graph shows.

The industry works hard to find a solution to this problem by applying organizational, technical and regulation measures. Some countries or companies report an improvement, while others are

seeing a deterioration in the situation. Now is the time to come together as an industry to find a solution!

In the November 4 ICC Adcom Meeting in Tucson, an AdHoc Task Force (TF) was launched to explore the situation. Jody Levine and Wim Boone agreed to manage the TF's first meeting at the 2016 Spring Meeting in Fort Lauderdale. We'll start the discussion with a few presentations on measures already taken or planned for the future. Although the subject is not a typical technical challenge, the solutions may be technical; therefore the ICC takes on the responsibility to contribute to a solution for this pernicious problem.



Copper scrap



Copper theft versus copper price

Your Role in ICC

By Gary Clark, P.E., NV5, Inc.

How can you contribute to ICC? The first step is simple - attend the meetings that occur in the spring and fall of each year. A free orientation at each meeting will make you familiar with the many events that all new attendees are encouraged to attend, including the reception, opening session, subcommittee technical presentations and various breakout meetings. You are welcome to participate in the discussions at any Working Group (WG) meeting.

To become an active ICC Member with voting rights, you must be a member of IEEE, the Power & Energy Society (PES) and the IEEE Standards Association (SA); have attended at least two of the last four ICC meetings as a guest; submit the membership application; and be approved by the ICC Chair.

ICC Senior Membership makes you eligible for election as an ICC Officer

or Chair of Working Groups and Subcommittees. To qualify, you must be an ICC Member; be recommended by an ICC Officer or Subcommittee Chair; submit the Senior Membership Application; and be approved by the ICC Chair.

Once you are an approved ICC Member and you are ready to join a Working Group ballot roster, you'll want to become familiar with the myProject eTools on the IEEE Standards Association website. Within the myProject web interface, you can submit a Project Authorization Request (PAR), manage your PAR activity, view active PARs, and join open ballot invitations. The myProject interface will also send you an email update when announcements or alerts become available on your participating PARs and ballots.

The myProject tool enables all active ICC members to check on and contribute to the IEEE standards development process between the biannual conferences. Don't hesitate to contact any of the Working Group chairs throughout the conference week to find out how you can become more involved.

AEIC An Industry Resource

By Rachel Mosier, PE, Power Delivery Consultants, Inc., past chair

Have you read about the AEIC Cable Engineering Committee (CEC) and wondered, who are these guys? The Association of Edison Illuminating Companies, or AEIC, is composed of electric utilities, including investor-owned, public power and municipalities. One of its technical committees is the CEC, which is made up of cable engineering specialists who prepare cable specifications and guides on manufacturing, testing, and installation of power cables and accessories.

Since both the AEIC CEC and ICC are focused on power cables, it only makes sense that the groups meet at the same time and place - on the Thursday and Friday after every ICC meeting. Meetings begin with an open exchange of information with cable manufacturers. Then the doors close, and committee members talk about their experiences, exchange ideas, and discuss clarification requests from specifications and guides users. Finally, incorporating all of their knowledge and experiences, they write those specifications and guides that we all rely on, like CS2 (pipe-type cables), CS8 (extruded distribution cables) and 16 other active AEIC CEC specifications and guides.

For more information, visit their website at www.aeic.org.

ICC Reaches Out to Rocky Mountain Regional Group

By Kraig Bader, Standards Engineering Manager, Fort Collins Utilities Light & Power

Recently, ICC had an opportunity to reach out to members of RMEL (The Rocky Mountain Electric League) to share information on the status of standards and to encourage RMEL members to attend ICC meetings.

Kraig Bader, Chair of the Accessories Subcommittee (B), agreed to present at the RMEL Standards Workshop. Adapting a recent presentation to CIGRE, Kraig explained the depth and breadth of ICC's involvement in the IEEE standards-making process. In addition to the ICC presentation, the workshop included an overview of the standards that are often used by utility engineers in the course of their work as well as an update on the IEEE Switchgear Committee's work in the industry.

With 55 active standards and 112 discussion and working groups in the ICC, there was no lack of information to share with attendees of the RMEL Standards Workshop. Kraig reminded his audience that ICC is an open forum and that anyone can attend our meetings, and provided them with information on how to participate and how to find the latest ICC information. According to a note received from Rick Putnicki, RMEL's Executive Director, the ICC presentation received the top score from workshop attendees.

Interested in spreading the word about ICC to industry groups in your area? Please contact Frank Frentzas, who will provide information and a template to support your presentation.

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 Harry Orton at h.orton.1966@ieee.org.

Calendar of International Events

Compiled by Wim Boone

CIGRE/IEC 2016 - Colloquium on EHV/UHV (AC&DC)

May 9-11, Montreal Canada

<http://cigre.org/Events/CIGRE-Colloquia/CIGRE-IEC-Colloquium-on-EHV-and-UHV-AC-DC>

5th International Conference - Offshore Cabling

May 31- June 2, Bremen, Germany

<http://www.offshore-cabling.com>

CIRE2016 Workshop 2016

June 14 – 15, Helsinki, Finland

<http://www.cired2016-workshop.org/>

IEEE Electrical Insulation Conference 2016

June 19 – 22, Montreal, Canada

<http://sites.ieee.org/eic/>

ICD 2016 - 1st International Conference on Dielectrics

July 3-7, Montpellier, France

<http://www.ies.univ-montp2.fr/icd2016/>

CIGRE Session 2016

August 21-26, Palais des Congres, Paris

<http://www.cigre.org/Events/Session/Session-2016>

IEEE Dielectrics & Electrical Insulation Society Conference on HV Engineering & Applications

September 19 – 22, Chengdu, China

<http://sites.ieee.org/deis/conferences/>

CMD2016 - Condition Monitoring and Diagnosis

September 25-28, Xi'an, China

<http://cmd2016.xjtu.edu.cn/>

CEIDP-Conference on Electrical Insulation and Dielectric Phenomena

October 16 - 19, Toronto, Canada

<http://sites.ieee.org/ceidp/>

Fall 2016 Education Session – Field and Factory PD Testing

By Rachel Mosier, Education Session Chair, PDC

Although it once may have seemed like magic, Partial Discharge Testing has advanced to the point where the mystery is gone. Learn all about it at the Education Session planned for the Spring meeting. This session will focus on distribution and transmission, both in the factory and in the field. Hear from experienced utilities and industry experts at the Westin Fort Lauderdale Beach Resort on Wednesday, April 6, from 1:00 – 5:00 pm.

Guidebook – The Best App Ever!

Going to the ICC Spring meeting? Don't forget to download the Guidebook App for meeting schedules, floor maps and more. It's available from the Google Play Store or the App Store. Installation is simple and intuitive!

New AdHoc Discussion Group on Seismic Performance

By Dr. Sudhakar Cherukupalli, Team Lead, BC Hydro, Transmission Department

The ICC AdCom approved the formation of a new AdHoc Discussion Group titled "Seismic Performance of Cable Systems." The group's first meeting has been scheduled for the ICC Spring Meeting in Fort Lauderdale, April 1-4, 2016.

Dr. Sudhakar Cherukupalli and Harry Orton have been nominated as Chair and Vice Chair of the group. For this first meeting, we plan to invite members of IEEE 693: IEEE Recommended Practice for Seismic Design of Substations to present an overview of the standard.

ICC STANDARDS CORNER

By Gary Clark, P.E., ICC Assistant Standards Coordinator

Congratulations to WG F05W Chairman Edward Gulski and Vice Chair Ralph Patterson for successfully completing IEEE 400.4, Guide for Field Testing of Shielded Power Cable Systems Rated 5 kV and Above with Damped Alternating Current (DAC) Voltage, approved by the SA Standards Board on October 26, 2015. Congratulations also to WG D19W Chairman Gabriel Taylor and Vice Chair Eric Rasmussen for successfully completing IEEE 1844, Standard Test Procedure for Determining Circuit Integrity Performance of Fire Resistive Cables Systems in Nuclear Facilities, approved by the SA Standards Board on December 5, 2015.

One- and two-year PAR extensions were approved by the SA Standards Board at their December 2015 meeting for the following standards: C62.22.1 (2018), 386 (2018), and 1617 (2019). Note: dates in parentheses are when the standard expires. P1810 received a two-year extension to 2017. The new PAR P2417 was approved until 2020.

The PAR for IEEE 1254 expired at the end of 2015 and a new PAR will need to be submitted for the WG to continue. The Chair and WG are making this a priority for the upcoming ICC meeting.

The growing number of standards that must be revised and updated to avoid withdrawal include standard numbers 386, 400.1, 400.3, 442, 495, 532, 592, 1210, 1216, 1234, 1406, 1407, 1425, 1493, 1610, 1617, and C62.22.1 due in 2018; standard numbers 48, 82, 635, and 1142 due in 2019; and standard numbers 634, 1120, 1185, 1428, 1511, 1511.1, and 1637 due in 2020. It is crucial that these standards are updated before their expiration dates.

Upcoming ICC Events

April 3-6, 2016..... Spring ICC - Fort Lauderdale, Florida

Visit www.pesicc.org to view all Spring ICC presentations and activities or to register for the meeting and Transnational Lunch.

October 30 - November 2, 2016 Fall ICC - Scottsdale, Arizona

Please return frequently to www.pesicc.org for updates on presentations, event registration and other meeting information.