

ICCN News letter

From the ICC Chair

Welcome back to the ICC Newsletter, the periodic publication from the Insulated Conductor Committee (ICC)



of the Institute of Electrical and Electronic Engineers (IEEE) Power and Energy Society (PES). This is our second issue, and it contains articles on the activities and mission of the ICC, changes in IEEE policies, the Transnational Lunch held at each ICC meeting, and the ICC awards process.

Our 2012 meeting in Seattle, Washington set a record for spring meeting attendance in late March with a total of 369 attendees. The spring meeting average attendance for the past 15 years was exceeded by 21 percent! The 369 participants also exceeded our fall meeting average attendance by four. Manufacturer representation attendance was 43 percent, followed by the typical utility-sponsored engineer attendance at 26 percent.

We would like to see utility-sponsored transmission and distribution system engineer participation grow over the next five to ten years to become the majority affiliation

representation at ICC meetings. Many technical experts in the wire, cable and accessories fields are baby boomers who are retiring or others who are leaving the electrical utility industry for other reasons. As the need to grow ICC participation and replace retiring members continues, we look forward to increasing utility affiliation attendance. We thank all of the spring 2012 meeting attendees, and hope to see each of you at this fall's upcoming meeting, November 11-14, 2012 in St. Petersburg, Florida at the TradeWinds Island Grand Resort.

The ICC Newsletter will continue to highlight and communicate the benefits that the ICC provides to the electrical utility power and energy industry, and will hopefully motivate your attendance and participation in the ICC—one of the best professional and technical committees of the IEEE-PES. We will also continually recognize the expert industry volunteers involved in developing standards and doing the critical work of the ICC. Hope to see you all in St. Petersburg, Florida this fall where the important work of the ICC awaits you!



John T. Smith, III
General Cable Corporation
ICC Chair, 2012-2013

Help Us Fulfill the ICC Mission!

By Rachel Mosier, PE,
Power Delivery Consultants, Inc.,
ICC Immediate Past Chair

A key ICC mission is the development of IEEE standards and guides relied upon around the world. Unfortunately, ICC resources are limited. If there are not enough people to work on a revision or reaffirmation, IEEE may withdraw a standard or guide. The IEEE 1333, *Guide for Installation of T&D Cable Circuits Using Guided Horizontal Drilling*, and IEEE 816, *Guide for Determining the Smoke Generation of Solid Materials used for Insulations and Coverings of Electric Wire and Cable*, have both been withdrawn. Drafts of new documents can also be withdrawn due to time constraints. Six new guides and standards were recently withdrawn for this reason.

The following standards at risk for withdrawal are each important to help utilities manage and install their assets efficiently, safely and economically, especially with the increasing use of underground cables:

- IEEE 1210, *Test for Determining Compatibility for Cable Lubricants with Wire and Cable*
- IEEE 1235, *Guide for the Properties of Identifiable Jackets for Underground Power Cables and Ducts*
- IEEE 1406, *Guide to the Use of Gas-in-Fluid Analysis for Electric Power Cable Systems*

We need your participation to continue developing important standards and guides for the industry. It's a great learning experience!

Leadership Skills for ICC Chairs

By Tom Champion, Research Engineer with Georgia Tech's National Electric Energy Research Testing and Applications Center (NEETRAC), Incoming ICC Chair (2014-2015)

The ICC relies on volunteers to serve in the many roles that make meetings run efficiently and that advance the quality and breadth of IEEE standards and guides. Getting people to fill these roles is not easy—some think they don't have the experience or that it is too much work. While it can take a bit of time and effort, volunteering can also be fun and rewarding—not to mention that it can help you build your expertise and enhance your professional stature in the industry.

One of the most important and rewarding roles is being a Chair of an ICC working group or discussion group. These individuals must ensure that IEEE standards processes and parliamentary procedures are followed during meetings. The primary responsibility of a Chair is to provide an open forum for discussing topics of interest to the ICC membership and to ultimately seek consensus. How exactly does the Chair achieve this? Mostly through common sense.

As a Chair of a working group or discussion group, you must remain impartial and unbiased while keeping discussions open and free flowing. This involves preventing any one person from controlling the discussion and ensuring that a variety of views are heard. When a topic is controversial, people tend to speak up and express their opinions. When that happens, the Chair has to make every effort to maintain control of the situation. One way to do this is to select one speaker at a time to offer a viewpoint while preventing others from interrupting. But it should never be a filibuster situation. As Chair, it is your responsibility to ensure that whoever is speaking has control of the floor for a reasonable

period of time to express their viewpoint, but in a way that does not prevent others from having an opportunity to speak.

Believe it or not, the opposite can also occur. Engineers can be quiet, particularly if there is a general bias or pre-existing consensus toward a particular point of view. Sometimes no one wants to “rock the boat” by speaking up about an issue. That's when the Chair needs to push the discussion along, even if it is moving in an unpopular direction. This can be done by phrasing a question in a particular way, or by asking attendees how they think the problem should be approached. You can even try phrasing questions from the less popular point of view, allowing an alternate point of view to be considered. But as Chair, you need to know when to stop. If the unpopular side point of view is pushed too far, it can appear that you are taking sides. Remember, as Chair, you must remain unbiased and learn to find an acceptable balance. Trust me—it can be done.

When a Chair masterfully maintains a lively conversation that balances the views from multiple sides of an issue, the end result is a more informed and knowledgeable discussion leading to some of the best position papers and standards in the industry. Let's work together to keep the ICC an open and lively forum for the resolution of industry problems and issues. For more information about the duties of an ICC Chair, check out the IEEE/PES/ICC Working Group Operating Procedures available under Guidelines on the ICC website home page. Consider becoming an ICC Chair today!

IEEE Policy Update Keeps Documents Active

By John Merando, Bechtel Power Corporation, ICC Standards Coordinator

IEEE standards, guides and policies are internationally recognized and depended upon by utilities around the globe. Previously, IEEE required documents to be revised or reaffirmed every five years, or the document was withdrawn. While the use of a withdrawn document is not prohibited by IEEE, it is highly discouraged due to the potential for outdated, incorrect or erroneous information. A document's revision cycle, which typically begins as soon as the latest revision is published, requires working group members to volunteer significant time and effort. Unfortunately, the economic downturn, coupled with the deregulation of the utility industry, has resulted in fewer engineers available to volunteer their time. Taking this into account, IEEE has modified their policy with regard to maintenance of standards, guides, and recommended practices. As of January 1, 2012, IEEE now provides for a ten-year active document period instead of five.

The new policy includes other changes as well. The previous five-year cycle allowed reaffirming a document without changes. This resulted in references to outdated codes, standards, and other IEEE documents, which led to confusion when applying the reaffirmed document. As such, the new policy requires documents to be revised. The previous policy also allowed for interpretations of documents when questions arose after publication. The new policy eliminates standard interpretations based on the fact that interpretation was often made by committee chairs or vice chairs rather than by consensus of the working group.

Revision of the IEEE policy provides a greater time frame to revise and update standards, guides, and recommended practices. It recognizes the level of effort it takes to maintain these documents, and will require greater engineer involvement in the future.

The ICC Awards

By Lauri Hiivala, ICC Awards 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. At each ICC meeting, Certificates of Appreciation are presented to all outgoing Subcommittee, Working Group and Discussion Group Chairs and Vice Chairs, or upon publication of their IEEE standard or guide. Certificates of Appreciation are also presented for the best presentation at a Subcommittee meeting or Educational Program, such as the following:

- **John T. Smith, III**, Fall 2011 Subcommittee A Meeting, *Tree-Retardant Crosslinked (TRXLPE) Reduced Insulation Wall Accelerated Cable Life Test (ACLT) Results*
- **Glenn Luzzi**, Fall 2011 Subcommittee B Meeting, *600 A Connector Assembly Torque Issues*
- **Neal Parker**, Fall 2011 Subcommittee B Meeting, *Design of the Collector Circuit and Cable Accessory for Windfarm Applications*
- **Sudhakar Cherukupalli**, Fall 2011 Subcommittee C Meeting, *Installation and Commissioning of an On-Line Real-Time Partial Discharge Monitoring System to Monitor 230kV Cable Systems*
- **Gil Shoshani**, Fall 2011 Subcommittee D Meeting, *Fire Rated Cables Test and Installation—Standard Development Update*
- **Sverre Hvidsten**, Fall 2011 Subcommittee F Meeting, *Water Ingress and Condition Assessment of Oil-Filled High Voltage XLPE Terminations*
- **Joe Zimnoch, Jr.**, Fall 2011 Educational Program, *Accelerated Cable Aging Tests for Distribution and Transmission Cables Part – 1: HV AC Paper Cables*

Recent recipients of the Dr. George H. Bahder Memorial Award include (left to right) Nagu Srinivas (Spring 2012), Carlos Katz (Fall 2002), and Bruce Bernstein (Fall 2009)—all of whom worked with Dr. Bahder during their careers.



Established in 1997 in the name of a former long-time ICC member, the George H. Bahder Memorial Award recognizes engineering contributions that have enhanced the quality of insulated conductor cable systems for electric power delivery. The award consists of a plaque and a \$2,500 donation made in the recipient's name to an electric power engineering department at a university or college of the recipient's choice. The department must use the donation as an educational scholarship to support a graduate or undergraduate student. Recent recipients of the Dr. George H. Bahder Memorial Award include the following:

- **Spring 2012**—**Nagu Srinivas** for demonstrating impact of DC high potential testing on aged cross-linked polyethylene insulated cables, inspiring methods for estimating reliability
- **Fall 2011**—**Joseph (Joe) H. Snow** for contributions to the development

and commercialization of bonded sheaths for moisture barrier cables.

- **Fall 2009**—**Bruce Bernstein** for guidance on cable aging and reliability issues, and for providing foresight in combining aging methodology with diagnostic testing to estimate future performance.
- **Spring 2008**—**John Densley** for contributions to the understanding of insulation failure mechanisms, specifically on the topic of electrical treeing in polymeric insulation materials such as XLPE and EPR.
- **Fall 2002**—**Carlos Katz** for advancement in the technology of high-voltage power cable and accessories, including extruded and laminar dielectric high-voltage power cables and the extension of service life of installed cables.

Please join us in congratulating all past and future ICC award recipients.

Come to the Transnational Lunch!

The Transnational Lunch held at each ICC meeting has been going on for about 20 years. Its purpose has remained unchanged—to introduce the large international cable world to the ICC. Many ICC members are interested in international developments, but do not necessarily have the opportunity to travel and learn about what's going on around the world. The Transnational Lunch brings news about the international cable world to the ICC. Harry Orton successfully chaired the popular Transnational Lunch for more than 10 years. Wim Boone, Chair, and Frank Petzold, Co-chair, will continue the successful formula of short international presentations, following a keynote speech from an industry leader and always adorned with short, lively discussion. Come learn all about what is going on outside of North America at the next Transnational Lunch on Tuesday, November 13, 2012. Tickets can be purchased during online advanced registration or onsite at the registration desk. There is plenty of seating for everyone!

All About Subcommittee A

By Albert Kong,
Pacific Gas and Electric Company,
ICC Subcommittee A Chair

Subcommittee A, the Cable Construction and Design Subcommittee, considers all issues related to materials, construction, design, and manufacturing of insulated cables. This important subcommittee establishes an informational forum for discussing aging and performance characteristics of various cable constructions; chemical, physical and electrical testing of cable dielectrics; and performance of cables in service.

There are many benefits to participating in Subcommittee A. As a user, manufacturer, or consultant, standards are the key to assuring reliable cable. Within Subcommittee A, the A14D Power Cable Standards discussion group discusses planned and completed updates to national and international cable standards for all voltage levels, from low to extra-high. Often contacted for industry expertise when standards groups are writing and updating documents, the A14D receives regular updates from the Insulated Cable Engineers Association (ICEA) and the Association of Edison Illuminating Company's (AEIC) Cable Engineering Committee (CEC), as well as from UL and other international standards groups. The A14D group has

recently taken on the new challenge of reporting and documenting purposes for the various tests that appear in today's power cable standards.

A new discussion group established in 2011, A20D Secondary Power Distribution Cable Systems, had its first meeting in spring 2011. This group is concerned with the design, performance, maintenance, and testing of secondary cable systems. Topics for discussions within A20D include the design of cable system components (i.e., cable, joint, and terminations), applications (i.e., network and non-network cables, shielded vs. non-shielded cables, underground, aerial, and URD cables), service performance, maintenance and diagnostics, and insulation aging. From these discussions, a working group will be formed to create a new standard.

A19D Covered Conductors Discussion Group is in the process of transitioning into a Working Group with the goal of developing a much-needed IEEE installation guide for covered conductors and for spacer cable. Traditional methods of installing bare or line wire need to be enhanced when installing other types of covered conductors. Users have shown great interest in the installation of spacer cable systems as they provide significant right-of-way benefits and allow for improved usage of pole space.

However, with this benefit, come substantial concerns surrounding the design and installation of guying, messenger, phase conductor, and surge protection and grounding systems.

Subcommittee A continues to update and revise standards. In 2008, the Working Group A7W completed its charter to update the existing IEEE Standard 532, *Guide for Selecting and Testing Jackets for Underground Cables*. While the previous version focused on underground cables, the revised guide was expanded to include jackets for power, instrumentation, and control cables. IEEE P532, *Guide for Selecting & Testing Jackets for Power, Instrumentation & Control Cables*, discusses jacket topics, such as cable installation, jacket material technology advancements, and industry trends. It also identifies sections of the current P532 jacket guide for future improvements. Upon completing its working group assignment, the group was transitioned to a discussion group.

Subcommittee A provides a forum to learn from the experience of utilities, manufacturers, consultants, and other industry professionals. Topics have included condition assessment of fluid-filled underground transmission cable, accelerated cable life testing, water treeing, and a survey on secondary cable—just to name a few. Subcommittee A welcomes your participation to develop the needs of the industry and to help shape the future of insulated cable systems.

Upcoming ICC Events

**Fall ICC – St. Petersburg, Florida
November 11-14, 2012**

For a full list of all Fall ICC presentations and activities, or to register for the meeting and Transnational Lunch, please visit the website at www.pesicc.org.

**Spring ICC – Pittsburgh, Pennsylvania
April 28 – May 1, 2013**

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

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 heorton@msn.com

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