

**IEEE Distribution Subcommittee
Draft Meeting Minutes
July 29, 2009
Calgary, Alberta, Canada**

The meeting convened at 1:00 p.m. with 29 members and 9 guests present.

ADMINISTRATIVE

Vice Chair John McDaniel called the IEEE Distribution Subcommittee meeting to order. The notes from our January 2009 meeting were approved with two changes.

CHAIR REPORT – Cheri Warren, *Distribution Subcommittee*

No Chair Report was available.

VICE CHAIR REPORT – John McDaniel, *Distribution Subcommittee*

Between January 2008 and July 2008, the Subcommittee has been assigned a total of 41 transactions grade papers to review. Of these, 24 were new papers and 17 were revisions. This is the same as the same period last year. The web site for the process is located at:

<http://mc.manuscriptcentral.com/tpwr-d-pes> .

I have been Vice Chair for a little over 6 years now. Also, there are 2 years left in the current Chair's (Cheri Warren) term. When her term expires, I will be elevated to Chair of the Subcommittee. That will leave a vacancy for the Vice Chair's position. As one of the main duties of the Vice Chair is the editor of IEEE Distribution papers, the current Subcommittee leadership would like to find someone to step into this position. Also, it would be preferable that this person be named before the position is filled to help ease them into the editor's role.

There are now two PES awards associated with the Distribution area. The first is the Excellence in Distribution Engineering and this year's recipient is Reigh Walling. The second is a new award for 2009 and it is the Douglas Staszkesky Distribution Automation Award and this year's recipients are Jack Li and Dean Craig from ENMAX. We need to make sure worthy candidates are nominated for these awards. If we do not submit nominations, no one will win them. So please consider nominating worthy candidates for these awards. For the Excellence in Distribution, contact Jim Burke (DistJimB@aol.com) and for the DA Award, contact Larry Clark (glclark@ieee.org).

WORKING GROUP REPORTS

DISTRIBUTION RELIABILITY – Cheri Warren, Chair

Introductions – 38 attendees

Ray Piercy discussed CEATI's Power Quality interest group (PQIG) recently commissioned report 5140, entitled "Uniform Practices in Reporting Momentary Outages and their Relationship with Power Quality". Upon completion of the work and following a review by our Utility sponsors, it was felt that the IEEE should be made aware of the work and given access to the final report. The work was sponsored by 18 Utilities from Canada, the U.S. and Europe.

In an effort to measure both the momentary interruptions and voltage sag, they are proposing the utilities begin using SARFI (system average RMS frequency index) which was developed by EPRI over twenty years ago. Further their recommendation is to use SARFI70A & B which would count momentary interruptions and voltage sag events where the voltage sags to below 70% of nominal.

Heide Caswell presented the preliminary results of the 2008 Benchmarking. The 2008 Benchmark study included 88 utilities and representing close to 70 million customers. Since one of the utility (U94) had experienced a catastrophic event in two in the prior 5 year history, the quartile statistics were provided with and without U94. The final results are anticipated to be available to the WG members in two to three weeks. At that time, the trending charts with the annual averages will be included.

The TF on Interruption Reporting Practices discussed the latest version of the draft Guide including the remaining writing assignments to complete the draft guide. The TF anticipates having the Guide ready for balloting in a year to 18 months.

The TF on Catastrophic Days mission is to develop a method for handling extreme outlier days to ensure that subsequent underlying performance is reflective of real performance, and is not tainted by the extreme outliers. The TF members used 53 utilities 8-year data sets and applied several approaches of determining the threshold for catastrophic events and have concluded that the best methodology to determine the significant outliers is the heuristic method. The TF will submit their proposed wording changes for IEEE 1366-2003 and the methodology for the next revision of the Guide at the January Technical Session in Orlando.

The TF on Reliability Indices P1366 discussed, in detail, suggested changes to IEEE 1366-2003 during the next revision. The TF will continue this review at the Orlando meeting with comments due from all TF members before January.

A dry run of the panel session presentations on 'Collection, Access, and Use of Customer Level Interruption Data as Pertaining to Distribution Reliability' chaired by Val Werner was held.

SWITCHING AND OVERCURRENT PROTECTION – Charlie Williams, Chair

The Switching & Overcurrent Protection Working Group met from 8:00 to 10:00 AM on July 28, 2009 with 18 members and guests present.

The Network Tutorial was presented on July 28, 2009 at the IEEE PES GM in Calgary with 15 attendees.

A revised draft Scope and Purpose were discussed for the "Application Guide for Placement of Overhead and Underground Switching and Overcurrent Protection Equipment". The guide will be focused on providing criteria for where and when switching and overcurrent devices are placed on the distribution system. Comments on the final draft will be solicited from the WG before submittal to NesCOM this fall.

A conference paper by Ryan Melbard, "Application of Customer Exposure Ratio to Distribution Circuits", was presented by Val Werner of We Energies. Presentations were also made by Georges Simard – Hydro-Québec on "Switching and Protective Device Placement for Distribution Circuits" and Lee Taylor – Duke Energy on the "Economic Value of Sectionalization".

DISTRIBUTED AUTOMATION – Georges Simard, Chair

The attendance was 35 people. We went through the WG business with the following highlights:

- The DAWG will sponsor one panel session at the next T&D meeting in New Orleans "Integrating AMI and Advanced Sensor Data with Distribution Automation" and will gather presentations for another panel session for the next general meeting in 2010 which theme will be "CIM for Distribution Systems"
- The DAWG (in close collaboration with EPRI) is proud to launch a "Smart Distribution WIKI" site to gather information on DA. A presentation was made to inform the members how to contribute to the WIKI. The information is available on the DAWG Website and on the WIKI itself. In one year, an evaluation of the content will be made. All members are solicited to contribute, especially on the projects they have related to Distribution Automation. The site address is <http://wiki.powerdistributionresearch.com>
- The DAWG project of publishing a book in 2009 is postponed to 2010. For now, we wish to concentrate on the WIKI.
- The first DAWG Award (Doug Staszkesky Award) will be granted to Enmax (Dean Craig and Jack Li). Members are asked to propose names for the 2010 Award. All the information is available on the PES or the DAWG websites.
- Results of the first survey for SCE/DOE on DA made according to the DAWG rules are available.
- The DAWG will have at least 2 delegates (Larry and Georges) at the NIST_EPRI Interoperability workshop next week in Washington (Chantilly).
- 4 presentations were made
 - o Update on CIM Standard Development and Implementation at EDF-France (Eric Lambert)
 - o Update on DA initiatives and Smart Grid plans at ENMAX (Dean Craig)
 - o Update on DA initiatives and Smart Grid plans at BC Hydro (Tom Gutwin)
 - o Distribution Automation System Components using IEC 61850 (Vaibhav Donde)

Thanks to the speakers for their presentations.

These following questions and concerns were raised for the Distribution Subcommittee:

- The officers proposed to the members to maintain their involvement as it is right now (Georges Simard as chair, Larry Clark as vice-Chair and Bob Uluski as secretary) for another 2 years. A quick check with the Distribution Subcommittee was made and there is no objection by the Subcommittee as long as the DAWG members agree. A member asked to check with the "T&D Committee" rules if this is allowed. This proposal will be made at the next meeting in January 2010 if it is by the rules.
- There is a concern about the possible VVC working group and its coordination with the DAWG. This may result in some kind of WG structure revision to adapt to the new needs of a Smart Grid, but that nothing is yet announced. Meanwhile the activities and scope of the DAWG remain the same.

DISTRIBUTED RESOURCES INTEGRATION – Bob Saint, Chair

The Working Group met on Tuesday at 10:00 AM with 15 present.

This WG also sponsored a Panel Session on Monday at 11:00 AM. At one point there were over 100 people in the room, but because the fire marshal said that only those with chairs could stay, about 65 people were allowed to stay, with more listening in from the hallway. Three papers were presented from Working Group members. Tom McDermott presented "A Checklist Approach to DR Interconnection and Impact Studies". Reigh Walling presented "Islanding Issues for Large-Scale Wind Generators Interconnected to Local-Delivery Distribution Systems". Panel Chair Bob Saint presented Marcelo Algrain's paper "A Multifaceted View of Distributed Generation Systems and Their Impacts" because Marcelo's employer, Caterpillar, was on "shutdown" and he was not allowed to come to the Conference.

The Working Group intends to sponsor a Panel Session at the 2010 T&D Conference in New Orleans and possibly the 2010 PES General Meeting in Minneapolis.

Most of the Working Group meeting was spent discussing and reviewing the initial draft of the "IEEE P1547.7 Draft Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection". In addition to this Working Group, two other PES Working Groups were identified that would like to have input to the 1547.7 document and have liaisons attend the P1547.7 Working Group meetings. Chairman Bob Saint attended the other two Working Group meetings and received input from them and a commitment to be involved. The other two groups are: 1) Power System Planning & Implementation Committee Distribution Working Group and 2) Distribution System Analysis Subcommittee under the Power System Analysis, Computing, and Economics Committee. All three of these PES Groups will have representatives at the upcoming P1547.7 Working Group meeting in San Francisco on August 19-20, 2009.

LIGHTNING PERFORMANCE OF DISTRIBUTION LINES – John McDaniel, Chair

The Working Group met on Tuesday July 28th at 10:00 AM.

1. 1410 (Distribution Guide) revision status was outlined.

- Review of additions by W.A. Chisholm as secretary to form D5_2009_06_24, incorporating several comments.
 - Draft will be submitted for ballot by Chair in August, after IEEE-SA comments are incorporated.
2. Discussed panel session to be sponsored by group. The panelist will be: Jonathan Woodworth, Bill Chisholm and Tom McDermott.
 3. There were 2 presentations made. They were:
 - 09GM0163-Flashover Rate of Distribution Line Due to Indirect Negative Lightning Return Strokes (Koji Michishita, Masaru Ishii, Yasuji Hongo; Presented by W.A. Chisholm
 - 09GM1472-Optimized Selection Approach of Transformer Protection Devices against Atmospheric Discharges Using Expert System (Ivan Nunes da Silva, Nerivaldo dos Reis Santos, Rogerio Andrade Flauzino, Danilo Hernane Spatti)

VOLTAGES IN PRIVATELY AND PUBLICLY ACCESSIBLE LOCATIONS – Chuck DeNardo, Chair

The Working Group on Voltages at Publicly and Privately Accessible Locations met at the IEEE PES General Meeting in Calgary, Alberta, Canada from 1:00 PM to 4:00 PM on July 27, 2009. This was a Combination Meeting and there were approximately 35 people in attendance. Following approval of the previous meeting minutes and introduction of attendees, two conference papers were presented and discussed:

- 1) Investigation of Residential Customer Safety- Line, Neutral and Earth Integrity by Raj B. Jadav and Tapan K. Saha, University of Queensland.
- 2) Determining Voltage Levels of Concern for Human and Animal Response to AC Current by Doug Dorr, EPRI.

Dave Kalokitis followed the conference paper presentations with an update and discussion concerning the working draft of Section 6 (Contact Voltage). Dave highlighted areas of expressed concern and asked for additional verbal and written input from Working Group members. Betty Tobin then provided a brief update of activities related to Section 5 (Human and Animal Electrical Sensitivity).

Prior to adjournment the chair provided an explanation of difficulties with the WG's Policies and Procedures (e.g. election of officers), and gave a brief presentation on recent changes to the Ontario Electrical Code related to "farm stray voltage".

WILDLIFE PROTECTORS – Caryn Riley, Chair

This Working Group did not meet, but is preparing to re-ballot their Guide.

LIAISON REPORTS

Insulated Conductors – John Banting

The ICC Faulted Circuit Indicator discussion group met on May 18th in Orlando with approximately 15 individuals present. I have stepped down as Chair of the Group after the completion of IEEE FCI Standards 495, 1216 and 1610 and introduced Fran Angerer as the new Chair and Jerry Harness as the new Vice Chair. Although it was suggested that Harry Hayes become the new Vice Chair, the ICC B Subcommittee Chair has other responsibilities for Harry and as a result, he was not available to fill this roll.

The Group has started the preliminary work on a new guide for faulted circuit indicators for overhead applications. Work on the outline for the document as well as a PAR has begun. I will continue to attend these meetings as time permits.

The ICC will meet next in Scottsdale AZ on November 8-11, 2009.

Power System Communications Committee/Broadband on Power Lines – John Banting

The BPL Working Group preparing P1775 EMC Requirements / Testing and Measurement Methods has completed the document which was balloted with a number of negatives and comments. A Task Force of the Working Group is now meeting to resolve the ballots. The Task Force will meet on August 4th, 11th and the 27th to work on the resolution details.

SCC 21 – Bob Saint

Since the last Distribution Subcommittee meeting:

1. IEEE 1547.2 "Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems" has been approved by IEEE and is available for purchase.
2. IEEE P1547.7 "Draft Guide to Conducting Distribution Impact Studies for Distributed Resources Interconnection" PAR has been approved.
3. The next meeting of the IEEE 1547 series of working groups is being held in San Francisco on August 18-21, 2009. IEEE P1547.4 "Draft Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems" is meeting on August 18-19. IEEE P1547.7 "Draft Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection" is meeting on August 19-20. IEEE P1547.6 "Draft Recommended Practice For Interconnecting Distributed Resources With Electric Power Systems Distribution Secondary Networks" is meeting on August 20-21.
4. The initial meeting of IEEE P2030 "Draft Guide for Smart Grid Interoperability of Energy Technology and Information Technology Operation with the Electric Power System (EPS), and End-Use Applications and Loads" was in Santa Clara, CA on June 3-5, 2009. The group was divided into three Task Forces: TF1 - Power Engineering Technology; TF2 - Information Technology and TF3 - Communications Technology. TF1 met on Sunday afternoon at the IEEE PES Meeting in Calgary. The next meeting of

the Working Group is scheduled for October 27-29, 2009 and is hosted by IBM in New York State.

STANDARDS

NESC – Rusty Soderberg

The NESC subcommittees met in Piscataway, NJ in September 2008 to review change proposals (CP) for the 2012 Code. The preprint for the 2012 Code will be available in September of this year and comments on the pre-print are due by May 1, 2010. I would encourage everyone in distribution to comment on the change proposals contained in the pre-print, as applicable, to ensure our voice is heard. The subcommittees will meet again in September 2010 to discuss the comments that were received and to vote on the change proposals.

Some key change proposals subcommittee 5 “Overhead Lines - Strength and Loading,” reviewed:

- The proposal to remove the 60’ exclusion (CP3423) was rejected based on the fact that the CP did not increase safety. The 60’ exclusion allows most distribution poles to be exempt from certain analyses.
- CP3372 proposed a change to Rule 250B “Combined ice and wind district loading.” The boundaries for the district map between the light, medium, and heavy loading districts were proposed to be changed. This CP was also rejected.
- CP3371 was to modify the 60 foot exclusion based on conductor size. This proposal was also rejected based on the fact that the CP did not increase safety.

I voted to reject the above proposals.

NEC – Greg Obenchain

There was no report at this meeting.

NEW BUSINESS

Mark McGranaghan gave a presentation on efforts now being made to re-establish a CIRED USA National Committee. This presentation can be found at the Subcommittee website <http://grouper.ieee.org/groups/td/dist/presentations/>

PRESENTATIONS

Some Features of Possible Solutions of Installing Tele-controlled Section Switches and Reclosers in the MV Overhead Network – presented by Petyr Skala of EGU Brno

Smart Grid and IDMS – presented by Larry Clark of Alabama Power Company/Southern Company

Both of these presentations can be found on the Subcommittee website:

<http://grouper.ieee.org/groups/td/dist/presentations/>

PANEL SESSIONS AND TUTORIALS

Working Groups' future panel sessions and tutorials are:

WG on Distribution Reliability

- Weather Normalization & Outage Predicting, 2010 T&D Conference
- Data Collection, Access and Use of Customer Level Interruption Data as Pertaining to Distribution Reliability, 2010 T&D Conference
- Reliability Prioritization of Improvement Activities, 2010 T&D Conference

WG on Switching and Overcurrent

- Network Tutorial, 2010 T&D Conference

WG on Distribution Resources Integration

- Panel Session, 2010 T&D Conference
- Panel Session, Minneapolis, July 2010

WG on Distribution Automation

- Integrating AMI and Advanced Sensor Data with Distribution Automation, 2010 T&D Conference
- CIM for Distribution Systems, Minneapolis, July 2010

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Appendix: Current Membership Roster

Chair: Warren, C., London, UK
Vice Chair: McDaniel, J., Syracuse, NY
Secretary: Tobin, E., Everett, WA

Ardrey, G., Beloit, WI
Banting, J., Pewaukee, WI
Bouford, J., Augusta, ME
Burke, J., Cary, NC
Carroll, P., Milwaukee, WI
Caswell, H., Portland, OR
Cole, J., Bozeman, MT
DeNardo, C., Milwaukee, WI
Ehrlich, R., Newark, DE
Fijnvandraat, C., Andover, MA
Forte, V., Albany, NY
Friend, F., Charleston, WV
Frost, K., Oakbrook Terrace, IL
Gilmer, D., Craig, CO
Goodfellow, J., Redmond, WA
Hall, D., Newark, DE
Hayes, H., St. Louis, MO
Jones, J., Salt Lake City, UT
Khodaie, M., Albuquerque, NM
Lambert, F., Forest Park, GA
McDermott, T., Pittsburgh, PA
Meade, K., Charlotte, NC
Moran, N., San Francisco, CA
Nielsen, T., Minneapolis, MN
Nuthalapati, S., College Station, TX

Obenchain, G., Washington, DC
Pahwa, A., Manhattan, KS
Pehosh, M., Arlington, VA
Riley, C., Forest Park, GA
Robinson, R., Topeka, KS
Russo, D., Seattle, WA
Sabin, D., Knoxville, TN
Saint, B., Arlington, VA
Schwalm, A., Victor, NY
Short, T., Ballstonspier, NY
Siew, C., Burnaby, BC, Canada
Simard, G., Montreal, QC, Canada
Smith, J., Phoenix, AZ
Soderberg, R., Jackson, MI
Taylor, L., Charlotte, NC
Thatcher, M., Kansas City, MO
Venkata, S.S., Oro Valley, AR
Viglietta, J., Philadelphia, PA
Walling, R., Schenectady, NY
Wang, D., New York, NY
Ward, D., Richmond, VA
Welch, G., Raleigh, NC
Werner, V., Milwaukee, WI
Williams, C., Maitland, FL
Yuen, D., Bellevue, WA