

**IEEE Distribution Subcommittee  
Draft Meeting Minutes  
July 23, 2008  
Pittsburgh, PA**

The meeting convened at 1:00 p.m. with 29 members and 2 guests present.

**ADMINISTRATIVE**

Chair Cheri Warren called the IEEE Distribution Subcommittee meeting to order. The notes from our January 2008 meeting were approved with one change.

**CHAIR REPORT – Cheri Warren, *Distribution Subcommittee***

The group last met in San Antonio in January 2008. Since that time we have held interim meetings for various Working Groups. The following groups have held interim web based meetings thus making considerable progress on their work efforts:

- WG on Publicly and Privately Accessible Locations
- TF on Interruption Reporting
- WG on Reliability – Catastrophic Days
- TF on Weather Normalization.

We have been asked to host postings for jobs on our web site. Let's debate.

I am repeating this paragraph because I think it is imperative that we participate in this activity. The Intelligent Grid Subcommittee was formed in Tampa. Erich Gunther introduced the scope of the committee. This subcommittee will address the technologies that apply to T&D, identify opportunities for their future applications, and provide a forum for the free exchange of information. Rather than duplicate other ongoing efforts, the focus here will be to make sure that the IEEE-PES T&D Committee point of view is seen, heard, and utilized in implementing grid modernization. Initial tasks will include the following:

- Definitions
- Outreach / Education
- Panel session / super session / T&D in Chicago and Pittsburgh GM
- Web site for collaboration
- Adopt / expand Olivier document - 1014600?
- Why smart grid – making the case
- List/summary of
- Grid groups (GMC 7 plus)
- Applicable IEEE and IEC standards
- Applicable IEEE and IEC groups / activities
- Architectural templates

We need to discuss officer rotation for our subcommittee. My term is up at the end of this year. The membership needs to decide if they would like me to continue for another 3 years of service in this role.

Our next meeting will be held in Orlando at the JTCM January 2009.

**VICE CHAIR REPORT – John McDaniel, *Distribution Subcommittee***

Between January 2008 and July 2008, the subcommittee has been assigned a total of 39 transactions grade papers and one (1) PES Letter to review. Of these, 23 were new papers and 17 were revisions. This is down significantly from the same period last year. The web site for the process is located at: <http://tpwrd-ieee.manuscriptcentral.com/>.

Recently, the editor-in-chief has reassigned some of papers originally assigned to the Distribution SC. The reassigned papers were ones where I had not assigned reviewers to. Or these were the papers where I no one had volunteered to review them. As there is a new editor-in-chief, I believe that they are more aggressive in making sure that reviewers are being assigned to the papers.

Periodically I will send out a list of papers that require review by the subcommittee to the members of the subcommittee. I'll ask for volunteers to review the papers. After someone volunteers I will assign him or her to review the paper(s) in the system. This will automatically generate an email to the reviewer giving them the web site's address. The reviewer then will log into the system and review the paper(s).

Please make sure that your contact information is up-to-date on the membership list, especially your email address. Working Group Chairs, please make sure your membership list are up-to-date and if there are any new members, please send me their names and email addresses. This will help me keep the reviewer email list current.

**WORKING GROUP REPORTS**

***DISTRIBUTION RELIABILITY (formerly SYSTEM DESIGN) – Cheri Warren, Chair***

There were 40 attendees present.

Cheri Warren started out the meeting asking everyone if they are OK with us recording portions of the WG meeting as a trial to be put on the IEEE web site for those that could make the meeting. The group agreed to be the test group for the recording process.

**Task Force on Weather Normalization – Tom Short**

Tom discussed the TF paper indicating that it is not meant to be a guide, just the result of a literature search. There is much weather and radar information available on the internet, but the TF members indicated that this information is not that useful for the utilities purpose.

Joe Viglietta described the need to include in the paper a predictive algorithm to be use by the utilities to plan their storm response based on the initial weather statistics. They could determine the need to hold crews over or get additional crews.

The TF agreed to hold a panel session in Calgary on the damage prediction and restoration effort estimation being utilized by the following volunteers:

- Joe Viglietta - PECO
- John Fraser – Nova Scotia Power
- Keith Frost – ComEd
- To be identified – WE Energy

Val Werner suggested that the TF consider the paper search complete and focus future efforts on predictive approaches.

### **Task Force on Catastrophic Event Days**

Heide Caswell discussed the TF efforts to identify a major event threshold for catastrophic events.

The four approaches discussed thus far by the TF are:

- Robust analysis – Rich Christie
- Bouford approach – Jim Bouford
- Box & Whiskers – Heide Caswell
- Hydro Quebec Method – Chantal

Since the San Antonio meeting, the TF has held Webex meetings to discuss each of the approaches in detail. The TF is utilizing the data from 30 utilities to apply all three approaches and anticipate having the results available in the next few weeks.

Joe Viglietta presented that the TF will be presenting a recommendation to the WG for inclusion into 1366.

### **Task Force on Interruption Reporting Practices - Val Werner and Rodney Robinson**

Rodney and Val mentioned that we have had a couple web meetings and one face-to-face to work on the wording to come up with the latest version of the draft guide that was sent out with the minutes notice. For those that do not have the latest version of the guide, Rodney will be send it out to the WG for their review and input.

**Section 3.3 Identification, Prioritization, Program and Process Activities to improve Reliability**  
The TF discussed various approaches being used by the utilities to justify the funding being allocated for reliability improvements. All of these approaches determine where you would spend your next dollar that is made available to you for reliability improvements or what would it cost to improve your company's reliability by a set amount (SAIDI or SAIFI).

Heide Caswell indicated that we should include in this section feeder hardening programs that are being utilized by many of the companies.

The TF discussed the real-time presentations at the Chicago Expo and it was agreed that each of the presenters (Heide Caswell, Keith Frost and Rodney Robinson) will provide a brief summary of their information for inclusion in this section of the guide.

The attendees provided the latest Regulatory Updates for their states.

**Working Group on Distribution Reliability** – Cheri Warren, Chair

The WG agreed to submit IEEE 1366-2003 to go ahead with a new PAR to make changes such as to include the catastrophic events direction, new indices and other clean up.

The WG discussed the fact that there seems to be different approaches being used by the WG members for the calculation of the daily SAIDI's and the 24 hour window for applying the TMED to determine major event days. After the discussions, it was agreed to keep the 24 hour period to calendar days.

Cheri brought out that there are coming up questions on what is a sustained interruption. The guide currently defines sustained interruptions as being greater than 5 minutes which was originally intended to provide time for the protective devices to operate. It was noted that Canada uses 1 minute threshold. After much discussion, it was agreed that much discussion is needed on this topic and it will be discussed further at the next meeting.

**Benchmarking Results Update**

Cheri presented the preliminary results of the 2007 reliability comparison. They are still gathering data from the utilities. Thus far, 46 companies have provided their data representing 39 million customers. At this time, not all of the data has been entered.

Overall, the results indicate that the numbers are increasing as noted in the 2006 report.

**Other topics:**

Cheri discussed the Lawrence Berkley National Laboratory (LBNL) July 2<sup>nd</sup> conference call with Joe Eto and Kristina Hamachi. They took the publicly available information on the utilities' reliability to develop their report.

It was noted that LBNL's draft report is available for comment and Cheri recommended that everyone needs to look at the report in the next week and provide their to Heide Caswell who agreed to accumulate everyone's comments on the LBNL report

The following are the panel sessions that are being planned:

**Weather Normalization & Outage Predicting** – Tom Short will chair for the Calgary summer meeting

**Customer Interruption Data Access** – Val Werner will chair this panel for the 2010 T&D meeting. It will cover what the utilities can do with the customer interruption data.

**Reliability Prioritization of Improvement Activities** – Heide Caswell will chair this panel for the WG at the 2010 T&D meeting. It will be a joint session with the Asset Utilization Group and will cover how you optimize a reliability program.

***SWITCHING AND OVERCURRENT PROTECTION – Charlie Williams, Chair***

An attempt will be made to re-schedule the Network Tutorial for the 2009 IEEE PES GM in Calgary.

A draft outline of the Guide was discussed to identify potential overlap issues with the Power Systems Relay Committee and the Distribution Automation WG and liaisons were identified. A draft Scope and Purpose will be developed for review at the next meeting based upon comments received on the outline.

Charlie Williams provided a presentation on “Hot Fuses, How Improper Fuse Installation Causes Feeder Outages and Failure of Fuse Save Schemes” and a video on Arc Flash Hazards developed by Con Edison was reviewed.

***DISTRIBUTED AUTOMATION – Georges Simard, Chair***

***Welcome:*** Attendees welcomed by Georges Simard, Chair; 42 persons attended the session

***"Participants, Patents, and Duty to Inform" slides:*** Georges displayed the three slides and briefly explained the policy. The slide set will be included in the minutes and available for reference on the DAWG website

***Doug Staszkesky Special Award:*** John McDaniel announced a special award for accomplishments in Distribution Automation to be awarded at 2009 summer meeting. Nomination forms will be available on website. Larry Clark will be the chair of this award committee, Bob and Georges will assist Larry.

***Proposed Topics for Panel Sessions at IEEE / PES 2009 General meeting, Calgary***

- " Integrating AMI and Advanced Sensor Data with Distribution Automation"
- “DA as Part of the Smart Grid Roadmap”;
- “Information Models for Distribution Automation”

***DA Documents***

- IEEE Book on Distribution Automation – DAWG officers will be soliciting chapter writers
- EPRI/IEEE Guide on DA – Frank Goodman made a presentation on EPRI’s web-based resource on DA and smart distribution systems. System will be open access via the web, with peer review by DAWG.

***“Tech Watch”***

The Tech Watch section created on the Distribution Automation web site will be updated with new information obtained during January 2008 DistribuTECH conference.

### ***Technical Presentations***

Three technical presentations were made within the WG

We planned to meet at the general IEEE/PES winter meeting (January 2009).

#### ***DISTRIBUTED RESOURCES INTEGRATION – Bob Saint, Chair***

24 attended the meeting on July 22, 2008 at 10 am - 12 pm. The working group paper has been published in the July 2008 issue of the IEEE Transactions on Power Delivery. A report of SCC21 activities was presented to the working group. This working group is responsible for Annex F (System Impact Studies) of IEEE 1547.2 (Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems). The working group discussed and revised a PAR for an IEEE Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection. This will be submitted to SCC 21 on August 6, 2008. It is not clear how this working group will be involved in this new numbered IEEE document. The working group will sponsor a panel session on "Impact of DR" at the 2009 PES General Meeting in Calgary and would also like to sponsor a panel session at the 2010 T&D Conference.

#### ***LIGHTNING PERFORMANCE OF DISTRIBUTION LINES – John McDaniel, Chair***

TF Meeting – Lightning performance of Distribution Lines

- 1410 (Distribution Guide) revision status was outlined.
- Review of additions by CA Nucci and discussion of new content.
- Influence of induced overvoltage from flashes to nearby structure mentioned.
- Jim Burke will provide comments on application of arresters, feels the advice in 1410 is relatively incomplete and needs to be beefed up, for example arresters + shieldwires.

Doug Dorr EPRI SPD chair may coordinate sizing of distribution arresters.

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

The Working Group on Voltages at Publicly and Privately Accessible Locations met in Pittsburgh, PA from 1:00 p.m. to 4:00 p.m. on July 21, 2008. Approximately 35 people were in attendance. Following approval of previous meeting minutes and introduction of attendees, a lengthy discussion took place regarding definitions for what the group had been referring to as “stray” and “contact” voltage. Working from a previously provided draft, the group reached agreement on the following wording. They also agreed that continued use of the terms “stray” and “contact” voltage was appropriate. These terms and working definitions will now form the basis of future group activity, and will be posted for additional comment.

- Stray Voltage: A voltage resulting from the normal delivery or use of electricity which may be present between two conductive surfaces that can be simultaneously contacted by members of the general public or their animals. Stray voltage is not related to power system faults, and is generally not considered hazardous. (See also Contact Voltage)
- Contact Voltage: A voltage resulting from power system faults which may be present between two conductive surfaces that can be simultaneously contacted by members of the

general public or their animals. Contact voltage is not related to the normal delivery or use of electricity, and can exist at levels that may be hazardous. (See also Stray Voltage)

## **LIAISON REPORTS**

### ***Insulated Conductors – John Banting***

The Faulted Circuit Indicator Working Group met at the ICC meeting in March 2008. The status of the three Guides is:

- Test Guide 495-2007 is complete.
- Single –phase Guide 1216-2006 is complete.
- Three-phase Guide 1610-2007 will be published May 8, 2008.

Please e-mail John with any suggestions for future Guides.

### ***Power System Relay Committee/Broadband on Power Lines – John Banting***

- Work has been completed on P1675 BPL Hardware Installation Guide. The Guide is going to RevCom in September 2008.
- The Emissions Measurement Group (P1775) is divided over an Annex that would describe mitigation techniques if problems arise. A vote on addition of an Annex will take place at the end of July 2008.
- The next meeting for P1901 (MAC/PHY layers) will be held in Madrid, Spain in September 2008.

### ***SCC 21 – Bob Saint***

The reaffirmation of IEEE 1547 (Standard for Interconnecting Distributed Resources with Electric Power Systems) has been balloted with over 90% affirmative votes. IEEE 1547.2 (Application Guide for IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems) has been balloted with over 90% affirmative votes. Working groups for P1547.4 (Draft Guide for Design, Operation, and Integration of Distributed Resource Island Systems with Electric Power Systems) and P1547.6 (Draft Recommended Practice for Interconnecting Distributed Resources with Electric Power Systems Distribution Secondary Networks) will be meeting in Portland Oregon on August 5-8, 2008.

## **STANDARDS**

### ***NESC – Rusty Soderberg***

The Committee will meet in September 2008 and preprints of the new NESC will be available in September 2009.

### ***NEC – Greg Obenchain***

The 2008 wood pole specification is about to be approved. It will now state the poles should be checked at their weakest point rather than at the bottom. For the next revision of sections 250 c

and d, there will again be an attempt to get rid of the utility exclusion for extreme weather condition loadings on 60 foot poles.

## **DISCUSSION**

Cheri told the Committee that she will have been Chair of the Subcommittee for 3 years in December 2008. The IEEE manual “suggests” that the term be limited to three years and the T&D Committee would like to see rotation through those positions. Cheri left the room so that the Committee could have a discussion on this topic.

It is common for the Committee officers to progress from Secretary to Vice Chair to Chair. The Vice Chair said he would reluctantly act as Chair if there were no other option and the Secretary said that at this time she was unable to accept the Vice Chair position. Both would continue in their present positions. The Committee asked several members if they would be interested in becoming Chair and they all declined. The Vice Chair also left the room while a vote was being taken and the Secretary conducted the vote. The Committee voted as follows: 21 in favor of extending the Chair’s term; 3 in favor of elevating the Vice Chair to Chair; 3 abstentions.

## **PRESENTATIONS**

### **EPRI’s Arc Flash Project – Tom Short**

NESC has new requirements for protection of workers from arc flashes. The requirements can be determined using the NESC tables of the ArcPro software. Arc Pro is used for single phase arcs on 15-36kV systems. Use IEEE Standard 1584 for Low Voltage and 15kV switchgear. All of the tables and programs use assumptions such as distance from the arc, arc-gap distance, worker self-clearing time. Other variables include worker positioning, working clothing and headgear, secondaries, duration of arc. Given all these variables, EPRI worked with Con Ed to evaluate Fire Retardant (FR) clothing by exposing mannequins attired in various types of FR clothing and gear to direct plasma blasts. Tom showed us a very impressive video of these tests. The new NESC regulations go into effect later in 2008. It is expected that OSHA regulations will mimic those of NESC in late 2009 or 2010. The NFPA 70E 2009 revision may remove its utility exclusions.

### **IEEE Standards Project – Lisa Yacone**

NesCom has been assigned the responsibility of considering all Project Authorization Requests (PARS) and making recommendations to the IEEE-SA Standards Board about their approval. NesCom meets in March, June, September and December – their meeting schedule is available at <http://standards.ieee.org/board/nes/projects/meetinginfo.html> . An approved PAR is needed before official work is begun on a Standard’s project and must be submitted from official Sponsors. Each PAR is assigned a project number by which the published standard will eventually be known. An approved PAR is valid for four years. NesCom uses the myProject system for PAR activity and an IEEE web account is needed to access myProject.

The Sponsor of a project is the Subcommittee Chair for the Working Group or Task Force working on the Standard. When asked if this could be delegated to the Vice Chair, that this could not be done at this time.

When revising an existing Standard, a PAR is needed with the updated scope and purpose in it. A PAR can be extended for 1-2 years as long as NesCom can see that an effort is being made. For further information, contact Lisa Yacone at [l.yacone@ieee.org](mailto:l.yacone@ieee.org).

## **PANEL SESSIONS AND TUTORIALS**

Working Group's future panel sessions and tutorials are:

### WG on Distribution Reliability

- Weather Normalization & Outage Predicting, Calgary, July 2009
- Customer Interruption Data Access, 2010 T&D Conference
- Reliability Prioritization of Improvement Activities, 2010 T&D Conference

### WG on Switching and Overcurrent

- Network Tutorial, Calgary, July 2009

### WG on Distribution Resources Integration

- Positive Impact of DR, Calgary, July 2009

### WG on Distribution Automation

- Integrating AMI and Advanced Sensor Data with Distribution Automation, Calgary, July 2009
- DA as Part of the Smart Grid Roadmap, Calgary, July 2009
- Information Models for Distribution Automation, Calgary, July 2009

**Appendix: Current Membership Roster**

Chair: Warren, C., Albany, NY

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

Caswell, H., Portland, OR

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

Khodaie, M., Albuquerque, NM

Lambert, F., Forest Park, GA

McDermott, T., Pittsburgh, PA

Meade, K., Charlotte, NC

Moran, N., San Francisco, CA

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