

**IEEE Distribution Subcommittee
Draft Meeting Minutes
July 24, 2013
Vancouver BC, Canada**

ADMINISTRATIVE

Chair John McDaniel called the IEEE Distribution Subcommittee meeting to order at 1:30 p.m. with 22 members and 5 guests present. The notes from the January 2013 meeting were approved.

CHAIR REPORT – John McDaniel, *Distribution Subcommittee*

A new IEEE-SA Working Group Policy and Procedures for Standards Development has recently been released. This document covers the governance of the Working Groups and how standards are developed within them. This document will not change how the Distribution Subcommittee or its Working Groups conduct their business. Within the Distribution Subcommittee, we will utilize Case 2 for Working Group officer elections. Most of the language in the document is boilerplate and was drafted by IEEE Standards Association. I will forward this document to the Working Group Chairs after it has received all of its approvals.

Technical Council/Technical Sessions has now limited the number of conference papers that will be accepted. This was done in part due to the volume of conference papers that are now being submitted. Another part was the quality, or lack of quality in the papers being submitted.

Starting at this meeting, there are Top Paper sessions. The best papers, by each Committee, are now being grouped into sessions. The hardest part for the T&D Committee was finding someone to chair our sessions. The Distribution Subcommittee stepped up and we had 2 people volunteer to chair sessions. There were 3 Best Paper sessions for T&D papers.

VICE CHAIR REPORT – Julio Romero Aguero, *Distribution Subcommittee*

Report is not available.

WORKING GROUP REPORTS

DISTRIBUTION RELIABILITY – Rodney Robinson, Chair

Rodney Robinson, chair called the WG meeting to order with 46 attendees.. Jim Cole and Heide Caswell had several corrections to minutes from the last meeting and the minutes accepted as corrected.

Task Force on Distribution Reliability Cost & Funding (DRCF) – Mark Konya

This TF did not meet.

Task Force on Predictive Reliability – Julio Romero-Aruero

Le Xu presented results from Survey (Predictive Distribution Reliability Survey). They are planning to organize panels for 2014 T&D and 2014 GM from the Predictive Reliability Study. They will be looking for volunteers. They are also looking to write a white paper. The survey has 17 questions. So far, 23 responses were submitted as of 7/10 (25 as of yesterday). A link and QR code for survey were shown.

Most responders tracked the 3 main indices. Sixty-five percent had a reliability/load flow model. No predominant software vendors' software is used (split between the 3 major ones, lesser amount to in-house). Other questions were: how often is reliability analysis run, is a RA run for all projects, which tools are used, which features are used, features desired for DA, how far back does the data go, how is data collected, is DG (DR) impacting reliability resources. Full survey results will be provided after it has been completed. Informed the group if there interest in joining the TF to contact Le or Julio.

Task Force on Reliability Indices – John McDaniel

1366 was approved and published last year (May 31, 2012). It is now valid for ten years. We will wait and see what comes out of the Data Analysis TF to determine what, if any changes will be required for the next revision.

Task Force on Reliability Reporting – Rodney Robinson/Val Werner

The recirculation ballot will close tomorrow, 7/24/13 at midnight, EDT. The ballot ended up with a 98% approval. There were two balloters who changed their votes to approve. There were 24 comments that were submitted. Most of the comments were on parts of the document that were not changed, so therefore are out of scope, but we might want to address them if there is technical merit. Three comments pertained to missing figures, which were a result of the Word to PDF conversion, which will probably require another recirculation ballot. Rodney, Val, Heide and John will take a look at the comments and determine the next steps.

Task Force on Reliability Tutorial – Val Werner

In the absence of Val Werner, Rodney Robinson chaired this meeting and went over the proposed tutorial. Awaiting approval from the LLLSC, they did meet on Monday. Tutorial will be on 1366 & 1782 and there is a good core group working on it. Heide Caswell stated that if there are those in your company not familiar with this (or reliability analysis in general), it would be a good idea for them to attend. Plus, it will be good to get the information out on 1782. Joe Viglietta asked if the WG members could get copies of the presentations. Frank Lambert will check into this (Frank did provide a later update that yes, the WG could receive copies of the Power Points as they are not copyrighted by PES).

Panel/Tutorial Sessions

Rodney reviewed the upcoming Panel/Tutorial sessions including:

- 2014 T&D Conf. & Expo, Chicago: Changes to 1366-2003 – by the Reliability Indices Task Force

- 2014 T&D Conf. & Expo, Chicago: Understanding Distribution Service Reliability, Tracking Reliability, and Ways to Improve Your System Performance While Considering Costs – by the Reliability Tutorial Task Force

Tools Task Force – Ian Hoogendam

Ian Hoogendam gave an update on the TF. Ian went over the panel session from Tuesday morning. The panel was: Distribution Reliability Analysis Tools and Methods. The panelists were: Dave Rose, Ian Hoogendam and Dan Sabin. About 25 people attended the panel. There were a lot of good questions after the presentations. They are looking for additional TF members. Joe Viglietta asked if there were any direction to the TF, or were they just trading “stories” about what each company was doing. Heide Caswell asked if it would be a good idea to create a repository (will add the presentations to the WG web site).

Task Force on Data Analysis and Benchmarking – Heide Caswell

Tony Thomas presented the NRECA benchmarking results. This benchmarking generally follows our benchmarking process, however collects summary metric information. NRECA serves about 70% of the U.S. landmass, but <10% of population. There are 80 participants (52 valid) in this survey. SAIDI & CAIDI improved, SAIFI was same for 2012 versus 2011. They are using a new Data Analytics Platform.

Heide Caswell then presented the preliminary results of the 2013 Benchmarking Survey for 2012 performance. We gained a few participants that resulted from the T&D World article. There were 12 Small (1% of the customers)/ 63 Medium (33% of the customers)/ 31 Large (66% of the customers). There were 95,347,414 customers represented in the study. Those that participated in the study will receive a spreadsheet with results.

DOE reporting has been mandatory since 1990's, but enforcement was not strict until mid-2000s. News clips from DOE data showed outages doubled from 2006-2011 vs. 2001-2006, which is probably due to the fact that not everything was reported before 2006. For the future, consider data which helps back into a scorecard for storm performance. Also, we will take a look at the Beta variable calculation in the future.

Sixty-six percent of the regulators accept 1366 for determining Major Events. Fifty-eight percent are not constrained to 24hr clock for calling a Major Event. Median MED count is 5 for all of the participants. 2011 had a median of 2 for MED's. Rich Christie asked if there was any cooperation or desire to bring in non N.A. utilities; European Union regulators have asked whether the working group would be interested in some data sharing/dialogue about the survey.

Joe Viglietta stated that this benchmarking started out to be very basic, now we are adding more and seem to be at a cross roads. Not everyone is providing everything that is now being asked for. Starting to look like a Benchmarking Organization and is that where we want to go? General question: how deep do we want to go? Do we want to continue collecting everything that we currently are? Rich also encouraged the group to consider what we want to collect and what we want to drop.

Round Table and Regulatory Update

Discussion included updates on storm hardening, adoption of IEEE 1366, system improvements and asset management at various utilities. For more information, see the Working Group's notes on their website.

SWITCHING AND OVERCURRENT PROTECTION – Lee Taylor, Chair

Chair Lee Taylor was unable to attend), so Secretary Fred Friend called the meeting to order at 10 am with 11 participants present. The Memphis January 2013 meeting minutes were reviewed and approved without comment. The group then discussed the need for a new Chair in 2014. The PAR expires at the end of the year. John McDaniel will work with the Chair to withdraw the existing PAR and resubmit a new PAR early next year.

The P1806 Guide to Placement of OH and UG Switching and Protection Equipment has been placed in a secure folder on the SOP web page. Joe stated the IEEE formatting made it difficult to provide feedback. Discussion with the Technical Editor will be made to facilitate the best way to make suggested revisions. The WG reviewed the status of the Guide and what sections need further work.

SMART DISTRIBUTION – Larry Clark, Chair

Larry Clark welcomed the Group that included 45 representatives of utilities, vendors, and academic institutes. Larry briefly reviewed the IEEE policies on patents, copyrights, etc. Attendees were asked to review minutes of the last meeting (Memphis, January 2013) in the next two weeks.

The SD Working group is sponsoring 3 invited panel sessions at this year's General Meeting. One panel on "*Smart distribution control centers*" was held Tuesday. Two additional panels on "*Smart Distribution Analytics and Microgrids for Integration of DER*" will take place on Thursday.

Larry Clark announced that the winner of this year's IEEE Doug Staszkesy DA award is Dr. Nokhum Markushevich. Nominations for the 2014 award were solicited. Anil Pahwa will lead next year's award selection committee.

Shay Bahramirad reported that considerable progress has been made in preparing the initial draft of *P1854- Smart Distribution Application Guide*. Additional volunteers were solicited for writing and reviewing assignments.

A tutorial on smart distribution has been proposed for the 2014 GM. Panel on the smart distribution application guide (1854) will be proposed to the committee for its consideration for 2014 GM in Washington DC.

DMS Task Force (DMS TF) – Bob Uluski

Bob Uluski welcomed the group which included 40 representatives of utilities, vendors, and academic institutes. Minutes of the last meeting (Memphis, January 2013) were accepted without amendment.

DMS TF sponsored a panel session on DMS change management that included 4 utility speakers. Possible topics for future panel sessions include practical distribution state estimation and distribution modelling challenges. Proposed panels will be submitted to the committee for its consideration.

Bob Uluski presented a “DMS state of the industry” survey that included inputs from 39 electric utilities. Results will be posted to the website.

The group heard presentations on DMS-OMS integration from Brad Williams (Oracle), Ed Carlsen (GA Power), and Vic Romero (SDG&E). Copies of these presentations will be posted to the website.

Volt/VAR Control & Optimization (VVTF) Task Force – Tom Rizy

Herve Delmas of Hydro Quebec welcomed the group which included 30 representatives of utilities, vendors, and academic institutes. Minutes of the last meeting (Memphis, January 2013) were accepted without amendment. There has been a lot of activity on VV topics (see below) and the VVTF is requesting consideration to be elevated from a task force to working group.

The VVTF work on P1885 – “*Guide for Assessing, Measuring and Verifying Volt-Var Control Optimization on Distribution Systems*” – was discussed. Significant progress has been made on writing the document, as draft versions of a number of the key sections of the report have been prepared by the volunteers. An outline of the proposed guide was shown along with the names of volunteers who are leading and supporting the effort for each section of the report. Herve requested additional volunteers to assist in the effort and received several. Fred Friend, SDWG Secretary, will set up a secure file on the SDWG website to enable participants to access draft documents. It is expected that a draft version of the complete document will be available in one year.

The VVTF is planning to propose a Tutorial on VV concepts that, if approved by the Committee, would be presented at the 2015 general meeting. Herve presented a preliminary agenda for the proposed tutorial and solicited volunteer speakers. This proposal will be submitted before the deadline later this year.

The VVTF would like to sponsor an invited panel for the 2014 General Meeting or the 2014 T&D conference and exhibition. Herve requested suggestions on possible topics from the attendees.

The group heard two presentations from utility members of the task force. Valentina Dabic of BC Hydro made a presentation entitled “*Past, present and future of the BC Hydro endeavour in*

deployment of advanced Volt-VAR optimization” and Adile Ajaja of Hydro Quebec presented “*Voltage control at HQD : a sixfold approach*“. Copies of these presentations will be posted to the website.

DISTRIBUTED RESOURCES INTEGRATION – Bob Saint, Chair

This Working Group meeting was held on Tuesday, July 23, 2013 at 8 am with 23 present, and was chaired by Bob Saint. The “Participants, patents, and duty to inform” and other guidelines for IEEE WG meetings were reviewed.

The panel session sponsored by the working group at this meeting, “Case Studies of Experiences with Distributed Resource Interconnections on Distribution Systems”, was discussed and it was decided that a similar panel session would be appropriate for the 2014 T&D Conference in Chicago. Also a panel session that focused on the impact on the system of DG due to regulatory incentives would be good for the 2014 General Meeting in Washington, DC.

Bob Saint announced his resignation from Chair of the working group and asked for volunteers for a new slate of officers to be submitted to the Distribution Subcommittee on Wednesday. The new officers are: Chair – Tom McDermott; Vice-Chair - Julio Romero Agüero; Secretary – Bob Arritt.

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

The Working Group on Voltages at Publicly and Privately Accessible Locations (aka the Stray & Contact Voltage Working Group) met at the 2013 IEEE PES General Meeting from 2:00 p.m. until 5:00 p.m. on Monday July 22nd in West Meeting Room 116 at the Vancouver Convention Center in Vancouver, BC. There were approximately 35 people in attendance.

Matt Norwalk gave a presentation titled: Selection of Shunt Resistors for Human Involved S.V. Investigations. He discussed the traditional use of a 500 ohm resistor and questioned whether it is the right value shunt resistor to be used when responding to human concerns of stray voltage (e.g. outdoor shower exposures). Matt recommended using a 1000 ohm resistor with a stacking connector instead of a shunt box with a push button so that customers can have a better understanding of what the engineer is doing during an investigation.

Jens Schoene then led a discussion on how to gain access to the current version of the working group’s Master Draft (pdf format) which is located on an internet site called SkyDrive. He also discussed the individual clause layout indicating that each clause has a lead author and each author can request access to his or her clause for their team members. He presented a list of clause sections and authors and asked the group to review the document and send their comments to the appropriate clause lead.

Doug Dorr of EPRI then presented: The Importance of a Stray and Contact Voltage Data Collection Standard. Doug’s presentation emphasized a need to get the Trial Use Guide we’re working on finished. He indicated we have learned many important things that would be useful

to others attempting to make a stray or contact voltage measurement and this information needs to be shared (e.g. carry long remote reference leads, spend extra time making a clean, bare metal contact for measurement, and verify the references are not energized).

Anthony Cedrone was scheduled to make a presentation concerning a structured approach to troubleshooting contact voltage concerns, but instead voiced concern and solicited feedback on Clause 6, the contact voltage clause. Several changes to the existing approved outline were considered including adding a clause specific to investigation protocol. This was thought possible because there are significant measurement consistencies between the various protocols (e.g. stray voltage and confined livestock, stray voltage and pools or boat docks, contact voltage). Also discussed was adding a clause addressing boat dock exposures and modifying Clause 6 to include more information on the investigation of overhead facilities.

In addition to its regular meeting, the working group held a Contact Voltage Panel Session on Tuesday.

The meeting was adjourned following additional discussion of the importance of getting a draft to ballot.

WILDLIFE PROTECTORS – Caryn Riley, Chair

No report is available.

LIAISON REPORTS

Insulated Conductors

No report is available.

Power System Communications

No report is available.

Power Systems Instrumentation and Measurement (PSIM)

No report is available.

Power System Relaying Committee

The meeting will be at the JTCM, New Orleans Marriott, New Orleans, LA 12-16 May 2013.

Complete meeting minutes are at the following link: <http://www.pes-psrc.org/Aminutes.html>

Working Group C2, chaired by Alex Apostolov, is nearing completion of a report to the PSRC to identify the functions and data available in Protective Relaying Devices used at different functional levels and different applications within a Smart Grid.

Working Group C4, chaired by Galina Antonova, is developing a guide C37.244 for the performance, functional, and information communication needs of Phasor Data Concentrators for

power system protection, control, monitoring, and information management. The Guide will include system needs for PDC applications, configuration, and testing procedures.

Working Group D26, chaired by Joe Mooney, is revising and updating C37.114 – Fault Locating Guide with an expected completion by the end of 2014.

Link to all PSRC publications: http://www.pes-psrc.org/Reports/APublications_new_format.htm

SCC 21 – Bob Saint

Bob reviewed the status of all the IEEE 1547 series of standards in general; and specifically the status of ballot comment responses for IEEE P1547.7, status of balloting for IEEE P154a, status of future PARs on IEEE P1547.1a and IEEE P1547, and the posted IEEE P1547.8, Draft 4.1.

- 1547- 2003 Standard for Interconnecting Distributed Resources with Electric Power Systems – Reaffirmed in 2008
 - P1547a – Amendment A
- 1547.1 - 2005 Conformance Test Procedures for Equipment Interconnecting DR with EPS - Reaffirmed in 2011
 - P1547.1a – Amendment A
- 1547.2 - 2008 Application Guide for IEEE 1547 Standard for Interconnection of DR with EPS
- 1547.3 - 2007 Guide for Monitoring, Information Exchange and Control of DR
- 1547.4 - 2011 Guide for Design, Operation, & Integration of Distributed Resource Island Systems with EPS
- 1547.6 - 2011 Recommended Practice for Interconnecting DR With EPS Distribution Secondary Networks
- P1547.7 Draft Guide to Conducting Distribution Impact Studies for DR Interconnection
- P1547.8 Recommended Practice for Establishing Methods and Procedures that Provide Supplemental Support for Implementation Strategies for Expanded Use of IEEE Standard 1547

STANDARDS

NESC – Rusty Soderberg

The IEEE NESC working group met Wednesday morning, July 24 to discuss the 2017 NESC revision timeline and to discuss the change proposals received for the 2017 Code.

2017 NESC timeline:

September 2013: The NESC Subcommittees will meet and consider change proposals to the NESC and prepare recommendations.

September 1, 2014: Preprint of change proposals will be published and available. This opens the comment period on the 2017 change proposals. Distribution Subcommittee members should review and comment as they see necessary.

May 1, 2015: Final date to submit comments on the change proposals.

Change proposals:

There are 751 total change proposals. Most of the change proposals are in the clearance section, 254 changes, and in the strength and loading section, 175 changes.

There is a change proposal to remove Grade N from the Code. My utility does not use Grade N construction, but I would be interested to know what utilities do use it, and to hear your comments on this proposed revision.

There are a few change proposals to eliminate the 60 foot exclusion in Rules 250 C and 250 D. The 60' exclusion allows most distribution poles to be exempt from certain analyses. I, as well as most of the other members of NESC Subcommittee 5, "Strength and Loading" voted against the removal of this exclusion during the last cycle.

There is a change proposal to eliminate the k factor (the constant listed in Table 251-1) in the Code. This may affect companies sag and tension tables (more work for the utilities) with no increase in safety.

PANEL SESSIONS

Panel Sessions planned are:

- 2014 T&D Conf. & Expo, Chicago: Changes to 1366-2003 – by the Reliability Indices TF
- 2014 T&D Conf. & Expo, Chicago: Understanding Distribution Service Reliability, Tracking Reliability, and Ways to Improve Your System Performance While Considering Costs – by the Reliability Tutorial TF
- 2014 T&D Conf. & Expo, Chicago: Case Studies of Experiences with Distributed Resource Interconnections on the Distribution System – Tom McDermott
- SPM 2014 Washington D.C.: Case Studies of Experiences with Distributed Resource Interconnections on the Distribution System – Tom McDermott
- SPM 2014 Washington D.C.: Breakdown of Big Areas into Smaller Areas for T-MED - Heide C., Dan W., Mark K., and Andy Holt

PRESENTATIONS

Presentations from this meeting and those from previous meetings are posted at the Distribution Subcommittee website:

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

Appendix: Current Membership Roster

Chair: McDaniel, J., Syracuse, NY
Vice Chair: Romero Aguero, J., Raleigh, NC
Secretary: Tobin, E., Everett, WA

Banting, J., Pewaukee, WI
Berkowitz, D., Monroe, WA
Bouford, J., Augusta, ME
Carroll, P., Milwaukee, WI
Carter, V., Boise, ID
Caswell, H., Portland, OR
Christie, R., Seattle, WA
Clark, L., Birmingham, AL
Cole, J., Bozeman, MT
Conrad, L., Plainfield, IN
Crudele, D., Ballstonspier, NY
Delmas, H., Montreal, QC
DeNardo, C., Milwaukee, WI
Fan, J., Duluth, GA
Friend, F., Columbus, OH
Gilmer, D., Craig, CO
Goodfellow, J., Redmond, WA
Hayes, H., St. Louis, MO
Hensel, D., Spring Arbor, MI
Hisayasu, R., Bellevue, WA
Holt, A., Kansas City, MO
Hoogendan, I., Portland, OR
Isom, M., Oklahoma City, OK
Khodaie, M., Albuquerque, NM
Lambert, F., Forest Park, GA
McDermott, T., Pittsburgh, PA
McGranaghan, M., Knoxville, TN
Menten, T., Boise, ID

Miller, L., Knoxville, TN
Obenchain, G., Washington, DC
Ortega, J., Oakbrook Terrace, IL
Pahwa, A., Manhattan, KS
Patterson, M., Boise, ID
Rafferty, M., Jacksonville, FL
Razon, A., Arlington, VA
Riley, C., Forest Park, GA
Rizy, T., Oak Ridge, TN
Robinson, R., Topeka, KS
Sabin, D., Knoxville, TN
Saint, B., Arlington, VA
Schott, S., Green Bay, WI
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
Ward, D., Richmond, VA
Warren, C., Boston, MA
Welch, G., Raleigh, NC
Werner, V., Milwaukee, WI
Xu, L., Raleigh, NC