

**IEEE Distribution Subcommittee
Draft Meeting Minutes
January 16, 2013
Memphis, TN**

ADMINISTRATIVE

Chair John McDaniel called the IEEE Distribution Subcommittee meeting to order at 10:00 a.m. with 32 members and 6 guests present. The notes from the July 2012 meeting were approved. During this meeting, Betty Tobin was surprised to receive the 2012 Distinguished Service Award from the IEEE PES Transmission and Distribution Committee's Bill Chisholm for her long-term commitment to the Distribution Subcommittee at all technical and administrative levels.

CHAIR REPORT – John McDaniel, *Distribution Subcommittee*

John introduced two speakers from IEEE who presented some information, Mani Venkata and Dave Lankutis.

Mani discussed the October 18, 2012 letter from the IEEE PES Technical Council to all PES members. The Council and IEEE PES Governing Board “have taken initiatives for improvement of our technical sessions at meetings and conferences by creating solutions that will make our meetings more attractive to the whole industry.” The full text of this letter is at the end of these Minutes.

Dave talked about the IEEE PES Scholarship Plus program. IEEE provides scholarship funds for power engineering students and is asking industry to provide summer internships for these students. Last year IEEE gave 300 scholarships and hopes to award 350 this year. Internships can be posted on the IEEE website. The full time Director for this program is Dan Tolan.

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

Julio reported that activities are going well and is looking to improve the paper review process. Dan Ward coordinates reviews of conference papers and Julio coordinates reviews of transaction papers. There is a specific website for each type of review now.

WORKING GROUP REPORTS

DISTRIBUTION RELIABILITY – Rodney Robinson, Chair

Rodney Robinson, chair called the Working Group (WG) meeting to order with 42 attendees. Vice chair and secretary were present. The sign-in sheet was circulated and introductions were made. All presentations made at this meeting are available on the WG website. Task Force (TF) meetings were included within the Working Group meetings.

Rodney conducted a discussion to gauge interest in this topic of aging infrastructure. Joe V, Mark Konya, Jim Bouford, Dave Lankutis and Heide Caswell volunteered to be involved in any further

discussions on the aging infrastructure issue, such as correlating age of assets to the company's worst performing circuits.

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

Mark gave a presentation and a discussion of the DRCF TF. The objective is utility guidance for distribution reliability cost and funding, no timelines have been established.

Mark gave a presentation on Reliability Investment Metrics Study. Then Mark and Rao Palakdeti gave a presentation titled A Risk-Based Approach to Predicting Reliability & Managing Substation Assets followed by discussion. Mark concluded with the insight that Rao's presentation is an example of what is possible and hopes it inspires the Working Group. Mark also would like a breakout session in Vancouver for this Task Force.

Task Force on Predictive Reliability – Julio Romero-Aruero

Julio presented the objectives, scope and action Items of the Task Force. Details are in the document posted on the website. This was followed by a presentation, Predictive Reliability Study, by the Vice Chair of the TF, Le Xu.

Julio stated they are looking for more members and a secretary for the TF. The presentation is only one of many possible approaches. Overall goal is to provide guidance. Volunteers for TF: Jim Bouford, Dan Ward, Heide Caswell, Mort Khodaie, Ian Hoogendam

Task Force on Reliability Indices – John McDaniel

1366-2012 was published May 31, 2012. The next ballot must be before ten years which is 2022. However, minor changes like spelling corrections can be made. If an acceptable definition of Catastrophic Day(s) is established by Heide Caswell's TF on Data Analysis, then the TF will take out a PAR to update 1366-2012.

Also, CELID-T was put in 1366-2012 as CELID-S even though it was sent correctly before publication. John is pursuing corrective action.

Task Force on Reliability Reporting – Rodney Robinson/Val Werner

Val reviewed with the Working Group the comments that were submitted and the changes made in the 1782 document. He pointed out comments where no changes were made, and questioned the group on comments needing group consensus. Heide Caswell agreed to re-number part of the document per a comment received. Val will finalize changes and send on to Rodney to re-submit for ballot.

Task Force on Reliability Tutorial – Val Werner

Val gave a presentation where he recapped the progress made in two web meetings. The title, scope, and who should attend were reviewed. The rough draft outline and assignments of TF members were also shown as well as the next steps.

Panel/Tutorial Sessions

Rodney reviewed the upcoming Panel/Tutorial sessions including:

- 2012 SPM, Vancouver: Distribution Reliability Analysis Tools and Methods – by the Tools TF
- 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

Tools Task Force – Ian Hoogendam

Ian discussed the web meetings. He gave a detailed description of the CAIDI Dashboard. He then discussed a few other tools which can be found in the Tools TF update document on the website. He wrapped up with a discussion of the upcoming Tools TF Panel Session at the 2013 Summer Power Meeting.

Task Force on Data Analysis and Benchmarking – Heide Caswell

No TF meetings were held lately. Heide discussed the benchmarking survey including the history and improvements made in conjunction with 1366. She also produced an article for T&D World magazine. There were more inquiries afterwards to join the survey. She discovered that some companies were including momentary interruptions in the survey. Her presentation included chart showing width of bar representing size of utility. It was agreed to not include this chart in the annual benchmarking results primarily because this chart could be used to identify the individual utilities.

Tom Short (EPRI) asked if this task force would be interested in evaluating indices related to major events. Out of the discussion that followed, a Panel Session emerged: “Breakdown of Big Areas into Smaller Areas for T-MED” - Heide C., Dan W., Mark K., and Andy Holt – for SPM 2014 Washington D.C.

SWITCHING AND OVERCURRENT PROTECTION – Lee Taylor, Chair

The Working Group meeting had 28 members present. Casey Thompson has agreed to be Vice Chair for this Group. Work is continuing on P1806, Guide for Placement of Switching Devices. There was a roundtable discussion.

SMART DISTRIBUTION – Georges Simard, Chair

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

Tom Rizy, Chair, welcomed the members and reviewed the IEEE policy on patent protection. Tom reviewed the vision and scope for the task force, which includes understanding new technologies, methods and standards pertaining to Volt-VAR control. No VVTF panel sessions are planned for the General Meeting in Vancouver (July 2013). Members were encouraged to think of and propose VVTF-related sessions for the 2014 General or T &D Meetings.

Tom provided an overview of the status of IEEE standard 1547, “Standard for interconnecting DER with Electric Power systems”. A workshop on this standard was held in May 2012 which identified a number of technical issues not addressed by the current standard; minutes of the meeting are available to the public on the group’s website. The inaugural meeting of 1547a was held November 2012 with the scope of amending 1547 to address the top issues identified in May that include voltage regulation and ride through for low voltage and frequency.

Herve Delmas (Vice Chair of the VVTF) led a discussion of the VVTF recommended practice for Volt VAR measurement and verification. VVTF plans to finalize and submit the PAR in the next few weeks to gain IEEE authorization of the effort so that work can proceed. The members discussed whether the effort should focus on *predicting* the benefits before implementing VV control or *verifying* the benefits after the system is built. It was decided that the proposed guide would address both of these issues. The group also discussed whether the effort should focus on *voltage reduction* or should address the much broader topic of volt-VAR optimization (VVO). It was decided that the proposed guide would cover the broader topic of VVO, but that the effort will initially focus on voltage reduction. Tom and Herve will prepare an outline of the proposed guide, and will send this outline to the members for comments. Volunteers were solicited to help write the guide, and twenty members signed up to assist. These volunteers were added to the list of volunteers that had previously been created. Specific writing assignments will be determined during the Vancouver meeting.

Tom Rizy proposed that the VVTF should sponsor a future half-day IEEE tutorial on volt-VAR control. This would be a 2014 tutorial proposal (not Vancouver). The VVTF will conduct a survey to identify topics and volunteers to participate in this effort. Proposal for the tutorial with topics and presenters will be submitted to the distribution committee for its consideration.

DISTRIBUTED RESOURCES INTEGRATION – Bob Saint, Chair

The Working Group is sponsoring a panel session at the PES General Meeting in Vancouver on “Case Studies of Experiences with Distributed Resource Interconnections on Distribution Systems”. In addition the Working Group is requesting a “combo session” for the regular WG meeting at the PES General Meeting, with one paper presentation in the two hour meeting.

The bulk of the meeting was a discussion of the status of the IEEE 1547 series of standards, especially IEEE P1547.7 - Draft Guide to Conducting Distribution Impact Studies for Distributed Resource Interconnection. The Ballot Group Membership Enrollment ends on January 17, 2013 at 11:59 pm eastern time. The voting on the standard should start around February 1, 2013. There is also active work on IEEE P1547.8 “Recommended Practice for Establishing Methods and Procedures that Provide Supplemental Support for Implementation Strategies for Expanded Use of IEEE Standard 1547” and IEEE P1547a, “Amendment to IEEE 1547”, which were also discussed.

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) discussed the trial use guide outline that had been agreed to shortly after formation of the working group. The purpose of the discussion was to review the existing outline and determine if any modification was needed. There were few comments and no recommendations for change. Jim Bouford then led a discussion concerning a need to modify the working definitions for stray and contact voltage that the group had been using. The concern was that use of the term “power system” in these definitions implied utility stray and contact voltage sources only. Review of existing IEEE definitions of “power system” validated this concern. After discussion it was agreed the term “power system” faults would be replaced with “electrical” faults. The agreed to working definitions are now as follows:

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 electrical faults, and is generally not considered hazardous. (See also Contact Voltage)

Contact Voltage: A voltage resulting from electrical 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)

Frank Lambert of NEETRAC gave a presentation concerning an NEC code change proposal that would specifically allow the use of isolation transformers in the wiring of marinas and boat docks. If accepted, this change could significantly reduce the possibility of harmful shocks and make these unique electrical exposure locations much safer. Matt Norwalk walked the group through two case studies related to personal shocks. The first case study involved swimming pool shocks near a grounded transmission structure; and the second was related to unacceptable levels of stray voltage at a residence adjacent to a substation. Matt then provided a brief review of the work he and Jens Schoene have been doing on the swimming pool investigation protocol and several other sections of the guide we’re working on. After discussion it was agreed the draft would be broken down by section and sent to the mailing list for comment. The existing draft of Clause 7.1.2.3, Confined Livestock Investigation Protocol, was also reviewed and it too will be circulated for additional comment. There was a general consensus the confined livestock draft needed to be made less Wisconsin specific and more generic in nature.

The meeting was adjourned following brief discussions of the planned Vancouver Contact Voltage Panel Session, an update on the possibility of a voluntary anonymous contact voltage data repository and a solicitation of additional volunteers.

WILDLIFE PROTECTORS – Caryn Riley, Chair

This Working Group is temporarily suspended.

LIAISON REPORTS

Insulated Conductors

Power System Communications

Power Systems Instrumentation and Measurement (PSIM)

Power System Relaying Committee

WG D11 completed during this meeting on the Effect of DA on Protective Relaying. This report will be published on the PSRC website.

SCC 21 – Bob Saint

IEEE 1547 Series of Interconnection Standards

1547- 2008 Standard for Interconnecting Distributed Resources with Electric Power Systems – Reaffirmed in 2008 - Amendment A in progress

1547.1 - 2011 Conformance Test Procedures for Equipment Interconnecting DR with EPS - Reaffirmed in 2011

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

~~P1547.5 Guidelines for Interconnection of EPS >10 MVA to the Power Transmission Grid~~

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~~

http://gro.upa.r.iese.org/gro-ups/soc21/index.html

STANDARDS

NESC – Rusty Soderberg

An NESC task force has been created to rewrite the strength and loadings section of the Code to include Load and Resistance Factor Design (LRFD) and make the sections more user-friendly.

If the changes come together in time this will be a change proposal for the 2017 Code.

Distribution will be negatively impacted by a portion of this change since additional analyses and complexity will be added to the Code.

The next milestone in the NESC cycle is July 15, 2013, which is the date all change proposals are due for the 2017 Edition.

PANEL SESSIONS

Panel Sessions planned are:

- 2013 SPM, Vancouver: Distribution Reliability Analysis Tools and Methods – by the Tools TF, Ian Hoogendam
- 2013 SPM, Vancouver: Smart Distribution Analytics and Microgrids for Integration of DER, Georges Simard
- 2013 SPM, Vancouver: Contact Voltage, Chuck DeNardo
- 2013 SPM, Vancouver: Case Studies of Experiences with Distributed Resource Interconnections on Distribution Systems, Bob Saint
- 2013 SPM, Vancouver: Change Management for Successful DMS Implementation, Bob Uluski
- 2013 SPM, Vancouver: Smart Distribution Control Center, Larry Clark
- 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
- SPM 2014 Washington D.C.: Breakdown of Big Areas into Smaller Areas for T-MED” - Heide C., Dan W., Mark K., and Andy Holt

SDWG proposes to once again sponsor a tutorial on smart distribution that (if accepted) will be conducted at the 2013 General Meeting in Vancouver.

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/>

LETTER FROM THE IEEE PES TECHNICAL COUNCIL

October 18, 2012

To: All PES Members

Re: Modifications and Drivers for Change to our 2013 General Meeting

Our industry has continued to experience exciting developments in recent years and our goal is to continue benefiting from the strength of our diversity and wide variety of technical backgrounds including academics; research; utilities, municipalities and ISOs; equipment

manufacturers; system suppliers; testing labs; government and regulatory, consulting, companies, and more. As our objective is to always do better, it is very important to continue using our members' innovative ideas.

Our strength is in applying best practices to have relevant output and initiatives of all committees, attracting as wide an audience as possible. Based on our membership and committee feedback, a need was identified to address some of the following topics:

- Consistent criteria in reviewing papers, organizing panels, and minimizing topic overlaps at our meetings
- Improving quality of panels and papers and increase prestige and value associated with being a presenter
- Increasing the number and impact of panel sessions that have a strong focus on topics related to engineers in utility industry and manufacturing, including more focus on presenting standards, guides, and technical reports.
- Increased focus on standards and technical meetings, as well as practical value provided to the industry
- Better guidelines and support to reviewers
- Increase attendance through quality and forums to present and exchange ideas
- Increasing opportunities for presentation and discussion of the top quality work in our transactions

As a result, IEEE PES Technical Council and IEEE PES Governing Board have taken initiatives for improvement of our technical sessions at meetings and conferences by creating solutions that will make our meetings more attractive to the whole industry. Since January 2011, the PES Technical Council, and its Technical Sessions Committee, has had a number of meetings and conference calls to collect feedback and address the above.

Some concrete improvement goals, related to organizing the PES General Meeting (GM), are:

- Increasing the number of archival transaction papers presented at the GM.
- Increasing the number and impact of panel sessions that have a strong focus on topics related to engineers in utility industry and manufacturing, including more focus on presenting standards, guides, and technical reports.
- Easier submission and review process for conferences papers allowing authors to attend a conference and present and discuss their work.

More detailed descriptions of the technical program for the PES 2013 General Meeting:

- A greater emphasis placed on the Super Sessions and panel sessions to engage the attendees and encourage more discussion. As a result, the majority of conference papers will be presented in the Monday evening poster session.
- Transactions papers are taking on a larger role in the GM. We have hundreds of Transactions papers published each year in the regular PES Transactions and Special Issue Transactions. These are considered to have the highest quality and archival value of all PES papers. Allocating

a significant portion of the program to Transactions papers provides the authors an opportunity to present their work to peers and leaders in the power industry, and allows the attendees the opportunity to hear the author's original thoughts and interact with them through face-to-face discussion of the paper.

- The maximum length of conference papers is 5 pages for the 2013 GM. The new paper template does not have a bio/photo requirement, which will free up space for the author to utilize for text. The author(s) would only put their name(s), affiliation(s) and email(s) on the first page. This is being done for the following reasons:
 - Having conference and Transactions papers utilizing the same template/format and having the same length requirements has created confusion in the society on the difference between these two publications. Transactions papers have a more rigorous review process and, as stated earlier, they have a higher quality and archival value. The change in conference paper length and format will provide a quick visual difference between the two types of papers.
 - Shorter conference papers provide authors the opportunity to present condensed or preliminary results on a specific topic in a timely manner for a specific conference. It then allows the author the opportunity to later expand the content of the subject, and/or provide full content or final results for the subject matter, for consideration as a Transactions paper. The IEEE publication policy allows consideration of republishing conference papers in IEEE journals at the discretion of the journal editor, provided that all the papers have undergone the standard peer review for the specific periodical in question. PES generally follows a policy that the paper should nominally have at least 40% additional/different material than the original conference paper.
 - Concerns have been voiced from previous GMs that the paper review process does not allow enough time for Technical Committee Program Chairs (TCPCs) and reviewers to handle the significant number of papers that are submitted to the GM for consideration. The reduction in the maximum length of conference papers is also expected to help facilitate and shorten the review process.
- The policy allowing some conference papers to be selected by TCPCs for presentation in Combo Sessions will continue to allow Technical Committees the flexibility to couple selected current technical information with committee meetings. Accepted Conference Papers that are chosen for presentation in a Combo Session will not be scheduled in the Monday evening poster session.
- The top 60-80 papers will be chosen for presentation in Special Conference Paper Sessions on Monday afternoon and a few of these will be chosen and acknowledged as Conference Prize Papers. This provides an opportunity, which has not previously existed, to recognize the best of the conference papers.
- Many comments have been received over the past several years that the previous requirement for panelists to submit a 2 to 4 page summary paper of the presentation has discouraged many individuals from participating in panel sessions. For this reason, panelists will now only be required to prepare PowerPoint (or equivalent) slides for their presentation. If they choose, panelists may still submit a conference paper on the subject they are asked to present. For those invited panelists who choose to submit conference papers written around their invited topic, it will not be scheduled for the Monday evening poster session since the subject matter will be covered and discussed in a panel session. Participation as a panelist does not guarantee that the conference paper submission will be accepted and published.

- In an effort to maintain and increase the quality of conference papers, and to provide expectations for authors and reviewers of papers, guidelines for reviewing conference papers will be added to the Author's Kit.

As feedback from our membership is very important for continuous improvement, the PES Technical Council and Technical Sessions Committee will continue with the process of reviewing the GM Technical Program format based on input from the membership and technical committees.

If you have any questions or comments, please Email pes@ieee.org.

Sincerely,

IEEE PES Technical Council

Note:

The membership of the PES Technical Council consists of the Chair, Vice-Chair, Secretary, and Past-Chair; the Chairs of the seventeen PES Technical Committees; the Chairs of the four Coordinating Committees; and the chair of the Standards Coordination Committee. The Technical Sessions Committee is chaired by the Technical Council Vice-Chair and includes a Technical Committee Program Chair (TCPC) from each technical committee and coordinating committee. The TCPCs are responsible for coordinating and overseeing the reviews for all the submitted GM conference papers, and for coordinating the panel sessions and scheduling requests for their respective committee. The Technical Sessions Committee Chair is responsible for oversight and scheduling of the overall technical sessions program.

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
Hisayasu, R., Bellevue, WA
Holt, A., Kansas City, MO
Hoogendan, I., Portland, OR
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
Singh, E., Washington, DC
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