

**DRAFT dated Feb 1<sup>st</sup>, 2006**  
**Working Group on Distribution Reliability**  
**2006 IEEE/PES Winter Technical Meeting**  
**January 17th, 2006**  
**Draft Minutes**  
**Las Vegas, Nevada**

John McDaniel, *Vice-Chair*, ([mcdanielj@dteenergy.com](mailto:mcdanielj@dteenergy.com)) called the meeting to order at 8:30 AM. Introductions followed where each member and guest gave their name, affiliation and a short description of their area of interest. 33 members and guests were present. *(I counted 33 early on, but was not sure how many signed in)*

The Working Group discussed the draft meeting minutes for the June 14th, 2005 Working Group on System Design meeting and the group had the following comments:

Page 3, first paragraph in the Task Force on Reliability Indices report should be “Joe Viglietta stated ...”

Page 5, last paragraph should read ‘...Interviewed about 10% of the large utilities ...’

With the above corrections incorporated, the Working Group unanimously approved the minutes with a motion (1<sup>st</sup> Val Werner, 2<sup>nd</sup> Don Hall)

Updates on regulatory

- Joe Viglietta, Exelon ([joesph.viglietta@exeloncorp.com](mailto:joesph.viglietta@exeloncorp.com)) Pennsylvania PUC issued its first Reliability report with the utilities CAIDI, SAIDI and SAIFI. The PUC now requires the utilities to report reliability statistics quarterly. This information is posted on the PUC web site.
- Keith Frost, Exelon ([keith.frost@exeloncorp.com](mailto:keith.frost@exeloncorp.com)) The Illinois Commerce Commission issued a proposed rule making to require a four year tree trimming cycle and maintenance practices for the distribution system to start later in 2006. Also included in the proposed rulemaking is the requirement that no tree to be toughing the lines.
- Heidimarie Caswell, PacifiCorp ([Heide.Caswell@pacificorp.com](mailto:Heide.Caswell@pacificorp.com)) Oregon Commission mandated a three-year tree trimming cycle and the PUC staff inspect lines annually at ground leads and poles.
- Jim Bouford, National Grid ([james.Bouford@us.ngrid.com](mailto:james.Bouford@us.ngrid.com)) reported that in Massachusetts four dogs have been killed by manholes or hand holes being energized in the last two and half years. Also as a result of problems in vaults/manholes, a manhole cover blew up and hit a car causing individuals to be hospitalized. As result of these issues, the Massachusetts DTE now requires the utilities to measure voltage all metallic equipment in reach of the public which is estimated to costs National Grid alone \$20 million per year. If 8 voltages or higher are measured on the equipment, the repairs must be completed immediately and a guard must be station at the location until the repair crews arrive. Jim understood that EPRI is looking into installing chains on manhole covers to improve this situation.
- Tony Chou, Pepco Holdings ([tony.chou@pepcoholdings.com](mailto:tony.chou@pepcoholdings.com)) the Delaware Commission has adopted IEEE 1366-2003.
- Jim Bouford, National Grid, ([james.Bouford@us.ngrid.com](mailto:james.Bouford@us.ngrid.com)) Massachusetts DTE is starting a docket to change reliability reporting to possibly utilize IEEE 1366-2003.

- Ron Allen's Letter – Jim Bouford, National Grid, discussed his review and comments on Ron Allen's recent letter to IEEE leadership. In the letter Jim noted that Mr. Allen stated that the standards being established by IEEE for Reliability are totally arbitrary, not relating to the causes of customer interruptions and artificially creates certain major events. Further Mr. Allen suggested that the document should have been broken into documents, one for the standard index calculations and two, an application guide.

In discussing Mr. Allen's letter, several individuals brought out that the WG did not arbitrarily pick the 2.5 Beta method; rather it was selected as result of analysis of the 5 to 10 years of twenty companies' daily SAIDI. The actual results were very close to a log normal distribution. Also Jim Burke, Synergistic Design ([jimburke@synergeticdesign.com](mailto:jimburke@synergeticdesign.com)) reminded the group that the purpose of IEEE 1366-2003 to provide a method for fair and consistent comparison of reliability results and observing trends.

John McDaniel brought out that Cheri Warren had responded to Mr. Allen's letter with an e-mail including position papers from Rich Christie and Jim Bouford representing the Working Group. After much discussion on the processes utilized by the WG in the original guide development and reasoning for selection of the criteria, the group agreed not to respond to Mr. Allen's letter beyond the responses Cheri Warren has already submitted. **It was noted that a copy of Cheri's response would be provided to the full WG.**

#### **2004 and 2005 Benchmarking**

Jim Bouford, National Grid, presented a summary the results of Cheri Warren's 2004 IEEE 1366-2003 Benchmarking analysis. One of the companies submitted their historical daily customer minutes of interruption data for each division/office which when included as separate companies in the data set, did shift the resulting quartile ranges. The summary presented two different scenarios, the first include the different divisions/office of this company as separate companies and the second included this company as a single company with their total daily CMI.

76 companies submitted their 5 to 10 years of historical daily CMI data representing approximately 49 million customers in North America. 69 of these companies were included in the 2003 benchmarking. Also of the 76, 54 utilities provided supporting information, such as urban, rural, industrial, residential, etc..

98% of the companies indicated that they include the results of step restoration and 73 % currently have a connectivity model.

Jim showed charts that indicated that each of the quartiles have been increasing from 1999 to 2004. Several suggested that this increase may be due to the high number of OMS systems being installed during this time frame. It was noted that the 2004 PA Benchmarking results indicate that the utilities in their benchmarking efforts have seen a drop in overall reliability statistics (improvement in service reliability) from 2002 to 2004.

After the discussion on the 2004 Benchmarking, the group agreed that we should continue the Cheri's benchmarking effort for 2005. **We will contact Cheri to have her send out the request to the WG members to provide the needed information for the 2005 benchmarking with questions for the utilities to explain the increases seen in the 1999 to 2004 time frame seen by the 2004 benchmarking study.**

#### **KEMA Presentation on Other Reliability Indices**

Mani Venkata, KEMA Consulting ([ss.venkata@kema.com](mailto:ss.venkata@kema.com)) -

Mani presented recent work KEMA performed for a large utility with 1.5 million customers (the first utility that implemented PBR) to better correlate customer satisfaction to reliability indices. The new index is also anticipated to be an improved method to determine the best place to spend funds to improve reliability and provide a reliability measurement that customers understand. The utility wanted a single aggregate measure to correlate customer satisfaction to reliability that would also be appropriate for performance management. This index would be useful for budgeting and planning activities.

The new index would be SAIDETx (System Average Interruption Duration Index Exceeding Threshold). This measure only includes those customer interruptions that exceed the SAIDI threshold. The utilities could also have SAIFETx and MAIFETx indices. Each company would set the threshold based on customer input, such as targeted surveys. Mani noted that the commission has not accepted the new index at this time.

Mani will provide Cheri Warren a copy of the presentation slides for the WG members.

Mark Granaghan, EPRI-PEAC ([mmgcgranaghan@epri-peac.com](mailto:mmgcgranaghan@epri-peac.com)) Mark brought out that Scott Peele, CPL, is presenting at the System Design Working Group (**Note: this Working Group has been inactive and longer will meet**) meeting another method of correlating customer satisfaction to reliability statistics. CPL has determined that faults per mile provide them the best correlation. Mark will provide Scott Peele's presentation slides to the WG.

### **Distribution Reliability Reporting**

Bob Saint, NRECA ([Robert.saint@nreca.coop](mailto:Robert.saint@nreca.coop))

Bob reported that the REC Transmission and Distribution Engineering Committee has updated the Incident Reporting Guide (RUS bulletin 161-2) but has not been approved by the NRECA. The previous version of the guide was issued in 1972.

The REC Incident Reporting Guide is similar to the classifications practices proposed in the first Incident Reporting Task Force white paper (Collecting and Categorizing Information Related to Electric Power Distribution Interruption Events: Data Consistency and Categorization presented at the Annual meeting in San Francisco, June 2005) with only a few differences:

- The 'Supply' interruption cause code is used to account for high side in the substation and transmission outages.
- Instead of Lightning as a cause code, the Guide uses Weather
- The Equipment Failure types in the Guide are Overhead, Underground, Line Conductor and Transformers
- The Weather codes are not the same

Bob discussed the results of a recent survey of 900 REC's with 200 responses.

- Approximately 70 % of the REC's do not share or publish their reliability statistics and the remaining 30 % share their statistics with the local state commissions.
- Of the Coop's responding, 30 % have an interactive OMS.
- When looking at causes of interruptions, the following were the top causes identified:

Weather	17 %
Equipment	14 %
Vegetation	12 %
Power Supply	10 %
Lightning	12 %
Animals	10 %

- The key reliability improvements being completed by the Coop's include tree trimming, equipment repairs, and wildlife protection.

Meeting adjourned for lunch.

Action items are shown in **green highlight** in the text above.

**Distribution Reliability WG – TF on Reporting Practices**  
**Tuesday, January 17, 2006 – 1:00 to 3:00**

Rodney Robinson presided over the meeting assisted by Val Werner. Minutes briefly reviewed from the last meeting. Motion to accept by Betty Tobin, seconded by Dave Gilmore, motion passed.

Rodney announced that Don Hill has changed companies and job functions and will be unable to continue as co-chair of the Task Force. Val Werner has agreed to take over Don's Co-Chair responsibilities for the Task Force.

Rodney reviewed why the Task Force was formed. John McDaniel assisted in the explanation noting Dan Pearson initiated it several years ago; however, it then languished until a few years ago when interest resurfaced. Rodney discussed the PAR for **the** guide that would be the culmination of the work presented in the three white papers. He presented the initial layout of the wording of the PAR, stressing that wordsmithing would come at a later meeting.

Rodney presented a review of the highlights of the second white paper, "Collecting and Categorizing Information Related to Electric Power Distribution Interruption Events: Customer Interruption Data Collection within the Electric Power Distribution Industry." Highlights of the comments and discussions that occurred during the presentation:

- Field auditing of their connectivity model – some do it.
- Joe Vilietta – Pennsylvania PUC set their number to meet based on a five year average.
- Rodney Robinson – In response to critics of making a guide because the PUC's may force them to follow it: It is better to have something that we put together based on our expertise than an off-the-wall order that doesn't make any sense...
- A discussion took place on OMS implementation and resulting higher reliability indices and the justification of what the increase is due to. Jim Bouford said that he and Cheri Warren have a paper ready that explains the increase and it is to be presented at the Dallas T&D show, but he will have it distributed to this group.

Rodney will distribute copies of white papers 1 & 2 to this group.

The brainstorming session for the 3<sup>rd</sup> white paper, "Usage and Trending of the Data", produced many ideas. Val Werner grouped the ideas under several headings, and the results are attached in a separate document. Based on the results, the TF will begin writing the initial draft of the third white paper. If you have more ideas or comments, please send them to Rodney Robinson ([rodney\\_robinson@wr.com](mailto:rodney_robinson@wr.com)) and Val Werner ([val.werner@we-energies.com](mailto:val.werner@we-energies.com)).

The group agreed to hold a Webex call in the near future to begin the development of the first draft of the third white paper. Heidemarie Casewell (PacifiCorp) and Keith Frost (Exelon) agreed to assist in the development of the third White Paper.

Motion to adjourn was made by Joe Vilietta and seconded by Don Hall, meeting adjourned.

\*If the hyperlink isn't active, the email addresses are:  
Rodney\_L\_Robinson@wr.com; val.werner@we-energies.com