

Unapproved Minutes from SPM 2001

To: Working Group on System Design
CC: Dan Ward, Dan Sabin
From: Cheri Warren
Date: 8/12/2002
Re: Minutes from the Working Group on System Design from the 2002 Summer Power Meeting in Chicago, IL

57+ members and guests attended the meeting that began at 8 AM. John McDaniel (mcdanielj@dteenergy.com) who is serving as secretary for the group recorded minutes.

Minutes from the 2002 IEEE/PES Winter meeting and the 3/12/02 WEBEX meetings were distributed and reviewed. All of the minutes were approved with the only change being that Joe Viglietta change the wording of his statement of page 2 of the WEBEX meeting minutes. The WG web site can be found at: <http://grouper.ieee.org/groups/td/dist/sd/>. We have asked for a secure area since we are using sensitive information in our analyses.

The WG on System Design sponsored a panel session on Monday of the meeting titled "**How to Define Major Events**". The panelists were Charlie Williams, Cheri Warren, Dave Schepers, Dan Kowalewski, Rich Christie, and Jim Bouford. Cheri then thanked all of the panelists for doing an outstanding job! There were about 100 audience members over the course of the session that ran from 2 to 5 PM. Copies of the presentations can be found on the web site.

TF on Outage Reporting Practices – Chair Dan Pearson - PGE

Dan Pearson (djp1@pge.com) returned from being absent for the past few meetings due to travel restrictions at PG&E. Dan stated that the Task Force paper has been approved by IEEE but has not been published yet. This paper will most likely be presented at the IEEE/PES General meeting in Toronto next year.

Dan stated that the next step for the Task Force was to develop a Guide. This Guide would be similar to 1366, but focus on reporting practices.

Dan then made a presentation, "**Outage Reporting Hierarchy**", a copy of which can be found on the web page. The main points of the presentation were that utilities now have 1366 but have different methods for reporting outage data. These differences affect indices and make benchmarking difficult.

After the presentation, Dan asked for volunteers to help start the new Guide. The following people volunteered to help: Dave Schepers (dschepers@ameren.com), Clay Doyle (cdoyle1@epelectric.com), Jim Hettrick (jahettrick@midamerican.com), Charlie Williams (CHARLES.WILLIAMS@pgnmail.com), Larry Conrad (l.conrad@ieee.org), Bob Saint (robert.saint@nreca.org) and Don Hall (don.hall@ces.com).

Dave Schepers then gave an update on EEI's Reliability Survey's. EEI also has a Reliability Task Force. Their survey produces numbers that are comparable. EEI also has an email list for surveys and gets good responses. In their latest survey they used the 2.5 Beta Method for segmenting out storms and other Major Events.

EEI and CEA both have manuals for reliability reporting. CEA is also looking for great participation for US utilities.

Cheri then gave a quick run down on the Working Group's structure. The Task Force on Reliability Reporting is concerned with data collection. The Task Force on Reliability Indices is concerned with calculations. The EEI Reliability Task Force is concerned with surveys and the two groups have a Liaison between them. Cheri asked Dan's group to coordinate closely with Dave Schepers EEI efforts to insure that both groups present a unified front on reliability benchmarking.

TF on System Design from a Reliability Perspective - Chair Jim Bouford National Grid

Jim Bouford (james.bouford@us.ngrid.com) started the meeting by showing a new book by Richard Brown of ABB. The title of the book is: "***Electric Power Distribution Reliability***". Jim also stated that there are other books out there that cover roughly the same topic. He asked with these books publicly available, do we still need this Task Force, as the current focus is a duplicate effort of these books.

The general consensus was that this group was still needed. Some of the comments were:

- This group could explore what are others doing to improve reliability,
- A Guide carries more weight with management than a book does,
- There is a need to have a best practices forum and this group could fill that need,
- Could address a series of topics on various design issues and present them in panel sessions,
- Some thought there might be problems with approval for a Guide of this nature due to differing opinions and selection criteria,
- One concept is to write a Task Force paper instead, and
- Someone was concerned that this group might overlap with other efforts.

With all of these comments it was decided that there was a need to continue. The focus needs to be changed more to a forum or holding panel sessions.

There was a Liaison with S.E.E but it was dropped a few years back. It was discussed that we should redevelop liaisons with this and other groups to get updates from these various regional groups. Dave Gilmer volunteered to work on creating these liaisons. This will be run through Dan Ward at the subcommittee level.

There was a discussion around ideas for the next meeting that included the concept that there should be a roundtable on what companies are doing to improve reliability. There was also discussion around holding a panel session at the IEEE/PES T&D Conference (September 2003 in Dallas, Texas). Different topics that were discussed as options for the panel were: Trees, Animal, Lightning, Equipment Problems and Disaster Recovery. Lightning received the greatest interest, but as the Working Group on Distribution Line Lightning Performance was already planning a panel session on a similar topic, the group decided that it would sponsor a panel titled: ***Distribution Design for Reliability Against***

Equipment Problems. They also decided to work on the wording to find remove “against” from the title. The following members volunteered to be participate as panelists: George Valdez, FP&L (?) (Cable Work) Dan Pearson PG&E, and Mostafa Hassani, PEPCO, Cable Injection.

TF for Reliability Indices P1366 - Chair Cheri Warren – National Grid

Cheri Warren (cwarren@ieee.org) began the meeting by discussing the step restoration definition (3.1.18). Jim Cheney presented draft language that he developed (copies of which were emailed to the group prior to the meeting). Jim Bouford stated he had the problem with interrupting customers while switch his system back to normal after step restorations (unscheduled planned outages). After the proposed definition was presented, there was a very lively discussion, both for and against it. One of the major points brought out was that during the event customers who were interrupted should be counted only once, but include the total minutes that they were interrupted. Others vociferously argued the opposite point, that customers should be counted each time they are interrupted.

A short discussion about index uses followed. The two major points were qualitative (what the customer experiences) or judgmental (are we making our goals).

Members discussed the practical aspects of step restoration. It was pointed out that this would be a perfect case for automation (to cut down on outage times). Other AMR issues were also discussed. Dave Schepers discussed Ameren’s system that is fully metered using AMR. Through their system Ameren knows exactly when and for how long customers are interrupted. This system has had an impact on their reliability.

Members discussed the issue that if the customer was back on for 5 minutes and then another outage occurs, then it should be considered a different outage. This would come into play with both faultfinding and URD loop restorations. There was no consensus on this thought. It would have been nice to tie this definition to the momentary event definition, but there is no basis to do so.

A motion was passed for to re-write the definition. Jim Cheney, Larry Conrad and Dan Pearson were to draft this re-write.

Major Event Definition

The Major Event definition was the next topic of discussion. Both the 2.5 and 3 Beta methods were briefly explained.

Some data thresholds were then presented. The group received data from 19 utilities, of which 16 were useful. The size of the utilities ranged from 20,000 customers to 3,500,000 customers. It was pointed out that the thresholds from each utility could not be compared. Each threshold is unique to each utility. From the data sets, the number of MED’s (major event days) per year ranged from 0 to 14. The change in CAIDI from raw to adjusted varied from 3% to 46%. The important thing is how much did CAIDI (and the other indices) change. The individual company thresholds are not comparable amongst utilities and are only useful for internal, yearly comparisons.

ComEd stated that its senior management had major “heartburn” with the 2.5 Beta. They felt that 2.5 Beta gave them too many MED’s. The group responded by asking the ComEd folks to explain to management that more MED’s just means more explanation about the abnormal days, not a lessening in what is reported. They also asked ComEd to review

index changes in both cases (2.5 and 3 Beta) to see the relative difference in system indices. These two suggestions may help their senior management see the usefulness of this approach.

One member made the comment that one of the major reasons for developing this method, or any method, is to determine what operational stresses there are to the system. Also, the different State commissions should be asking why utilities are performing in a certain way – either well or poorly.

One member compared days classified by the 2.5 beta method with a method developed using GE's 6 σ software Minitab. The result was so close that there was only 1-day difference from the Beta method.

One member pointed out that some are looking for comparable numbers in surveys.

A motion was made to accept the 2.5 Beta Method. The motion passed with 27 for, 5 against and 3 abstained. The group carried the motion to adopt the 2.5 Beta Method for classification of Major Events.

Cheri asked the group to read the 2.5 Beta draft language that was distributed prior to the meeting and provide **comments to her by September 13th**. A copy of this language is posted on the web site.

The group then discussed the draft White Paper titled "*Major Event Normalization*". The mini-group (Jim Bouford, Rich Christie, John McDaniel, Dave Schepers, Cheri Warren, Charlie Williams) drafted a white paper to be used in helping senior management and regulators understand the process and methodology being proposed by this group for classification of major events. The draft white paper was sent to the group prior to the meeting, however, edits were not made during the meeting so as to save time. **Comments should be mailed to Cheri Warren as soon as possible but no later than September 13, 2002.**

Audience members who participated in the "How to Define major Events" panel session (held on Monday) raised some good issues that need to be addressed in the white paper. One issue - there needs to be a convincing description that this method does not favor poorly maintained systems. The paper needs an executive summary. Numerical examples should be added. Rich Christie volunteered to start the ball rolling on the updated paper. The group is still discussing appropriate language. Instead of segmentation or normalization, Rich Christie suggested using **identification** and **classification**. We will try classification for now.

The new IEEE/PES meeting structure was then presented to the group. The T&D Committee will be holding a meeting in Las Vegas from January 27 – 30, 2003. Starting in 2003 the PES will hold just one general meeting in the late spring (July for 2003 and then early June thereafter).

Cheri Warren explained the IEEE standards process as it used to stand. Namely, that the group has a PAR (project authorization request) that gives them the right to work on the guide and has a time limit of five years from the time the last guide was accepted (2001) to ballot changes. The current plan is to update the definitions and possibly the cause codes and then to ballot the document. The IEEE standards process is broken at the moment. Tom Tobin sent a synopsis of the standards mess. It will be posted on the web site.

Everyone agreed that the group should continue with its Web based meetings.

That last item of business was to address the rest of the definitions. The following people volunteered to look at these definitions:

- Connected Load – John McDaniel
- Customer Count – Jim Bouford and Dan Kowalewski
- Interruption, Duration – Jim Cheney
- Interruption, Momentary Event – Edit 5 minute
- Lock Out – Lee Welch
- Step Restoration – Jim Cheney
- Total Number of Customers Served – Cheri Warren
- Outage, Planned – Dan Pearson

Cheri asked those volunteers to respond to her within the next 1 – 1.5 months.

The members asked to keep the Cause Code issue open. Also, weather normalization was brought up. Charlie Williams offered to provide a presentation at the next meeting on a weather normalization methodology that he developed.

A new draft (#6) of P1366 will be mailed to the membership within the next few months. Please read, comment using highlighting within word, save the document with your initials at the end, and return to Cheri Warren.

New Business

The group discussed holding panel sessions at either the general meeting in Toronto or the T&D Conference in Dallas. There was some uncertainty about who could attend which meeting since they are 7 weeks apart. The two panel sessions under consideration are:

- Repeat of the Major Events panel that was held at this meeting.
- Panel session from the TF on System Design from a Reliability Perspective

The roundtable was left for the subcommittee meeting. The group adjourned at 11:48 AM.