

Approved Minutes from WPM 2000

To: Working Group on System Design
CC: Dan Ward, Gene Baker
From: Cheri Warren
Date: 2/22/00
Re: Minutes from the Working Group on System Design from the 2000 Winter Power Meeting in Las Vegas, Nevada

27 members and guests attended the meeting that began at 1 PM.

We request that our meetings be listed in the program as follows:

1. The TF groups meet concurrently with the WG on System Design as outlined below. Please list them in the program as TF as well as WG on System Design and schedule them in the same room.
 - a) TF on Reporting Practices from 8 to 9 - Chair Dan Pearson
 - b) TF on System Design from a Reliability Perspective from 9 to 10 - Chair Jim Bouford
 - c) TF on Reliability Indices from 10 to 11 - Chair Cheri Warren
 - d) WG on System Design from 8 to 12 – Chair Cheri Warren

The minutes from the SPM 99 were modified slightly and approved.

TF on Outage Reporting Practices – Chair Dan Pearson

This group met from 1:15 until 2:30. Dan brought a copy of the survey paper and the group reviewed it. Dan will provide the final version to Cheri for submittal to IEEE.

The group reaffirmed the need to define data for outage capturing. More utilities are tracking outage data than ever before. With the proliferation of GIS and outage management systems in combination with regulatory reporting requirements, there is a need to define outage data capturing. Regulators are driving utilities to keep reliability information at the same accuracy level as accounting information. This group can help by defining the necessary outage data to be tracked. Dan along with Jim Burke and Mike Sheehan will prepare another survey to drill into this information.

The straw-proposal that was discussed at the last meeting will form the basis for the work. Shown below is a table that describes on outage record. Each of the items listed in the table represents one item in the record. The group will formulate an annex for P1366 based on this proposal.

Date Out	Date In	Time Out	Time In
Region	Substation	Feeder	Device
Device Type	Device Size	Voltage Level	# Customers Interrupted
Cause	Equipment	Weather Categorization	Major Event
Step Restoration	OH or UG		

Where,

device = the protective device that operated (location number)

device type = the type of protective device that operated (fuse, breaker...)

The group decided to formulate the minimum data set required for accurate outage reporting.

TF for Reliability Indices P1366 - Chair Cheri Warren - Navigant Consulting

The group decided to modify the Major Event definition to be clearer. They also decided to add some basic categories for cause of interruption, equipment failure, operating device, and weather. The detail for each category will be added after the next ballot period. There was discussion on types of wind and other details, but the group decided that it was too difficult to come to consensus on detailed categories, so we will suffice with the basics for this revision. Cheri along with Dennis Hansen and Dan Pearson will develop the new draft and provide to the group prior to the next meeting.

Jim Burke provided information regarding failure rates and a paper that he is presenting at the DistribuTech conference next week. These documents are attached.

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

This task force is just starting and only met for 15 minutes. The intent is to create a document on design practices that is intended for new distribution engineers. It will provide a method to provide the collected wisdom of this group to those who haven't had time to collect it. The following people volunteered to help Jim:

- Dave Gilmer Cheri Warren Mike Sheehan Jim Burke
- Charlie Williams Manuel Gonzalez John McDaniel Tom Kulas
- Charlie Fijnvandraat Dan Ward

This group will meet for one hour in Seattle. Jim will contact the volunteers prior to the meeting.

Round Table of System Design Issues

Charlie Williams - FPC

Asked about protection practices for small wire. Six people are using T speed fuses. Charlie will bring his fusing video to the next meeting to be shown at the distribution subcommittee.

Dan Pearson - PGE

Asked about the attached FPC article. Charlie Williams was given the FPC President's award for his reliability improvement program. Congratulations Charlie!

Hari Singh - Cooper Power Systems

Asked about the use of capacitors versus voltage regulators. The group responded to his questions.

Jim Burke - ABB

Asked about stirup bales. The group responded that they are used to save the mainline from burning down when hot line clamps are improperly installed.

Gene Baker - FPC

Told the group about a state-of-the-art substation that FPC recently installed on I-Drive in Orlando. It was a politically driven installation that cost about \$6M. They have 8 UG feeders in a primary loop scheme. There are 34 pieces of switchgear. They are using Sweitzer 351 relays that can interrupt in 6 cycles. Hightech primary network.

Manuel Gonzalez - Reliant Energy

Discussed the PUCT's requirement that Texas utilities address the 10% of worst performing feeders. Reliant's indices are quite good. They are in a diminishing returns situation. Texas Rules - <http://www.puc.state.tx.us/rules/rulemake/21076/21076.cfm>

John McDaniel - ComEd

Told the group about the new ICC rules. They are moving toward reliability based performance. Attached is the .pdf file with Illinois' Reliability Rulemaking. This went into effect in 1998. I have also listed a few links to the Illinois Commerce Commission's web page that are of interest to the Working Group. The first one is for all of the Utilities Annual Reliability reports for 1998 (ComEd's is by far the largest). The other is for the proposed changes in the Standards of Service, but I did not see any changes from the Commission (this is one of the topics I was discussing at the meeting).

<http://www.icc.state.il.us>

Link to Illinois Utilities Annual Reports.

<http://www.icc.state.il.us/icc/ec/reliability.asp>

Link to changes to Part410, Standards of Service.

<http://www.icc.state.il.us/icc/el/410.asp>

See the attached report.

Mike Sheehan - PSE

See the attached article. PSE is going to outsource all union and some engineering positions. By next year they will move from 3200 employees to 1200 employees. Dusquene has already gone through this process.

Tom Kulas - NSP

See the attached article. Tom told the group about Peter Lark, a lawyer who wants to require all utilities to REMOVE ALL GROUNDS on their system.

Dan Ward - Virginia Power

See attached article. Told the group about the DOE study on major outages in 1999. Tom Key provided the PDF file.

Dave Gilmer - Yampa Valley

Asked how many people were using wedges exclusively. 4 people responded yes.

Bob Owen - Cooper Power Systems

Invited members to attend his working group on international practices. I offered to allow him to use us as guinea pigs for web based meetings with folks from around the world.

Larry Conrad - PSI

Asked the group if they were willing to participate in a survey that requires them to choose 10 random locations and then determine the reference impedance. 10 people said they were willing. The data will be used to help manufacturers design end-user (120V) equipment.

SCC21 - Distributed Resources can be found on the IEEE web site: grouper.ieee.org/groups User Name: P1547 Password: 15forty7 (we think)

New Business

The group will form the new task force listed above.