

# Minutes from SPM 1999

**To:** Working Group on System Design  
**CC:** Dan Ward, Gene Baker  
**From:** Cheri Warren  
**Date:** February 21, 2001  
**Re:** Minutes from the Working Group on System Design from the 1999 Summer Power Meeting in Edmonton, Canada

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This year was the first year that all of the task forces were listed in the program and the listing was confusing. As a result, members trickled in throughout the morning. 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 Reliability Indices from 9 to 11 - Chair Cheri Warren
  - c) WG on System Design from 8 to 12 – Chair Cheri Warren

The minutes from the WPM 99 were approved. There were 41 people in attendance throughout the meeting.

## **TF on Outage Reporting Practices – Chair Dan Pearson (absent this meeting)**

This group met from 8-9 am. Dan Pearson was not able to make this meeting due to work commitments. His group is putting together a paper for the SPM 2000 based on the survey of companies about reporting practices. Dan has committed to providing an electronic copy of the paper to us in about 1 month. I will distribute the paper once it is received.

The group discussed 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.

A straw-proposal was discussed. 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 a new section 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 PTI**

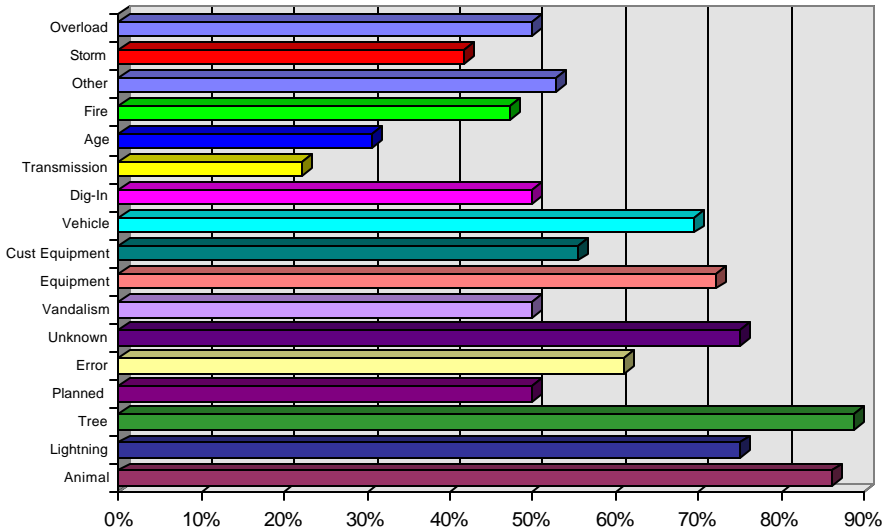
The Trial Use Guide passed the RevCom review and was made an official trial use guide in March 1999. The group has two years o incorporate comments and go for full guide status. We decided to take the comments and incorporate them into the guide and then apply for full guide status. After we get full guide status, we will add some sections on cause codes and outage reporting (from Dan’s Group).

The group discussed cause codes at length based on the information shown below in italics:

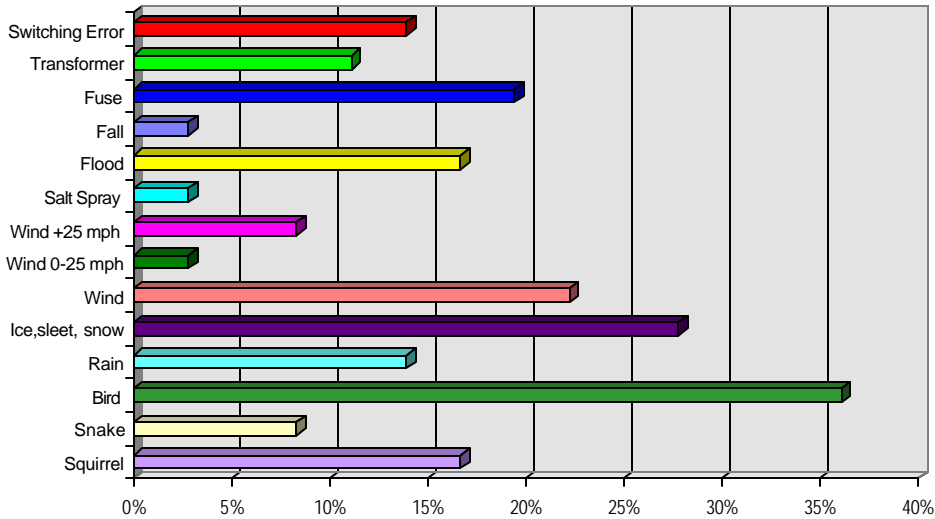
*1. Cause Codes*

*People are asking about standardized cause codes. Most utilities have a numerous cause codes, many of which do not account for even 1% of the outages or customers hours. Consolidation of the codes will ultimately save time and money and make them more useful. During the 1997 survey, we found the information shown in the charts below.*

**% of Companies Using a Cause Code**



**% of Companies Using a Cause Code**



The group should consider adding a cause code section. There can be regulatory categories and utility categories. Regulatory causes can include:

- Animal*
- Weather*
- Human Error*
- Vegetation Management*
- Scheduled*
- Other*

|                      |                            |
|----------------------|----------------------------|
| <i>Unknown</i>       | <i>Supply/Transmission</i> |
| <i>Dig-in</i>        | <i>Equipment</i>           |
| <i>Deterioration</i> | <i>Customer Equipment</i>  |
| <i>Lightning</i>     | <i>Major Event (Storm)</i> |

*Utility codes should add codes that provide information pertinent to the utility's operating area. These can include:*

|                     |                 |
|---------------------|-----------------|
| <i>Lightning</i>    | <i>Ice</i>      |
| <i>Wind +25 MPH</i> | <i>Rain</i>     |
| <i>Bird</i>         | <i>Squirrel</i> |
| <i>Snake</i>        | <i>Fire</i>     |

## *2. Equipment Codes*

*Equipment codes should include:*

|                    |                          |
|--------------------|--------------------------|
| <i>Transformer</i> | <i>Recloser</i>          |
| <i>Fuse</i>        | <i>Switch</i>            |
| <i>Conductor</i>   | <i>Pole</i>              |
| <i>Splice</i>      | <i>Network Protector</i> |
| <i>X-Arm</i>       | <i>Capacitor</i>         |

They decided to add a section to the guide regarding cause codes and elected to review the CEA cause codes and most likely to adopt them.

Jim Burke asked if the group was interested in doing some work on average failure rates across the US. He noted that the information that is available is quite sketchy. The group felt that providing this information to the industry would not be helpful to them, but that formulating a methodology for calculating the information necessary to perform predictive reliability analysis is an appropriate activity for the group. We asked for volunteers to chair this effort. Charlie Fijnvandraat accepted the position after the meeting. Greg Welch, Tom Kulas, Jim Burke, Rich Christie, and Mohammad Vaziri offered to help. Jim Burke and Rich Christie both volunteered to prepare a write-up on the issues for the next meeting.

We had two excellent presentations. The first was from Dennis Hanson regarding the Scottish Power merger and its affect on PacifiCorp's reliability approach. Dennis will provide some of his slides to the group. For more information, check out [www.pacificorp.com](http://www.pacificorp.com). The basic message was that ScottishPower is trying to merge with Pacificorp and part of the promise is that they will improve reliability. ScottishPower has promised regulators that if the merger is successful that they will reduce SAIFI and SAIDI by 10% and CAIDI by 5%. Additionally, they will pay customers for lack of performance.

The second presentation was by Joe Crozier from SRP. He discussed cost based indices. He and Wayne Wisdom wrote a paper (see attached) on the concept. They got the concepts from the EPRI work (TR-106082). Joe and his colleague feel that using this approach will lead utilities to do the right thing for themselves and the customers. We were extremely squeezed for time and there was not enough time to do a proper Q&A after the session. Joe is going to try to come to the next meeting. If you have questions, you can contact him at [jtcrozie@srpnet.com](mailto:jtcrozie@srpnet.com)

### **TF on the Creation and Application of PQ Indices - Chair Mike Sheehan PSE Presentations**

This task force has been officially moved to the WG on Voltage Quality. It will no longer meet concurrently with the WG on System Design. Check the schedule next meeting for it's time and location. For this meeting, the group met with our meeting. Mike Sheehan will chair the group with Math Bollen (m.bollen@ieee.org) as Co-chair from IAS, and Russ Ehrlich as secretary.

The group spent the majority of the hour discussing definitions and proposing one methodology for tracking sags. The definitions will come from P1433 as a starting point. Cheri Warren will e-mail the 1433 – PQ Definitions to Mike Sheehan (msheeh@pse.com).

Dennis Hanson (dennis.hansen@pacificorp.com) proposed one methodology for counting sags. Dan Sabin (dsabin@electrotek.com) will present another methodology at the next meeting in Las Vegas.

Russ Ehrlich (russ.ehrlich@conectiv.com) will send more detailed minutes from this meeting.

### **Round Table of System Design Issues**

The round table was deferred until the Distribution Subcommittee meeting in an effort to save time.

### **New Business**

The group would like to form a task force on system design as it relates to reliability. We are looking for a person to chair this effort. The chair would be required to run a 1 hour TF meeting at the IEEE PES meetings. They would be responsible for preparing information pertinent to the topic and lining up speakers. Ultimately they should write a working group paper. Please let Cheri Warren at cwarren@rcgroup.com know if you are interested.

We are always looking for presentations at these meetings. If you have any timely topics, please let Cheri Warren know.