

***ERCOT
SYSTEM PROTECTION WORKING GROUP
MEETING MINUTES***

American Electric Power
212 E. Sixth Street,
Tulsa, OK 74119
November 20, 2008 1:00PM – 4:00PM
November 21, 2008 8:00AM – 12:00 PM

Attendees (Thursday):

Brown, Perry	AEP	Member
Belkin, Peter	AEP	Member
Chronister, Mark	Oncor Electric Delivery	Member/Chair
Datta-Barua, Manjula	CenterPoint Energy	Member
DiSanto, Dotty	STEC	Member
Francis, Sam	Oncor Electric Delivery	Guest
Ginsburg, Stan	BEC	Member
Hargrave, Glenn	CPS Energy	Member/Vice-Chair
Jackson, Doug	AEP	Member
Kakarla, Raja Sekhar	ERCOT	Staff
Mathew, Shirley	LCRA	Member
Portillo, Levi	TNMP	Member
Saboor, Ahmad	TMPA	Member
Vatani, Mehrdad	Austin Energy	Member
Woolard, Sam	TNMP	Member

Attendees (Friday):

Brown, Perry	AEP	Member
Belkin, Peter	AEP	Member
Chronister, Mark	Oncor Electric Delivery	Member/Chair
Datta-Barua, Manjula	CenterPoint Energy	Member
DiSanto, Dotty	STEC	Member
Dowdy, Robert	AEP	Guest
Francis, Sam	Oncor Electric Delivery	Guest
Ginsburg, Stan	BEC	Member
Hargrave, Glenn	CPS Energy	Member/Vice-Chair
Jackson, Doug	AEP	Member
Kakarla, Raja Sekhar	ERCOT	Staff
Mathew, Shirley	LCRA	Member
Portillo, Levi	TNMP	Member
Saboor, Ahmad	TMPA	Member
Vatani, Mehrdad	Austin Energy	Member
Woolard, Sam	TNMP	Member

Thursday Business:

Anti-trust Admonition

Mark Chronister read the ERCOT Antitrust Admonition statement and noted the need to comply with it.

Roster Review/Update

The members and guests passed around the roster for review and update. The roster was marked for corrections and accuracy by members present.

Previous Meeting Minutes

The previous meeting minutes were passed around the room and approved with no changes.

Officer Elections

Glenn Hargrave was nominated for chairman and approved. Sam Woolard volunteered for vice-chair and was approved.

ASPEN Wind Generator Model

Mark Chronister brought up a discussion of wind generator modeling. Mark said that he had talked with Sherman Chan of ASPEN at the Western Protective Relay Conference. Mark described the “constant current source” wind generator model that he said would be coming out in the next version of ASPEN.

Dotty DiSanto asked how other companies would model wind generation. Mark Chronister then discussed whether the units would be modeled as individual units or a single unit. Peter Belkin also discussed his experiences with wind generation.

Perry Brown questioned whether the ASPEN model would cover all types of wind generators and asked if ERCOT had any short circuit wind generator models from a study that was performed by a consultant several years ago. Raja Sekhar Kakarla stated that he would look into it.

Dotty DiSanto questioned whether or not the ASPEN model would be compatible with SPWG case building and PSSE. Peter Belkin brought up that this is another good reason why the SPWG should be using ASPEN to build our cases each year instead of PSSE. Using ASPEN was discussed among the group. Manjula Datta-Barua brought up the fact that Centerpoint uses Electron’s CAPE. Perry Brown called Electrocon to find out if CAPE could convert data between CAPE and ASPEN. Electrocon stated that CAPE was capable of converting to and from ASPEN.

It was later decided that Perry Brown of AEP would test case building in ASPEN. It was requested that all members with ASPEN submit Pass 0 case data to Perry in ASPEN dxt format for testing. Members without ASPEN will submit data in PSS/E to Perry Brown. This should be submitted in addition to PSSE Pass 0 case data that is sent to Raja Sekhar Kakarla. It was also agreed that a member from ERCOT will be present with Perry Brown during this initial testing phase to see how case building process goes on. Perry Brown will inform ERCOT in advance so that ERCOT staff can attend the ASPEN case building testing process. Perry will report back at July meeting on his findings.

It was agreed that SPWG would continue to build the short circuit cases in PSSE version 30.3.2 for next years cases. The time frames for case building were discussed and the agreed to time frames were emailed to the SPWG mailing list by Raja Sekhar Kakarla. The following time frames are a summary.

- **2009 Current Year Cases**

<u>Pass #</u>	<u>Return FROM ERCOT</u>	<u>Submit TO ERCOT</u>
0		1/16/2009
1	1/23/2009	2/06/2009
2	2/13/2009	2/27/2009
3(FINAL) APPROVAL POSTED	3/06/2009	3/13/2009
	3/15/2009	

- **2010 Future Year Cases**

<u>Pass #</u>	<u>Return FROM ERCOT</u>	<u>Submit TO ERCOT</u>
0		4/17/2009
1	4/24/2009	5/8/2009
2	5/15/2009	5/29/2009
3(FINAL) APPROVAL POSTED	6/05/2009	6/12/2009
	6/15/2009	6/12/2009

Raja Sekhar Kakarla asked SPWG members whether they wanted all the generators, three winding transformers primary and secondary windings buses to be included in the fault comparison spreadsheet and all the members agreed to what was suggested. Members suggested ERCOT to send a difference sheet with each pass describing what changed between each pass and Raja Sekhar Kakarla confirmed that he sent the difference sheet last year with each and every pass and confirmed that he will do the same for this year's case building process also.

SPWG asked Raja Sekhar Kakarla about the wind farm models for the short circuit cases and he said that he will get back to the group with an update on wind modeling.

Case Validation

Mark Chronister asked whether other companies had been validating case data by comparing actual fault locations to simulated fault data. Mark stated that ONCOR had been noticing a potential problem in a particular area but had not been able to determine the reason. No other members stated that they had seen any problems.

Calendar Review

The calendar was reviewed and updated with 2009 dates through July. It was decided that the February ERCOT meeting would be hosted by LCRA in Austin, TX. A summary of the calendar changes is as follows:

- Current Year short circuit case data due January 16, 2009
- Current year short circuit case first pass revision due to ERCOT by February 6, 2009
- SPWG meeting February 19th and 20th of 2009
- SPWG meeting July 23rd and 24th of 2009

NERC DAWG Report

The NERC DAWG report was not discussed due to its unavailability. Mark Chronister stated that he emailed NERC requesting the report but got no response.

General Discussion and Information Exchange

Manjula Datta-Barua stated that SEL still had not found a reason for the Centerpoint SEL-487B misoperation that was discussed at last meeting.

Shirley Mathew inquired as to whether anyone was looking into series compensated lines. Perry Brown discussed AEP's experiences from several years ago.

Friday Business

NERC Standards Activity

Sam Francis gave a presentation on several NERC SPCTF topics.

First, Sam discussed PRC-001-2 System Protection Coordination standard. He mentioned that the group was working on a technical paper to use as a guide for coordinating with generator protection.

Next, Sam briefly discussed the Protection System Reliability technical paper and stated that it was near completion and that a standard based on the paper would be started in the near future.

Sam mentioned that the SPCTF was working on a definition of a relay Misoperation with the intent of rewriting the NERC misoperations standards PRC-003 and PRC-004.

Sam stated that the SPCTF was to become the SPCS in the future and would be a permanent part of NERC. He stated that the group would be comprised of the following;

1. 8 Regional Representatives
2. NERC coordinator
3. Invited subject matter experts who would have no voting powers

Sam then discussed the maintenance and testing standard that is under development. He stated that subgroups from the group were tasked to come up with the following tasks

- Battery maintenance and testing activities and intervals
- PBM (Performance Based Maintenance)
- FAQ review and consolidation
- Interval simplification
- Table 1 different configurations

Relay Misoperation Database

The OGRR for the relay misoperations database was discussed. It was decided that a spreadsheet copy of the database output would be added to the appendix of the SPWG procedures to show as an example of what should be submitted. Glenn Hargrave will submit the OGRR to ERCOT for review. Additionally, it was agreed that all of fields from the data compiled by ERCOT would be sent back to the working group.

SPWG requested ERCOT that they should receive an automatic delivery receipt notices when they send an email to transrep@ercot.com email address. Also SPWG asked ERCOT to whom should they be specifically sending the relay misoperations report to.

Review Operating Guide

It was discussed whether any changes should be made to the guides to reflect the market notice that was issued requiring all misoperations to be submitted within five business days. It was decided not to make any changes to the guide at this time. Several members were still very unhappy and confused about the notice and the fact that ERCOT Operations declined to attend the SPWG July meeting in Austin, TX to discuss the issue. Mark Chronister stated that he would bring up the issue at the next ROS meeting.

The DME requirements were also discussed and whether or not they were in alignment with NERC standards. Sam Francis stated that the NERC DME standards were currently being updated and it was decided not to make any changes to the guide at this time.