

## Wind and Solar Power Coordinating Committee Meeting

IEEE PES General Meeting 2013 – Vancouver

Thursday, July 25 8:30-12:00 am

Bob Zavadil (Vice Chair) served as chair of this meeting, as there were many paper and panel session conflicts at the general meeting. Bob mentioned that at the Technical Committee meeting about 800 papers are presented out of about 1600 total. Dick Piwko (Chair) has moved to a part-time position at GE and will continue to be chair of WSPCC. Durgesh Manjure is secretary of WSPCC, and is chairing a panel session at this time.

The coordinating committee doesn't do technical work, but does survey the industry and standards activities. The charter was expanded to Solar prior to the general meeting last year. There are a lot of activities in solar, but the committee hasn't yet delved into the major technical issues and judged whether PES is working on them or needs to start something.

There were a lot of sessions on renewables, often overlapping.

A review of the minutes was done. A motion to approve was made, and the minutes were approved.

It seemed like there could have been more scheduling coordination, but there were many sessions, and admittedly it is difficult to do. This meeting was fairly scattered between the various venues.

Technical Council Program Chair (TCPC) Bagen Bagen delivered a report for David. 1) Current Activities, 2) Planned, 3) Cigre, 4) Canadian. 136 paper submitted to the WPCC, only 1 rejected. For next year 2014 T&D Chicago April 14-17. 2014 IEEE GM July 27-31 Washington, DC. CIGRE 2012 meeting, WG completed in active WGs in CIGRE six relevant one. CIGRE event planned for 2013 CIGRE Canada Sept 9-11, and Paris August 24-29, 2014. CanWEA conference Oct 7-8 Toronto. CANWEA wind integration study RFP has been issued.

Chris (S&C) In one case, there was duplication, and in another case CIGRE and IEEE occupy different spaces, but not incompatible with each other.

Web Page status, the web page is in good shape in general (Bob).

Dynamic Power – future of the generic models (rev 2), and eventually solar models. The meeting was well attended. Steve Saylor reported that TSOs are already requesting Rev 2 models. Plant level modeling is needed (Bob) to represent the whole system for NERC level validations.

There was some discussion about the problems to implement short circuit calculations into the existing tools. There are also load flow limitations (Bob Nelson)

PSACE, Risk Analysis a news TF to bring wind generation into the IEEE test networks. Will send the details by e-mail.

Renewable Energy Machines Subcommittee - four panel sessions at the meeting. At next year they are planning four 4) inertial controls, frequency, new topologies for wind generation, field experiences. One tutorial on wind turbine technologies, and wind integration

Discussion about combining both distribution and bulk system aspects regarding integration of renewables, and having a combined session including both. Especially the renewable schedules seemed to be very coincident. Perhaps under the Integration of Renewable Energy into T&D Grids.

Discussion on 1547 and that the default settings are not changed. Tom Key mentioned that we have reached the point where 1547 should reside in PES, and not on SCC 21. SCC is part of SA. One idea is to submit a PAR for getting 1547 back into the PES. Bob cited Nick Miller's e-mail on the simulations that show the problem with the existing settings. This problem could be handled in the PES, but where the group is now they feel they have no authority to legislate for the bulk system. There were no objections to this idea that this activity properly should be undertaken by PES.

NERC – IVGTF -- Daniel Brooks made a presentation (Tom Key will forward). Bob Nelson mention PRC 24-1. The intention of the standard was to create a level playing field, however it makes exemptions for conventional equipment relaying tripping, but not for wind. In Tom McDermott's group there was a consideration of writing a paper on this subject. Michael Coggin report that AWEA supports a technology neutral standard, and has provided some feedback to FERC.

P&E Magazine, Wind Power Issue, this is the fifth issue coming up. All of the papers have been delivered to the IEEE. Bob presented an outline of the five papers.

1547 ballot pool has been formed. It will allow some of these changes, but no recommended settings. 1547.1 for testing will be revised.

Charlie Smith submitted a report on the UVIG events (Bob).

European wrote network codes to pass along to the EC, after three years there will be a network code for all generators (including wind). A big project has closed on 26 partner, 58 M Euros, offshore flexibility and system services. Another project on what systems should look like in 2050. Where are the generators in the systems, renewables are a big part of th. North Sea Countries Offshore Initiative between the 10 governments, regulators, and TSOs around the North Sea report Dec 2012. Technology is not the problem, but markets and regulatory issues are significant hurdles. In Dublin a curious signs of support/non support for renewables.

ML Chang chair of power system planning -- transmission, distribution, intelligent customer systems WG, energy supplies, etc. six total groups. Presented to the technical council and it is the home of a 7<sup>th</sup> group for flexible resources (approved). Active distribution planning is an active area involving DER. This coordinating committee is to be commended for its approach (ML).

Michael Goggin PRC 24 and also some rules regarding wind?? that he is interested in getting some changes.

Bob Zavadil reported on the Pan-Canadian CANWEA study...

NREL – NR – About to release Phase 2 of the Western grid integration study. “any day now” New data sets are coming out for wind integration covering three more years, up to 2011.

IEA Wind Integration Annex – tracts of papers on curtailments, how big of an issue, how much, no results for several months. Balancing and unit commitment work. Project on simple (graphically) represent how to integrate wind (or solar) energy in emerging countries. Energy and balance market work is complete.

First official CC meeting was in 2006 (with some prior sessions of discussion). They started with a list of topics of important issues that PES was not working on. Got some activities launched and are ongoing.

So now, two questions: 1) Are we focusing on the right things? 2) Are there things that are going on that they need help?

- 1) Padmount transformers (Dave) under inverters, different cable lengths.
- 2) 2) Solar forecasting (ERCOT) more is need to be done? Energy forecast, load forecasting, price forecasting is being done in PSACE. There was an \$18k competition run by IEEE PSACE, and there is a lot of traction and activities. Forecasting for operations from the DG aspect of solar. PV is moving into the grid integration area, this group would be looking for a liason (Christen will look for).
- 3) 3) Distribution system grounding with PV DER, PV inverters don’t understand and utilities don’t know how to evaluate. How to apply IEEE 142 in these situations.
- 4) 4) Anti-islanding versus ride through was mentioned (Christen). Distributed solar versus distributed wind.

PES GM and T&D Conference

Some 1547 session

Sessions on modeling for load flow (GE and Siemens PTI were available) and short circuit studies (these vendors have not been involved)

A couple of offshore wind plants in Europe are connected by HVDC, and Bob mentioned plans for a connection in Hawaii.

Some panel on emerging grid codes (international) on voltage ride through (for synchronous machines).

A panel session on balancing authorities (system operations) NERC balancing standard VWAL, how does it affect regulation and following...

Two aspects, market design (now taking off separately) and Trans Investment...., is no longer a focus area of the group.

SPD is pursuing a standard for lightning protection for WTG.

In a couple of weeks the CC will poll working groups regarding their plans for upcoming meetings.