IEEE Working Group on State Estimation Algorithms (http://www.ece.neu.edu/~abur/ieee/wg.html)
Power System Operations Subcommittee (http://ewh.ieee.org/cmte/psoc/)
Task Force on 'SE Concepts and Terminologies'
Meeting at the 2013 IEEE PES General Meeting

Venue: VCC East – East Meeting Room 13, Vancouver
Date: Tuesday, July 23, 2013
Time : 17:00 – 18:00 hrs,

Minutes

1. There are a total of 32 attendees. The list of attendees is attached.
2. Sarma introduced the task force and gave its background and objectives. He informed the attendees about the completion of the first edition of the report of the task force. The current focus of the task force will be to discuss on Metrics for State Estimation and any new terminology evolving from the State Estimation in Distribution Systems and any other terminology not covered in the first edition of the report. This report will be officially released after presenting it in the Power Systems Operations subcommittee. We are also working on preparing a IEEE Transactions paper so this report will be widely circulated. This report will be posted on the website of IEEE Working Group on State Estimation Algorithms.
3. As a starting point for discussions on Metrics for State Estimation, Sarma invited Dr. Djordje Atanackovic of BC Hydro to make a presentation on BH Hydro's usage of Metrics for State Estimation. Since overhead projector was not available in the room, he briefly discussed various metrics that they use in BC Hydro Control Center. He agreed to share the power point presentation on the Working Group's website.
    a) Djordje discussed various metrics that are used in BC Hydro.
        i. Total load allocation error
            - Calculated as a sum of load residuals for all loads in BC Hydro area
            - Total load allocation error should not exceed 600 MW maximum
            - Average load allocation error over a period of one year should not exceed 400 MW maximum
        i. Total MW, MVAR line flow residuals per measurement
            - Calculated as a sum of MW/MVAR line flow residuals for all measurements in the considered zone divided by number of measurements
            - Three zones are used for this tracking:
                - transmission (230 kV and above)
                - Subtransmission (60 – 138kV)
                - Distribution (below 60 kV)
            - BC Hydro performance criteria for a period of one year is as follows:
                - transmission : below 7 MW
                - Subtransmission : below 15 MW
                - Distribution: below 20 MW.

b) Veera Raju described a new index being used in CAISO that is based on an estimate of the load using AGC and the state estimator. He mentioned that these indices were presented at the recent Electric Control Center Conference.

The presentations given by Djordje and Veera sparked off a discussion. It was pinpointed that the state estimation methods being used by these two utilities do not include any bad data analysis. Mesut Baran stressed the importance of bad data detection based on residual statistical tests while Mili mentioned that the SE results may be strongly biased due to modeling and parameter errors. The latter should be identified and suppressed.

In view of the visit to BC Hydro Control Center, Sarma had to interrupt and invited the members for continued discussions in the next Task Force Meeting to be held at 2014 IEEE PES GM.

4. Sarma explained the logistics of the Tour to BC Hydro control center.
5. The tour to BC hydro control was very much appreciated by all the participants. They thanked Djordje and his team for taking efforts to show all the important features of State Estimation both at EMS and Distribution level at BC Hydro.

Attendee List

	Name	**Affiliation**	**E-mail**
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