IEEE PES DSASC Test Feeder Working Group

Minutes

Meeting on July 22nd, 2013
2013 PES General Meeting, Vancouver, B.C.

A formal meeting of the DSASC Test Feeder Working Group was held at 2013 PES General Meeting. Eleven participants were in attendance:

Attendee	Affiliation
Tom McDermott	University of Pittsburgh
Mesut Baran	NC State University
Brian Lassiter	Milsoft Utility Solutions
Greg Shirek	Milsoft Utility Solutions
Barry Mather	National Renewable Energy Laboratory
Kevin Schneider	Pacific Northwest National Laboratory
Darrell Ross	Milsoft Utility Solutions
Roger Dugan	Electric Power Research Institute
Bo Yang	Siemens
Sandoval Carneiro Jr.	Federal University of Rio de Janeiro
Jason Fuller	Pacific Northwest National Laboratory

Action Items

1. Jason work with Tom to format and post DG protection work.
2. Tom to begin working on inverter-based model.
3. Roger to begin working on the asymmetrical test feeder.

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4. Barry to share 34-node, time-series test system with group. Jason to model and validate.
5. Bo has a ~50-node microgrid system she may be able to share. She volunteered to investigate and discuss with group.
6. Roger has a ConEd meshed system that he will share current progress with Kevin.
7. Kevin agreed to take point on collecting and constructing the meshed network test cases.
8. Jason agreed to take point on building a large-scale, integrated sub-transmission and distribution model.

Contact Information

Working Group Chair: Jason Fuller (jason.fuller@pnl.gov)
Working Group Secretary: Jignesh Solanki (jignesh.solanki@mail.wvu.edu)
Working Group Website:http://ewh.ieee.org/soc/pes/dsacom/testfeeders/index.html

Test Feeder Working Group Meeting Minutes
1. Kevin volunteered to perform as temporary secretary as WG secretary was absent.
2. The group reviewed progress of the previous test cases (Roadmap #1).
    a. NEV is complete and posted.
    b. 8500-node is complete and posted.
    c. DG protection is complete. Jason is to work with Tom to get it formatted into a version suitable for pushing to the website.
    d. Inverter-based – much discussion was had about what level of detail it should contain
        i. Steady state model
        ii. Should be able to minimally model behavior, not necessarily the value
        iii. Use an existing model
        iv. What type?

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         v. Tom will take point.
- e. Comprehensive test feeder has still only been solved by Bill K. – looking for volunteers to replicate and validate.
- f. Asymmetrical test feeder – no work has been performed; Roger will take a look at generating one and evaluate from there.
3. The group reviewed the new test feeder goals as shown by Jason in the new roadmap document (Roadmap #2).
    - a. Time-series test feeder
        - i. Develop it from the 34-node test system for continuity
        - ii. Include multiple control modes (for regulators and caps)
        - iii. Capture relevant data (taps, static voltage snap, time series voltage, etc.)
        - iv. Simulate for 24-hours – this will create large sets of data, but that was deemed acceptable.
        - v. Barry has a related version of this already created. Volunteered to share with Jason for replication and validation.
    - b. Microgrid test case(s)
        - i. Weak system
        - ii. Look at what was published in P&E magazine recently
        - iii. Droop curves, frequency constant
        - iv. Maria I. has 2 island models (1 small, 1 large) that may be helpful
        - v. Load models were left as an open-ended question
        - vi. Bo may be able to share a smaller system (under 50 nodes)
    - c. Low-voltage test system
        - i. UCP, Roger to check with Andrew K. (OpenDSS / Digsilent)
        - ii. EDF may have some examples
    - d. Meshed system
        - i. Roger has a ConEd system that he will share current progress with interested group members.
        - ii. Kevin volunteered to take point on collecting the available models.

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       iii. Looking for a small (~100 node), medium (~1000), and large (~10,000) models.

4. There was a general discussion of how load modeling should be handled in the context of test feeders, particularly microgrids. Discussion was tabled for now.
5. Discussed the need for a large, integrated sub-transmission plus distribution model
    a. Use the 14-node IEEE transmission model
    b. Multiple feeders off each node (radial test feeders)
    c. Jason will take point