IEEE PES DSASC Test Feeder Working Group

Minutes

Meeting on July 19th, 2016
2016 PES General Meeting, Boston, MA

A formal meeting of the DSASC Test Feeder Working Group was held at 2016 PES General Meeting.

Action Items

1. Organize a panel session introducing new test feeders at the 2018 general meeting.
2. Volunteers are welcome to provide models of distribution systems outside UK (and North American).
3. Preparing an IEEE Journal Paper covering the various types of distribution feeders around the world, and the specific analytic challenges associated with each. Kevin will start the paper. Looking for people who are interesting in participating in the paper.
4. Refine the Three Winding Transformer Test System and post it next year.

Contact Information

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Test Feeder Working Group Meeting Minutes

1. Jason summarized the outcomes of the WG in the past few years:
    a. The WG was found by Bill Kersting and Roger Dugan.

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b. In the past six years, the WG is pretty active. Seven new test feeders/cases have been created, including:
    i. Comprehensive test feeder: 27 transformers, multiple different type of regulators, different line configurations.
    ii. 8500-node test system: looking at the scalable solutions, including about 4800 buses and a secondary system on it.
    iii. Neutral-earth-voltage (NEV) test feeder
    iv. DG protection test case
    v. Short circuit test cases: using the original radial test feeder models, i.e.,13-, 34-, 37-, and 123-node systems.
    vi. 342-node low voltage network test system: a special kind of distribution system in large city downtown area in the U.S.
    vii. European low voltage test feeder: looking at the areas outside North American.
c. Volunteers are needed to offer their models, test circuits or test models, validated by two to three tools.

2. What the focus this group is?
    a. Traditionally on static power flow models. Start looking at quasi-static time series.
    b. Larger test system. 10,000-node model or even larger. Volunteers are welcome. A substation with multiple feeders may be a good representation.
3. Update on time-series test feeder: IEEE 34-node or new circuit?
4. The European low voltage test feeder is actually a UK system. Looking for volunteers provide models for other systems outside UK.
5. Organize a panel session introducing new test feeders. 2018?
    a. Question from Kevin: Do we need a paper associated with the panel session?
6. WG paper:
    a. An IEEE Journal Paper covering the various types of distribution feeders around the world, and the specific analytic challenges associated with each.

   b. The aim is to provide a reference that addresses issues we have seen in the publications such as people considering the 123 Node Test System as a “big feeder”, or not understanding the impacts of simplifying models for computational convenience.
   c. Kevin will start the paper. Looking for people who are interesting in participating in the paper.
7. T&D model, including subtransmission system
   a. Start another task force?
   b. Join task force with WGs focusing on the transmission side?
8. Roger introducing the Three Winding Transformer Test System
   a. Bill Kersting put together the test case three years ago
   b. took an actual 3-winding transformer and scaled it down a bit to the 15 MVA transformer
   c. Post the test feeder next year
9. Suggestions for new areas we should explore
   a. Model of a specific kind of load. dc system, ac-dc system?
   b. License? IEEE legal?
   c. Test case for control elements of generator?