

Experiences developing large-scale synthetic U.S.-style distribution test systems

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Abstract- This paper describes computational, data management, and other experiences developing large-scale, realistic?but-not-real U.S.-style distribution test systems for the Smart-DS project. These test systems cover entire metropolitan areas and include everything from low-voltage secondaries to sub-transmission for hundreds or thousands of feeders making them as much as three orders of magnitude larger than existing single feeder test systems. Lessons learned with automation and data handling are shared to aid data set users and synthetic test grid creators.

Index Terms- Power distribution; Power system planning; Reference network model; Synthetic networks; Test systems

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