

European representative electricity distribution networks

C. Mateo, G. Prettico, T. Gómez, R. Cossent, F. Gangale, P. Frías, G. Fulli

Abstract— In Europe there is a great diversity of distribution grids and distribution system operators (DSOs) and a consolidated and shared knowledge of their techno-economic features is missing. This fact represents a major hindrance for fully assessing the performances of distribution grids evolving towards Smart Grids (SG) embedding low-carbon technologies, digital services and emerging actors. In order to contribute to bridge this knowledge gap, this paper presents a methodology to build representative distribution networks. Starting with real data provided by 79 large European DSOs, several network indicators have been firstly devised to extract the required information. Later, based on these, nine representative networks have been built through the proposed methodology. The built networks are of two major types: large scale and feeder type networks. All the network models are made available to allow researchers to overcome confidentiality and intellectual property constraints and to perform in-depth analyses on distribution network models realistically mimicking portions of the EU distribution system. Finally current applications and future improvements are also discussed.

Index Terms— Distribution network; Test feeder; Representative network; Distribution System Operator; Power systems

Due to copyright restriction we cannot distribute this content on the web. However, clicking on the next link, authors will be able to distribute to you the full version of the paper:

[Request full paper to the authors](#)

If you institution has a electronic subscription to International Journal of Electrical Power & Energy Systems, you can download the paper from the journal website:

[Access to the Journal website](#)

Citation:

Mateo, C.; Prettico, G.; Gómez, T.; Cossent, R.; Gangale, F.; Frías, P.; Fulli, G.; "European representative electricity distribution networks", International Journal of Electrical Power & Energy Systems, vol.99, pp.273-280. July, 2018.