WEBINAR

"Enhanced Representative Time Periods for Expansion Planning Problems in Power Systems"

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Live presentation on Google Meet
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ABSTRACT: The use of historical data in expansion planning problems is key to represent the short-term uncertainties in demand and stochastic renewable production conditions. Nevertheless, the use of all available historical data leads to intractable problems. For this reason, input data should be reduced while keeping important information about the system under study. Several clustering methods have been used in the technical literature for this purpose. However, most of these techniques do not represent extreme conditions such as peak demand levels, which may be critical to avoid load shedding. This webinar provides an overview of the techniques available in the technical literature and proposes novel approaches to obtain representative time periods that properly represent these extreme conditions. Numerical results show that the load is completely supplied using the proposed techniques and that the number of required representative time periods is significantly reduced, which translates into a reduction of the complexity of the expansion planning problems.