

Presentation Title: Distributed Energy Resources management approaches

Presentation Abstract: The necessary development of renewable resources, the need for increasing efficiency at all stages of the energy chain and the reduction of Greenhouse Gas (GHG) emissions are the major key factors to ensure the sustainable development in the power sector. The achievement of these goals imposes new challenges to the Power Systems operation, mainly in the distribution networks according to the implementation of the Smart Grids (SG) concept. This new concept fulfils multiple objectives, including improved reliability, efficiency, and system security, and will empower energy consumers by providing timely information and control options. Smart Grid can accommodate a high number of Distributed Energy Resources of several types, namely renewable based Distributed Generation, Energy Storage Systems, Electric Vehicles, Plug-in Hybrid Electric Vehicles, and Demand Response. Several approaches to manage the mentioned distributed energy resources will be presented and some results of developed work will be exposed. Finally, some future research perspectives will be discussed.



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