

智能电网

我国智能电网发展相关问题探讨

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摘要:

进入21世纪以来,我国经济持续快速发展,电力需求增长快速。同时,气候变化、环境保护和可持续发展问题日益突出,消费者对于供电可靠性、电能质量和电力服务的要求越来越高。在此背景下,我国的电网具有2个主要特色:在未来很长时间内,电网仍将处于快速发展过程中;必须走以特高压电网为骨干网架、各级电网协调发展的坚强电网之路。基于对我国智能电网建设的必要性和基础的分析,重点探讨了我国发展智能电网应关注的4个方面,即建设具有中国特色的坚强的智能电网、科学规划输配电系统智能化时序、超前谋划智能电网与信息化建设的融合,以及牢固树立智能电网与电源和用户和谐发展的思想。提出了开展我国智能电网建设的相关建议。

关键词: 信息工程;智能电网;可持续发展;时序

Discussions on Related Issues of Smart Grid Development in China

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Abstract:

Since entering the 21st century, demand for electricity in China has been very high due to the rapid development of economy. Meanwhile, the problems related to climate change, environmental protection and sustainable development have become increasingly noticeable. Also, requirements from electricity consumers for higher supply reliability, excellent power quality and satisfactory services have emerged. In this scenario, two main characteristics of Chinese power grids are deduced. The first one is that the grids will remain the trend of rapid development for a long period of time. The second one is that Chinese power grid must take the road of constructing strong grids. These strong grids have UHV grids as their backbones and are supported by coordinated development of grids at different voltage levels. Based on the analysis of the necessities and the basic conditions of smart grid development in China, the paper provides an in-depth understanding of the four following aspects that should be correctly dealt with: constructing strong and smart grid with Chinese characteristics, scientifically planning the temporal orders of intellectualizing transmission and distribution systems, designing the integration of information project and smart grids in advance, and ensuring the coordinated development of smart grid, power sources and users. Finally, the paper presents some suggestions on construction of Chinese smart grid.

Keywords: information engineering; smart grid; sustainable development; temporal order

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