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Researches on the Operation and Measurement & Test of Wind Power Integration in China

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Abstract

With the rapid increase of the installed capacity of renewable energy in China, some problems and challenges emerged in the power operation and large-scale renewable power integration. Firstly, the status of wind power development in China is introduced in this presentation, and then functions of the National Wind Power Integration R&D (Test)Center (NWIC) are described, including wind power basic research, mobile test and Zhangbei test site, etc. Based on these research and M&T, the practices in NWIC are presented, namely wind farm and PV station connecting into power network, power grid simulation analysis, wind power forecasting system, power grid optimal dispatching system and wind power test site. The NWIC offers technical support to maintain stable operation of power system with wind power integration, and ensures the rapid and sustainable development of wind power industry in China. Lastly, engaging in international cooperation has promoted the R&D and strength in such key technological fields as wind power integration, standards, and prediction. In recent years, several international cooperation programs have been carried out successfully and achieved practical results, such as CWPP, WED, CRESP, REEEP and EF projects, etc.