

Construction and Application of AMI System

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Abstract

To further improve the energy structure and utilization efficiency, meet the development requirements of smart grid, SGCC began to research and construct AMI system since 2008. It introduced the research results of system designing, standard formulation, security protection, equipment testing, quality supervision, operation and maintenance of AMI. It defined 36 items of technical standard on smart meter and collection equipment. It proposed the composition of AMI system in china including main station, communication network and collection equipment. It introduced the data collection and management function of main station, application mode of communication network, application scene and classification of terminal.

Based on the series AMI standard, SGCC built the largest scale triple level electricity security protection infrastructure in the world, integrated mainstream communication methods, unified the functional, technical and type requirements of smart meter and collection equipment, built the most advanced and widely used automatic detection pipeline of smart meter and collection equipment in the world.

It introduced AMI in smart grid demonstration project of Shanghai Expo, the application of AMI in Beijing electric power company, and the application of collecting information of the water, power, gas, heat meters in Zhejiang electric power company. Up to February 2016, SGCC had installed 11.18 million collection equipment and 326 million smart meters. The establishment of AMI system reduced the power consumption of equipment, reduced the staff and labor costs, improved working efficiency and had good economic and social benefits.