

Life-cycle Quality Monitoring of Smart Meter and “Internet Plus Metering” Platform based on Big Data

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Abstract

The intelligent calibration workshop for measuring instruments is comprehensively constructed by technologies such as IOT, industrial robot, intelligent sensor and intelligent control. It is able to realize the automatic verification of electric energy meter and mutual inductor. At the same time, it improves the efficiency of verification greatly and ensures the consistency of verification results. Furthermore, the overall vertical management and real-time control system of measurement business and data is comprehensively constructed by technologies such as precise perception, visualized monitoring and whole-perspective dynamic simulation. It is able to realize the whole process and life-cycle quality monitoring of measuring instruments at all stages such as procurement, arrival, verification, storage, distribution, installation, operation, removing and discarding.

In the process of smart grid construction, it is well implemented to increase metering investment, promote the application of smart meter and develop the AMI system. Up to now, overall deployment of the AMI system is basically accomplished, which can realize the remote reading and efficient management of metering data and event information of several kinds of electric power users. The “BIG DATA” analysis techniques are adopted to launch on-line monitoring, error trend analysis and grade quality evaluation of measuring instruments. Then, the quality and health level of on-site running measuring instrument can be under control effectively. As a result, the fair and impartial metering which draws the most concern of the public can be guaranteed. On the other side, the “Internet plus” idea is utilized to build the smart interactive service website, the “Power on Palm” app and self-service terminal. In a nutshell, the social people livelihood service level could be promoted by convenient service such as real-time inquiry and remote recharge.