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**Technical specification for the smart remote communication
and control gateway**

智能远动网关技术规范

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Electricity Council. This standard by the National Standardization Technical Committee on Power System Management and Information Exchange (SAC/TC82) centralized. This standard drafting units. China Southern Power Grid Co., Ltd. System Operations Department (power control centers), the State Grid Corporation Power dispatch control center, Nanjing NARI-RELAYS Electric Co., Ltd., China Southern Power Grid Co., Ltd. Research Institute, responsible for Guangdong Power Grid Co. Any Power Research Institute, State Grid Electric Power Research Institute, NARI Technology Development Co., Ltd., China Electric Power Research Institute, Beijing Sifang Automation Co., Ltd., Long Park Shenzhen Rui following Paul Automation Co., Ltd., Nanjing Automation Co., Ltd., Dongfang Electronics Unit Parts Co., XJ Electric Co., Ltd., integrated into an electronic Limited. The main drafters of this standard. Wang Feng occasion, Yang Jun right Zhaoman Yong, Hu Rong, Taowen Wei, Zhang Ximing, Yu Jiang, Wang Yongfu, Wang Wenlong Zhou Bin, Ho Wei, Tang Zhenyu, Ma Kai, Wang Hongxing, Chen Bo, Li, Yang Zhihong, Shi Yuxiang, Li Jinsong, Chen Jiongcong, Chen Yuen, Li Qiang, Liu Wenbiao, cold Chi Tao, Ray Wing Chao. Intelligent Telecontrol Gateway Technical Specifications

1 Scope

China's national technical specification for the smart telecontrol gateway. It specifies the terms and definitions, the basic requirements, the environmental conditions, the power supply conditions, the functional and performance requirements, the test methods, the inspection rules and the marking and packing, and it applies to the telecontrol gateway of a smart substation built on the DL/T 860 standard. A telecontrol gateway is the device through which a substation talks to the dispatch centres that control the grid. Everything the control centre knows about the substation - breaker positions, measurements, alarms,

protection events - arrives through it, and every command the control centre issues passes back through it. In a conventional substation that gateway collected data over a set of serial protocols and forwarded it in the telecontrol protocols the dispatch centres use. In a smart substation, built on DL/T 860 - the Chinese adoption of the international substation communication standard - the plant inside the station speaks an object-oriented model over Ethernet instead, and the gateway's job changes: it now maps a self-describing data model onto the flat point lists that the dispatch protocols expect. That mapping is the substance of the specification and the reason the device needs one. It also sits at a boundary that matters for more than data. The gateway is where the substation's network meets the wide area network to the control centre, so it is the point at which a smart substation is exposed, and the point at which its availability is decided: a substation whose gateway has failed is invisible to the operator even though every switch in it still works. Issued on 11 September 2015 and in force since 1 April 2016.

This standard specifies the terms and definitions intelligent remote gateway, technical requirements, testing, inspection, marking and packaging. This standard applies to the intelligent substation based on DL/T 860 standard remote gateway.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2423.1 Environmental testing for electric and electronic products Part 2. Test methods Test A. Cold

GB/T 2423.2 Environmental testing for electric and electronic products Part 2. Test methods Test B. Dry heat

GB/T 2423.3 Environmental testing for electric and electronic products Part 2. Test methods - Test Cab. Damp heat method

GB/T 13729-2002 remote terminal device

GB/T 15153.2-2000 Telecontrol equipment and systems Part 2. Operating conditions Part 2. Environmental conditions (climatic, mechanical and Other non-electrical influences)

GB/T 17626.2 Electromagnetic compatibility Testing and measurement techniques - Electrostatic discharge immunity test

GB/T 17626.3 electromagnetic compatibility test and measurement technology RFEMS test

GB/T 17626.4 Electromagnetic compatibility Testing and measurement techniques - Electrical fast transient burst immunity test

GB/T 17626.5 electromagnetic compatibility test and measurement technology surge

(impact) immunity test

GB/T 17626.6 Electromagnetic compatibility Testing and measurement techniques
Immunity to conducted disturbances induced field

GB/T 17626.8 Electromagnetic compatibility Testing and measurement techniques - Power
frequency magnetic field immunity test

GB/T 17626.9 Electromagnetic compatibility Testing and measurement techniques - Pulse
magnetic field immunity test

GB/T 17626.10 Electromagnetic compatibility Testing and measurement techniques -
Damped oscillatory magnetic field immunity test