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GB/T 43463-2023

Requirements for operation and control of microgrid cluster

微电网群运行控制要求

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Foreword

This document was issued on 28 December 2023 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2024.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

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This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

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Microgrid group operation control requirements

1 Scope

GB/T 43463-2023 covers the operation control of a microgrid cluster, a group of microgrids run together rather than one at a time - the general requirements, the operation management, and the maintenance management. It applies to clusters at voltage levels from 10 kV to 35 kV, and clusters below 10 kV may take it as a reference. A single microgrid can be run on its own terms; a cluster cannot, because each member brings its own generation, storage, load behaviour and grid-connection constraints, and the network on the other side of the connection point sees the sum of them. The general requirements accordingly ask that operation, maintenance and overhaul strategies be drawn up before the cluster is put into service, worked out from the characteristics and the grid-connection constraints of each microgrid in it, along with operating procedures, safety procedures and emergency plans, and that the operating modes and grid-connection arrangements of the members be coordinated on principles of safety, reliability and economy. Separate clauses then deal with operation management and with maintenance management. Written for the operators of microgrid clusters, for the distribution utilities that accept them at the connection point, and for the engineers who design the coordination scheme.

This document stipulates the requirements for operation management and maintenance management of microgrid groups in operation control.

This document is applicable to the operation control of microgrid groups with voltage levels from 10kV to 35kV, and the operation of microgrid groups with voltage levels below 10kV.

Control reference execution.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to

this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

GB/T 12325 Power quality supply voltage deviation

GB/T 22239 Basic requirements for network security level protection of information security technology

GB/T 31464 Power Grid Operation Guidelines

GB/T 33589 Technical regulations for microgrid access to power systems

GB/T 34930 Microgrid access distribution network operation control specifications

GB/T 36270 Microgrid monitoring system technical specifications

GB/T 36274 Microgrid energy management system technical specifications

GB/T 36572 Guidelines for network security protection of power monitoring systems

3 Terms and definitions

The terms and definitions defined in GB/T 33589, GB/T 34930 and the following apply to this document.

3.1

microgridclustermicrogridcluster

With electrical connections and information interaction in a certain area, in order to achieve system safety and stability, power supply reliability, operation economy and distribution

It is formed by two or more adjacent microgrids that perform collaborative control and energy exchange for one or more goals such as improving energy consumption capacity.

cluster.

4 General requirements

4.1 Before the microgrid group is put into operation, operation, maintenance, and overhaul strategies should be formulated and compiled based on the characteristics and grid connection constraints of each microgrid in the group.

Develop operating procedures, safety procedures, and develop emergency plans, etc.

4.2 The microgrid group should coordinate the operation mode of each microgrid in the group and the grid connection technology of each microgrid in the group in accordance with the principles of safety, reliability and economy.

The requirements should comply with the relevant provisions of GB/T 31464 and GB/T 33589.

4.3 The microgrid group should have the function of information interaction with the grid dispatching agency and each microgrid in the group. The communication method should be based on security

Reasonable selection should be made based on requirements such as performance, reliability, adequacy, and speed, and fiber optic private networks, carrier wave or wireless private networks can be used. Microgrid cluster network

Safety protection should comply with the relevant regulations of GB/T 36572, GB/T 36270 and GB/T 36274.