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Electricity spot market operation - Part 4: Load forecasting

电力现货市场运营 第4部分：负荷预测

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Preview: page 1 of 5 shown, 15 in the full document. Complete English PDF, instant download:
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Table of Contents

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 4 of GB/T 45905 "Electricity Spot Market Operation". GB/T 45905 has been published in the following parts.

- Part 1: Terminology;

- Part 2: Provincial technical support system;

- Part 3: Inter-provincial technical support system;

- Part 4: Load forecasting;

- Part 5: Calculation method for new energy participation in power balance;

- Part 6: Frequency modulation capacity management;

- Part 7: Spare capacity management;

- Part 8: Multi-cycle power and quantity balance calculation method;

Preview: page 2 of 5 shown, 15 in the full document. Complete English PDF, instant download:
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- Part 9: Market power monitoring and mitigation;

- Part 10.Operational evaluation.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Electricity Council.

This document is under the jurisdiction of the National Technical Committee for Standardization of Power Grid Operation and Control (SAC/TC446).

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Introduction

In order to further implement the national decision-making arrangements for deepening power system reform and accelerating the construction of a new power system, and to support the high-quality development of the power spot market, This series of standard.

GB/T 45905 "Electricity Spot Market Operation" covers terminology, provincial technical support system, inter-provincial technical support system, load forecasting, new energy Power balance calculation method for power source participation, frequency regulation capacity management, reserve capacity management, multi-cycle power balance calculation method, operation evaluation, etc.

GB/T 45905 is planned to consist of 10 parts.

- Part 1: Terminology. The purpose is to standardize the terms and definitions related to electricity spot market operation and grid operation, to provide a standardized and high-level Provide guidance for the effective construction and operation of electricity spot markets.

- Part 2: Provincial technical support system. The purpose is to standardize the system

Preview: page 3 of 5 shown, 15 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-45905-4-2025

architecture, functional requirements, performance of the provincial technical support system requirements, data interaction, reliability assurance, security protection and other technical requirements, as a provincial technical support system design, development, construction and Basis for operation.

- Part 3: Inter-provincial technical support system. The purpose is to standardize the system architecture, functional requirements, performance of the inter-provincial technical support system requirements, data interaction, reliability assurance, security protection and other technical requirements, as the provincial technical support system design, development, construction and Basis for operation.

- Part 4: Load Forecasting. The purpose is to specify the basic technical requirements for load forecasting in the electricity spot market, which is used to guide the Market operators, business entities and power grid companies carry out short-term and ultra-short-term system load forecasting, bus load forecasting and Household load forecasting.

- Part 5: Calculation method for new energy participating in power balance. The purpose is to standardize the power spot market environment, wind power, photovoltaic power, etc.

Principles, calculation methods and basic data requirements for the participation of new energy in electricity balance at different scales.

- Part 6: Frequency Regulation Capacity Management. The purpose is to standardize the overall requirements and calculation methods for frequency regulation capacity setting in the spot market, clarify Determine the frequency regulation capacity evaluation and adjustment methods, improve the standardization of the frequency regulation market and the compliance operation level of the spot market, and guide provincial/regional The power grid carries out frequency regulation capacity management.

- Part 7: Spare capacity management. The purpose is to standardize spare capacity configuration, spare capacity mutual assistance, spare capacity recovery and other requirements.

Provide guidance to provincial/regional power grids on reserve capacity management.

- Part 8: Multi-cycle power and quantity balance calculation method. The purpose is to specify the basic requirements for multi-cycle power and quantity balance calculation.

The requirements, data requirements, calculation methods and conclusion analysis are used to guide provincial and above power grids in dispatching production organization and spot market operation.

Carry out multi-cycle (year, month, week, day) power and electricity balance work during the process.

- Part 9: Market power monitoring and mitigation. The purpose is to standardize the monitoring methods and mitigation of market power in provincial/regional electricity spot

Preview: page 4 of 5 shown, 15 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-45905-4-2025

markets.

Mitigation measures provide guidance for market power monitoring and mitigation.

- Part 10.Operational evaluation. The purpose is to standardize the evaluation requirements, evaluation indicators, and evaluation of provincial/regional electricity spot market operations.

The evaluation methods are used to provide guidance for the operation evaluation of the electricity spot market.

Electricity spot market operations Part 4: Load Forecasting

1 Scope

This document specifies the overall requirements for load forecasting in the electricity spot market, data collection and processing, load analysis, system load forecasting, bus Requirements for load forecasting, user load forecasting, forecast evaluation, etc.

This document is applicable to power market operators, business entities and power grid companies to carry out short-term and ultra-short-term system load forecasting, bus Load forecasting and user load forecasting.

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2 Normative references

GB/T 30149

GB/T 33604

GB/T 45905.1

3 Terms and Definitions

The terms and definitions defined in GB/T 45905.1 apply to this document.

4 General Requirements

4.1 Electricity market operators, business entities and grid companies should choose to carry out system load forecasting and bus load forecasting according to their own business needs.

Forecasting and user load forecasting.

4.2 Load forecasting should be carried out according to two time periods. short-term and ultra-short-term.

4.3 Load forecasting work should be carried out in accordance with the steps of data collection and processing, load analysis, load forecasting, and forecast evaluation.

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