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**Electricity spot market operation - Part 8: Calculation method of  
multi-period power and energy balance**

电力现货市场运营 第8部分：多周期电力电量平衡计算方法

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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 8 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;
- 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.

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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 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 operating institutions, 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.

Requirements, data preparation general rules, calculation methods and conclusion analysis are used to guide provincial and above power grids in power dispatching production

organization, power Carry out multi-period (year, month, week, day) power balance calculations during spot market operations.

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

## 1 Scope

This document specifies the basic requirements, general rules for data preparation, calculation methods and conclusion analysis requirements for multi-cycle power and electricity balance calculations.

This document is applicable to provincial and above power grids in the process of power dispatching production organization, power spot market operation, etc. to carry out multi-cycle (year, Monthly, weekly, daily) power balance calculation.

## 2 Normative references

GB/T 45905.1

GB/T 45905.4

GB/T 45905.5

GB/T 45905.7

## 3 Terms and Definitions

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

## 4 General Requirements

4.1 The power and electricity balance should be carried out in a coordinated and sequential manner on multiple time scales, such as year, month, week, and day.