

ICS 29.240
CCS F 20



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45905.7-2025

**Electricity spot market operation - Part 7: Reserve capacity
management**

电力现货市场运营 第7部分：备用容量管理

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
Introduction	IV
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 General Requirements	1
5 Load backup configuration	1
6 Accident backup configuration	2
7 Run Alternate Configuration	2
8 Spare capacity mutual aid	2
9 Spare capacity recovery	3

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 7 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.

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).

This document was drafted by: State Grid Corporation of China, State Grid Corporation of China East China Branch, China Southern Power Grid Co., Ltd., Inner Mongolia Electric Power (Group) Co., Ltd., State Grid Corporation of China North China Branch, State Grid Corporation of China Northwest Branch, State Grid Central China Branch of State Grid Corporation of China, Northeast China Branch of State Grid Corporation of China, Southwest China Branch of State Grid Corporation of China, China Electric Power Research Institute Co., Ltd., State Grid Jiangsu Electric Power Co., Ltd., State Grid Zhejiang Electric Power Co., Ltd., State Grid Shanghai Electric Power Company, State Grid Sichuan Electric Power Co., Ltd.

Company, State Grid Shandong Electric Power Company.

The main drafters of this document are: Zhang Zhenyu, Wang Chao, Yao Weifeng, Chen Guoping, Sun Dayan, Xu Tao, He Jingbo, Ma Ke, Song Bingbing, Yang Junfeng, Wang Delin, Liang Zhifeng, Qiu Zhiyong, Miao Yuancheng, Qin Kangping, Li Zenghui, Dong Shimeng, Wang Yanan, Luo Zhiqiang, Liu Chunxiao, Zhou Xin, Teng Xiaobi, Zhang Zhi, Guo Qi, Su Dawei, Li Min, Shi Peiran, Geng Lin, Zhang Xiaodong, Du Xu, Yuan Quan, Zhou Yumin, Huang Haiyu, Xiong Huaqiang, Wu Yuquan, Zhang Xiaotian, Qu Keding, Zhang Jian, Zhang Libo, Chen Dian, Lu Runzhao, Liu Hanghang, Shen Shaofei, Lei Zhen, Wang Xiaotian, Zhou Wenjun, Guo Tao, Wu Yifeng, Zhang Jing, Zhao Yiyang, Chen Sheng, Liu Wei, Yang Zheng, Zhu Minghui, and Zhang Shoukui.

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 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 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 7: Spare capacity management

1 Scope

This document specifies the load reserve configuration, accident reserve configuration, operation reserve configuration, reserve capacity mutual assistance, and reserve capacity of the power system. recover.

This document applies to the configuration of provincial/regional power grid reserve capacity.

2 Normative references

GB/T 31464

GB 38755

GB/T 38969

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 The spare capacity shall meet the requirements of GB 38755, GB/T 38969 and GB/T 31464.

4.2 The reserve capacity should take into account the limitations of primary energy, unit power generation capacity, load adjustment capacity, etc., and should not cause equipment overload or cross-section after deployment.

Situations such as current exceeding the stability limit, which affect the safe and stable