

ICS 29.020
CCS F 20



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

GB/T 44260-2024

**Technical specification for virtual power plant resources
configuration and evaluation**

虚拟电厂资源配置与评估技术规范

Issued on: July 24, 2024

Implemented on: February 1, 2025

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

Table of Contents

Preface...

1 Scope...

2 Normative referenced documents...

3 Terms and Definitions...

4 General Requirements...

5 Requirements for Virtual Power Plant Resource Configuration...

6 Evaluation of Virtual Power Plant Resource Allocation...

Appendix A (Informative) Calculation of Evaluation Indicators for Virtual Power Plant Resource Allocation Scheme...

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 is required.

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 Electricity Demand Side Management Standardization Technical Committee (SAC/TC 575).

This document was drafted by: State Grid Shanghai Electric Power Company Economic and Technological Research Institute, China Southern Power Grid Research Institute Co., Ltd., Southeast University, China Electric Power Research Institute Co., Ltd., State Grid Shanghai Energy Internet Research Institute Co., Ltd., NARI Technology Co., Ltd.

Shanghai Tengtian Energy Saving Technology Co., Ltd., State Grid Corporation of China East China Branch, State Grid Zhejiang Electric Power Co., Ltd., Guangdong Power Grid Guangzhou Power Supply Bureau of State Grid Corporation of China, Power Dispatching and Control Center of Guangdong Power Grid Corporation of China, Marketing Service Center of State Grid Jiangsu Electric Power Co., Ltd.

Service Center, China Electricity Council (Beijing) Technology Development Co., Ltd., Nanjing Chunling Electric Power Technology Co., Ltd., State Grid Shanghai Electric Power Company, State Grid He Beisheng Electric Power Co., Ltd., Shenzhen Lixing Technology Co., Ltd., Guangxi Power Grid Co., Ltd. Electric Power Research Institute, China Southern

Power Grid Co., Ltd.

Limited Liability Company, State Grid Anhui Electric Power Company Limited Electric Power Science Research Institute.

The main drafters of this document are: Guo Mingxing, Jin Xin, Gao Ciwei, Fei Fei, Xiao Yong, Lü Ran, Guo Tao, Zuo Juan, Wang Shuyang, Mou Shanke, Zhang Hao, Zhang Feng, Zhu Qing, Yang Di, Song Meng, Zhang Yang, Zhang Yao, Kong Yueping, Zhu Jinzhou, Gu Hao, Han Jinglin, Li Wenfeng, Lu Jianbin, Liu Xianzhuo, and Wang Xiaoming.

Technical Specifications for Virtual Power Plant Resource Allocation and Evaluation

1 Scope

This document specifies the resource configuration requirements for virtual power plants and describes the resource configuration assessment method for virtual power plants.

This document is applicable to virtual power plant investors, builders, operators and related planning and design units to carry out resource allocation, development and evaluation work.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Virtual power plant; VPP

Through advanced information and communication technology, intelligent metering and optimized control technology, distributed power supply, distributed energy storage and adjustable load Distributed resources such as power grid power generation and distribution are integrated to form a system that can respond to grid demand, participate in power market operation or accept grid dispatch.

3.2 Virtual Power Plant Resources VPP resources

Distributed equipment or systems that can output electrical energy or provide electrical power regulation capabilities.

Note. Including but not limited to distributed power sources, distributed energy storage, adjustable loads and their combinations.

3.3 resources aggregation

The process of analyzing, selecting, classifying and integrating virtual power plant resources (3.2) to form an aggregate unit that can be called by the system.

3.4 resources configuration

According to the regional power system planning scheme and power market environment, consider the virtual power plant resource (3.2) category, electrical location, performance indicators The process of selecting or building new virtual power plant resources (3.2) based on factors such as

3.5 evaluation for resources configuration

The process of calculating various technical and economic indicators and conducting a comprehensive evaluation of the virtual power plant resource allocation (3.4) plan.

3.6 Generation capacity

The maximum value of active power output by the virtual power plant.

Note. When the virtual power plant is in power supply state, the power generation capacity is the maximum value of the active power output of the virtual power plant; when the virtual power plant is in load state When, the power generation capacity is negative and is the negative value of the maximum value of the input active power.

3.7 Regulation capacity

The difference between the maximum output power and the minimum output power that a virtual power plant can achieve according to instructions.

Note. When the virtual power plant consumes power, the output power is negative.