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**NATIONAL STANDARD OF THE  
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**GB/T 42313-2023**

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**Terminology of electrical energy storage system**

电力储能系统术语

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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 modified to adopt IEC 62933-1:2018 "Electric Energy Storage System Part 1: Terminology": Compared with IEC 62933-1:2018, this document has made the following structural adjustments:

---3:12:1 corresponds to 3:13:4 in IEC 62933-1:2018;

---4:3:2~4:3:17 correspond to 4:4:1~4:4:16 in IEC 62933-1:2018;

---6:2:4 corresponds to 6:2:6 in IEC 62933-1:2018;

---6:4:1 corresponds to 7:4 in IEC 62933-1:2018;

---6:4:2 corresponds to 7:5 in IEC 62933-1:2018: The technical differences between this document and IEC 62933-1:2018 and their reasons are as follows:

--- Modified some terms and definitions (see 3:1, 3:2, 3:10:1, 3:10:2, 3:11:1, 3:11:2, 3:11:3, 3:12:1, 4:1:1, 4:1:2, 4:3, 4:3:7, 4:3:8, 4:3:10, 4:4, 4:4:2, 4:4:3, 4:4:4, 4:4:6, 4:6, 4:6:1, 4:9, 4:10, 4:11, 4:12, 4:12:2, 4:12:3, 4:12:4, 5:1:1, 5:2, 5:2:1, 5:2:2, 5:3, 5:4:2, 6:1:2, 6:1:4, 6:1:5, 6:1:6, 6:1:7, 6:1:8, 6:2:5, 6:3:1, 6:4:1, 6:4:2, 7:1 and 7:1:2), to be applicable to the use of the industry in our country, to eliminate ambiguity;

--- Deleted some terms and definitions (see 3:3, 3:10, 4:4 and 6:2:4 in IEC 62933-1:2018);

---Deleted symbols in some terms: The following editorial changes have been made to this document:

---Change the name of the standard to "Terms for Electric Energy Storage System";

---Modified some references: Please note that some contents of this document may refer to

patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed by China Electricity Council: This document is under the jurisdiction of the National Electric Energy Storage Standardization Technical Committee (SAC/TC550): This document is drafted by: State Grid Shanghai Electric Power Company, Shanghai Electric Power Design Institute Co., Ltd., China Electric Power Research Institute Co., Ltd., China Energy Construction Group Guangdong Electric Power Design and Research Institute Co., Ltd., State Grid Shandong Electric Power Company Electric Power Research Institute, State Grid Jiangsu Province Electric Power Research Institute of Electric Power Co., Ltd., Shanghai Electric Power University, China Southern Power Grid Electric Power Technology Co., Ltd., China Southern Power Grid Research Institute Co., Ltd., China Southern Power Grid Peak Regulation and Frequency Regulation Power Generation Co., Ltd: The main drafters of this document: Zhang Yu, Ye Jun, Wei Xinchu, Zhao Xindi, Zhu Zheng, Gao Fei, Ye Chengming, Wang Haojing, Zhou Yu, Meng Yu, Shi Shanshan, Chen Yufeng, Fang Chen, Zhao Binchao, Chen Wensheng, Zhong Guobin, Xu Shouping, Wang Yufei, Shi Mingming, Lei Bo, Li Yongqi, Liu Chun, He Zhipeng, Zhou Min, Hu Zhenkai, Shi Shihong: Electric Energy Storage System Terminology

## 1 Scope

GB/T 42313-2023 fixes the vocabulary of grid energy storage, a field that grew faster than its language. The terms that matter most are the ones used commercially and understood differently by each party: rated capacity and usable capacity, power rating and its duration, round-trip efficiency and where its boundary is drawn, state of health, cycle life and the conditions under which it was measured, and the several kinds of availability. A storage project is contracted and financed on exactly these numbers, so a term that means one thing to a supplier and another to a buyer is not a semantic problem but a commercial dispute waiting to happen. This document defines the terms of electrical energy storage systems across classification, technical requirements, design and installation, operation, environmental impact and safety, and applies to electrical energy storage systems generally rather than to one technology. Under ICS 27.180 and CCS F19, it is the reference underneath the other storage standards, and is written for system manufacturers and integrators, for grid operators and project developers, and for the technical committees drafting the standards that build on it.

This document defines the terms of classification, technical requirements, design and installation, operation, environmental impact and safety of electric energy storage systems: This document applies to electrical energy storage systems capable of absorbing, storing and releasing electrical energy from the electrical system:

## 2 Normative references

This document has no normative references:

### 3 Classification of electric energy storage systems

1 The technology of absorbing, storing, converting and releasing electric energy from the power system by using energy storage medium: 3:

2 Consisting of one or more energy storage units, it is a system that can independently realize the functions of electric energy storage, conversion and release:

Note: The energy storage power station is composed of one or more electric energy storage systems, capable of storing, converting and releasing electric energy: 3:3 grid-connected  
The electric energy storage system is connected to the power system:

Note: See GB/T 2900:50-2008, 601-01-01 for the definition of power system: 3:

4 Low voltage electric energy storage system lowvoltageEESS Electric energy storage system connected to low voltage grid: 3:5 medium voltage electric energy storage system mediumvoltageEESS Electric energy storage system connected to medium voltage grid: 3:

6 High voltage electric energy storage system highvoltageEESS Electric energy storage system connected to high voltage grid: 3:

7 Residential electric energy storage system residentialEESS The electric energy storage system applied to the residential user side:

Note 1: The residential power energy storage system complies with applicable standards such as electromagnetic compatibility of residential equipment:

Note 2: See GB/T 2900:87-2011, 617-02-05 for the definition of resident users: 3:

8 Electric energy storage system applied to industrial, commercial users or other public activity places: