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

GB/T 32507-2024

Power quality - Terminology

电能质量 术语

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Foreword

This document is given in accordance with GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Rule drafting. This document replaces GB/T 32507-2016 "Power Quality Terminology". Compared with GB/T 32507-2016, the main technical changes are.

--- Changed the relevant content of Chapter 1 (see Chapter 1, Chapter 1 of the 2016 edition);

--- Changed the name of

3.8 to "voltage swell, voltage dip and short interruption" (see 3.8, 2.8 of the 2016 edition);

--- Changed the name of Chapter 4 to "Measurement, Monitoring and Evaluation Methods" (see Chapter 4, Chapter 3 of the 2016 edition);

--- Changed the terminology items.

3.1.1 Power quality,

3.1.2 Power supply quality,

3.1.3 Power quality,

3.1.6 Power quality assessment,

3.1.7 Power supply reliability,

3.1.8 Equipment rated voltage,

1 Scope

China's national terminology standard for power quality, and the current edition of GB/T 32507, replacing the 2016 edition. It defines the basic terms of the subject across nine groups - general terms, supply voltage, system frequency, three-phase unbalance, voltage fluctuation and flicker, harmonics, interharmonics and waveform distortion, temporary and transient overvoltage, voltage swell, voltage dip and short interruption, and DC distribution - together with the terms of measurement, monitoring and evaluation, of earthing and shielding, of mitigation technologies and methods, of electromagnetic compatibility, and a final group of others. It closes with an index. Power quality is a field in which almost every term is contested, because the same physical phenomenon is described differently by the network operator whose equipment produced it, the customer whose equipment suffered from it, and the manufacturer whose equipment is blamed for it. A dip and a sag are the same event; a surge means one thing to a utility engineer and another to someone selling a socket strip; a harmonic can be expressed as a group, a subgroup or an individual order and the three give different numbers from the same waveform. Since power quality is also a contractual matter - supply agreements specify it, equipment warranties depend on it, and disputes are settled by reference to it - the vocabulary has to be fixed before anything else can be. That is what this standard does, and the 2024 revision shows the field still moving: it renames the swell and dip clause to match the revised GB/T 30137, renames the measurement clause to include monitoring and evaluation, adds a whole group of terms for DC distribution, and revises more than thirty individual definitions. Issued on 31 December 2024 and in force since 1 April 2025.

This document defines terms and definitions related to the field of power quality. This document applies to relevant areas of power quality technology and management in the

production, transmission, distribution, storage and use of electricity.

2 Normative references

This document has no normative references.

3.1 General terms

3.1.1 Power quality The electrical characteristics at a specified point in the power system are related to the various indicators of voltage, current, and frequency that affect the normal operation (or operation) of electrical equipment. The degree of deviation from the benchmark technical parameters.

Note. Benchmark technical parameters generally refer to the index values under ideal power supply conditions. These parameters may involve the compatibility between power sources, power grids and loads.

3.1.2 Power supply quality A general term for power supply voltage quality, power supply reliability, and power supply service quality.

Note. Refers to the main responsibility of the power supplier in the interaction and influence between the electricity user and the power supplier.

3.1.3 A general term for the interference level of user power load on the public power grid, power factor and non-technical factors. Note

1. Electricity quality refers specifically to the main responsibility of the electricity user in the interaction and influence between the electricity user and the power supplier. Note

2. The interference mainly includes harmonic current, interharmonic current, negative sequence current, zero sequence current, power fluctuation, etc. Note

3. Non-technical factors mainly include using electricity according to regulations and paying electricity bills on time.

3.1.4 Voltage quality The degree to which various indicators of actual voltage deviate from the benchmark technical parameters.

3.1.5 Current quality The degree to which various indicators of actual current deviate from the benchmark technical parameters.

3.1.6 The process of evaluating various power quality indicators through modeling simulation and/or power quality monitoring.

3.1.7 The ability of a power supply system to continuously supply power to users.

3.3.4 Frequency

3.4.2 Positive sequence component,

3.4.3 Negative sequence component,

3.4.4 Zero sequence component,

3.4.5 Unbalance,

3.5.1 Voltage RMS Value curve,

3.5.2 Voltage variation,

3.5.3 Voltage fluctuation,

3.5.4 Voltage variation characteristics,

3.5.5 Steady-state voltage variation,

3.5.7 Flash

3.5.8 Short-time flicker value,

3.5.9 Long-time flicker value,

3.6.1 Waveform distortion,

3.6.2 Waveform quality,

3.6.3 Fundamental frequency,

3.6.4 Fundamental component,

3.6.5 Harmonic source,

3.6.6 Harmonic component,

3.6.11 System harmonic impedance,

3.6.12 Impedance frequency characteristics,

3.6.16 Interharmonic frequency,

3.6.17 Notch/gap,

3.6.18 Characteristic harmonic,

3.6.19 Non-characteristic harmonic,

3.6.20 Quasi-steady-state harmonic

3.6.22 Interharmonic component,

3.6.23 Harmonic content (voltage or current),

3.6.24 Harmonic content rate,