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

DL/T 2016-2019

**General specification for power system overfrequency
generator tripping and separation equipment
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the China Electricity Council.

This standard is under the jurisdiction of the Power Industry Relay Protection Standardization Technical Committee.

1 Scope

This standard specifies the technical requirements, test methods, inspection rules and the Requirements for transportation, storage, etc.

This standard is applicable to the over-frequency cutting machine and over-frequency splitting device (hereinafter referred to as the device) of the power system as the scientific research, design, and Basis for manufacturing, testing, inspection and application. Corresponding technical requirements for safety automatic devices with power system over-frequency cut-off and over-frequency splitting functions Requirements should also follow this standard. The over-frequency cutting machine and over-frequency splitting device of the new energy collection station shall be implemented by reference.

2 Normative references

The references in the following documents are essential. For dated reference documents, only the dated version applies to this document. all for undated references, the latest version (including all amendments) applies to this document.

GB/T 191 Packaging, storage and transportation pictorial signs GB/T 2423.1 Environmental testing of electric and electronic products Part 2: Test method Test A. Low temperature GB/T 2423.2 Environmental testing of electrical and electronic products Part 2: Test method Test B. High temperature GB/T 2423.3 Environmental Test Part 2: Test Method Test Cab. Constant Damp Heat Test GB/T 2423.4 Environmental testing of electrical and electronic products Part 2: Test method Test Db. Alternating damp heat (12h 12h cycle) GB/T 2423.10 Environmental testing of electrical and electronic products Part 2: Test method Test Fc. Vibration (sinusoidal) GB/T 2423.22 Environmental Test Part 2: Test Method Test N. Temperature Change GB/T 2900.1 Basic terminology for electrical engineering GB/T 2900.17 Electrical terminology measuring relay GB/T 2900.49 Electrician Terminology Power System Protection GB/T 4208 Enclosure protection grade (IP code) GB/T 4798.2 Environmental conditions for application of electrical and electronic products Part 2: Transportation GB/T 7261-2016 Basic test methods for relay protection and safety automatic devices GB/T 9361-2011 Computer site safety requirements GB/T 11287 Electrical Relay Part 21: Vibration, Shock, Impact and Seismic Test of Measuring Relay and Protection Device Part 1 Article. Vibration Test (Sine) GB/T 13384-2008 General technical requirements for packaging of mechanical and electrical products GB/T 14285-2006 Technical Regulations for Relay Protection and Safety Automatic Equipment GB/T 14537 Impact and collision test for measuring relays and protection devices GB/T 14598.3 Electrical Relay Part 5: Insulation coordination requirements and tests for measuring relays and protection devices GB/T 14598.24-2017 Measuring relays and protection devices-Part 24: Power system transient data exchange (COMTRADE) general format GB/T 14598.26-2015 Measuring Relays and Protection Devices Part 26: Electromagnetic Compatibility Requirements GB/T 17626.8 Electromagnetic compatibility test and measurement technology Power frequency magnetic field immunity test GB/T 17626.17 Electromagnetic compatibility test and measurement technology DC power input port ripple immunity test GB/T 17626.29 Electromagnetic compatibility test and measurement technology DC power input port voltage sag, short-term interruption and voltage change resistance Disturbance test GB/T 19520.12-2009 Mechanical Structure of Electronic Equipment 482.6mm (19in) Series Mechanical Structure Dimensions Part 3-101.Sub-box and its plugin GB/T 26399-2011 Power System Security and Stability Control Technology Guide GB/T 26864-2011 Power System Relay Protection Product Dynamic Model Test GB/T 32901-2016 General technical requirements for intelligent substation relay protection DL/T 478-2013 General technical requirements for relay protection and safety automatic devices DL/T 667-1999 Telecontrol Equipment and System Part 5: Transmission Protocol Part 103: Supporting Standards for Information Interface of Relay Protection Equipment DL/T 860 (all parts) Substation communication network and system

3 Terms and definitions

GB/T 2900.1, GB/T 2900.17, GB/T 2900.49, GB/T 26399-2011, DL/T 478-2013 and the following the listed terms and definitions apply to this document.

Overfrequency

The power system has excessive active power due to various reasons, and the system frequency has increased abnormally and exceeded the allowable range.

Overfrequency generator tripping and separation equipment After the power system has excessive active power due to various reasons, resulting in an abnormal increase in frequency, the local generator set is automatically removed or the solution is resolved.

A safety automatic device that sends out the power line to restore the system frequency to the operating allowable range.

4.1.1 Normal working atmospheric conditions

The normal working atmospheric conditions are.

- a) Ambient temperature.
- b) Relative humidity.
- c) Atmospheric pressure.

4.1.2 Reference test atmospheric conditions

The atmospheric conditions of the test basis are.

- a) Ambient temperature.
- b) Relative humidity.
- c) Atmospheric pressure.

4.1.3 Ambient temperature for storage and transportation

The ambient temperature for storage and transportation is.

- a) The storage environment temperature is, the relative humidity is not more than 85%;
- b) The transportation environment temperature is, the relative humidity is not more than 85%;

When the storage and transportation environmental conditions exceed the above range, it is determined by the user and the manufacturer.

4.1.4 Surrounding environment

The environmental conditions for installation and operation of the device are as follows.

- a) It should be shaded, protected from rain and snow, protected from lightning, sand and dust, and ventilated;
- b) No electromagnetic interference exceeding 4.11 is allowed;
- c) The site should meet the requirements of Class B safety requirements in GB/T 9361-2011;
- d) The place of use should not have vibrations that exceed the severity level specified by GB/T 11287 as Class I;
- e) Non-explosive medium, the surrounding medium should not contain any medium that can corrode metal, destroy insulation, surface plating and coating.

Conductive medium, no obvious water vapor, no serious molds;

- f) All reliable grounding points at the installation site shall comply with relevant standards.

4.1.5 Special conditions of use

When the normal working conditions specified in 4.1.1, 4.1.3, 4.1.4 are exceeded, it is determined by the user and the manufacturer.

When the ambient temperature of the installation site obviously exceeds 4.1.1 normal working environment conditions, the preferred ambient temperature range is specified as.

- a) Especially cold areas.
- b) Especially hot areas.

4.2.1 DC power supply

The requirements for the DC working power supply of the device are as follows.

- a) DC rated voltage. 110V, 220V;
- b) Allowable deviation.
- c) Ripple coefficient. not more than 5%.

4.2.2 AC circuit

The requirements for the AC circuit of the device are as follows.

- a) Secondary rated value of AC voltage. 3/100 V; 100V;
- b) Rated frequency. 50Hz.