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PEOPLE'S REPUBLIC OF CHINA**

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**Safety code of power supply and consumption for installation
construction engineering
(English Translation)**

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1 General

1.0.1

In order to implement the policy of "safety first, prevention first, and comprehensive treatment" in the power supply and use of construction sites, ensure personal safety and equipment safety in the process of power supply and use at the construction site, and make the construction site The design, construction, operation, maintenance and dismantling of power supply and consumption facilities are safe, reliable, quality guaranteed, economical and reasonable, and this specification is formulated.

1.0.2

This specification applies to general industrial and civil construction projects, the design, construction, operation, maintenance and dismantling of power supply facilities with construction site voltages below 10kV, and does not apply to underwater, underground and mine projects.

1.0.3

The electricity supply and use at the construction site shall comply with the following principles.

- 1 The electric shock hazard that endangers the personnel on the construction site shall be protected;
- 2 The power supply facilities and electric tools at the construction site shall comply with the current relevant national standards, and the circuit insulation shall be good.

1.0.4

The design, construction, operation, maintenance and dismantling of power supply and consumption facilities at the construction site shall comply with the provisions of this code and the provisions of the relevant current national standards.

2.0.1 Electric shock

Physiological effects caused by the passage of electric current through the human or animal body.

2.0.2 Direct contact direct contact

Human or animal contact with live parts.

2.0.3 Indirect contact indirect contact

Contact of humans or animals with exposed conductive parts which become live under fault conditions.

2.0.4 Prefabricated cubical substation

A complete set of power distribution equipment consisting of components such as high-voltage switchgear, power transformer, low-voltage switchgear, electric energy metering equipment, reactive power compensation equipment, auxiliary equipment, and couplings. These components are pre-assembled in one or several boxes in the factory. Inside, it is used to transmit electric energy from the high voltage system to the low voltage system.

2.0.5 Degree of protection

According to the test method specified in the standard, the degree of protection provided by the enclosure against access to hazardous parts, against the ingress of solid foreign objects or the ingress of water.

2.0.6 IP code IP code

A code system indicating the degree of protection of an enclosure against access to hazardous parts, against the ingress of solid foreign objects or against the ingress of water, and additional information related to these protections.

2.0.7 Neutral conductor (N) neutral conductor

A conductor that is electrically connected to a neutral point and can be used for power distribution.

2.0.8 Protective conductor (PE) protective conductor

A conductor provided for protection against electric shock for safety purposes.

2.0.9 Protective grounding neutral conductor (PEN) PEN conductor

A conductor that functions as both a protective conductor (PE) and a neutral conductor (N).

2.0.10 External line external line

Power lines other than power supply lines on the construction site.

2.0.11 Exposed conductive part exposed conductive part

An accessible conductive part of equipment which is not live under normal conditions but which becomes live when the basic insulation is damaged.

2.0.12 Earth-termination system

The sum of ground body and ground wire.

2.0.13 Protective grounding protective earth

Grounding one or more points of a system, installation or equipment for electrical safety.

2.0.14 Earth resistance

The sum of the resistance to ground and the resistance of the grounding wire of the grounding body or natural grounding body. The value of the grounding resistance is equal to the ratio of the voltage of the grounding device to the ground and the current flowing into the ground through the grounding body.

2.0.15 Earth electrode

A conductive part that is buried in soil or a specific conductive medium and has electrical contact with the earth.

2.0.16 Natural earthing electrode

It can be used as various metal components, metal well pipes, foundations of reinforced concrete buildings, metal pipes and equipment that are directly in contact with the earth for grounding.

2.0.17 Safety isolation transformer safety isolation transformer

Isolation transformer designed to provide SELV (safety extra low voltage).

2.0.18 Extra-low voltage extra-low voltage

The voltage that does not exceed the relevant Class I voltage limit specified in the current national standard "Voltage Section of Electrical Installations in Buildings" GB/T 18379 (IEC 60449).

2.0.19 Safety extra low voltage system SELV system

An AC or DC extra-low voltage circuit powered by an isolation transformer or an isolated power source such as a generator or battery. The return conductor is not grounded, and the electrical equipment casing is not intentionally connected to the protective conductor (PE) ground, but it can be in contact with the ground.

2.0.20 Special environment special environment

Plateau, flammable, explosive, corrosive and humid environments are listed as special environments in this specification.

2.0.21 Plateau

According to the concept of geography, the area above 1000m above sea level.

2.0.22 Corrosive environment corrosive environment

The location or place where equipment or materials are damaged or deteriorated due to the presence of chemically corrosive substances and moisture in the atmosphere is called a chemically corrosive environment, which can be referred to as a corrosive environment for short.