

ICS 29.240.20
CCS K 47

DL

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

DL/T 1995-2019

**Insulating platform for live working in substation or converter
station**

(English Translation)

Issued on: June 4, 2019

Implemented on: October 1, 2019

Issued by: National Energy Administration

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Foreword

This standard is based on the rules given in GB/T 1.1-2009 "Guidelines for Standardization Part 1: Structure and Compilation of Standard Compilation" grass.

This standard was proposed by the China Electricity Council.

This standard is under the jurisdiction of the National Technical Committee for Standardization of Live Work (SAC/TC36).

The main drafting organizations of this standard. China Electric Power Research Institute Co., Ltd., State Grid Jinhua Power Supply Company, State Grid North Hebei Electric Power Research Institute Institute Co., Ltd., Yixing Yi'an Electric Power Equipment Manufacturing Co., Ltd., Kunming Feixiang Material Technology Co., Ltd.

1 Scope

This standard specifies the classification, technical requirements, test methods, inspection rules, and transportation of insulating platforms for live work in substations/converter stations and custody, etc.

This standard is applicable to AC 110(66)kV~1000kV substations and $\pm 500\text{kV}$ ~ $\pm 800\text{kV}$ converter stations in areas with an altitude of 1000m and below Insulated platform for electrical work.

2 Normative references

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

GB/T 2900.55 Electrician Terminology Live Work GB/T 5130 Test method for industrial hard laminate of thermosetting resin for electrical use GB/T 13035 Insulated rope for live working GB 13398 Hollow insulating pipe, foam-filled insulating pipe and solid insulating rod for live working GB/T 14286 Terminology for live working tools and equipment GB/T 16927.1 High Voltage Test Technology Part 1: General Definition and Test Requirements GB/T 18037 Basic technical requirements and design guidelines for live working tools GB 26860 Electrical Safety Work Rules for Electrical Parts of Power Plants and Substations DL 779 Insulated rope tools for live working DL/T 878 Test guidelines for insulating tools for live working DL/T 974 Tool warehouse for live working DL/T 976 Preventive test procedures for live working tools, devices and equipment

3 Terms and definitions

The following terms and definitions defined by GB/T 2900.55 and GB/T 14286 apply to this document.

Insulating platform

It is a working platform that is made of insulating materials or the main material is insulating material, carrying live workers and providing main insulation protection.

Main insulation

The insulating parts of the insulating platform used to bear the phase-to-earth voltage play the role of main insulation and are a necessary condition for safe operation.

Impact load

The hanging point of the safety belt of the insulated platform is subjected to the impact force of the free fall of the heavy object at a height.

Custom workload

Work load of the insulated platform determined by the user and the manufacturer through negotiation.

4 Categories

4.1

The insulating platform is divided according to the structure and function, which can be

divided into fixed bracket type and mobile lifting type. The fixed bracket type should be the insulating material and the connecting parts are assembled. The mobile lifting type can be composed of a mobile base and a multi-section suit lifting platform, and the number of installation sections can be adjusted according to the level the height of the platform is determined, or the lifting platform with a scissor structure is adopted.

4.2

The insulation platform is divided into Class I, Class II, and Class III according to the load-bearing capacity, which can be selected according to the weight of the operator and the weight of the equipment.

5.1 General requirements

5.1.1

The design and overall assembly of the insulation platform should meet the requirements of GB/T 18037.

5.1.2

The raw materials of the insulation platform shall pass the type test.

5.1.3

When the hard insulating parts of the insulating platform are made of insulating plates, pipes, profiles, or foam-filled pipes, they shall comply with the regulations of GB 13398. set.

5.1.4

When the soft insulating parts of the insulating platform adopt load-bearing insulating ropes and wind-proof insulating ropes, they shall comply with the regulations of GB/T 13035 and DL 779. set.

5.1.5

The metal parts in the insulating platform should be made of high-strength, light-weight metal materials, generally high-strength aluminum alloy materials.

5.1.6

The surface of the aluminum alloy material parts in the insulation platform shall be anodized, and the surface of the shaft steel parts shall have a protective coating and insulation layer.

The surface of pressure material parts should be treated with insulating paint.

5.1.7

The shape of each part of the insulation platform shall not have sharp edges and corners.

5.2 Structure height and main insulation length

5.2.1

The structural height of the insulation platform and the length of the main insulation shall meet the requirements of Table 1.

5.2.2

The length of the main insulation should be removed from the length of the intermediate connecting devices such as metal joints and the length of short-circuiting during climbing or operation by operators.

Degree, the length of the metal joint includes the part embedded in the insulating surface.

5.3 Electrical performance indicators

5.3.1

The electrical performance test items and requirements of the 110kV~1000kV voltage level insulation platform shall meet the requirements of Table 2.

5.3.2

The power frequency withstand voltage and operation shock withstand voltage test shall have no breakdown, no flashover, and no overheating.

5.4.2 The mechanical properties of the insulated platform of the customized workload shall be the customized workload as the rated load, according to the relationship in Table 4.

Count.

5.4.3 After the mechanical performance test is unloaded, the components of the insulation platform should not be permanently deformed or damaged, and the auxiliary mechanism should be intact.

5.5 Constraint cable requirements

5.5.1

In addition to its own support, the insulated platform should be equipped with insulated cables to impose constraints on the platform. The electrical performance requirements of the insulated cables are the same as those of the platform.

5.5.2

When the overall height of the platform exceeds 10m, a layered cable shall be set, and the restraint position shall be at the top and middle of the platform. Multi-layer lifting platform