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

GB/T 18859-2016

Replacing GB/Z 18859-2002

**Enclosed low-voltage switchgear and controlgear assemblies --
Guide for testing under conditions of arcing due to internal
fault**

封闭式低压成套开关设备和控制设备 在内部故障引起电弧情况下的试验导则

(English Translation)

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Foreword

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

This standard replaces GB/Z18859-2002 "closed low-voltage switchgear and control equipment in the internal fault caused by arc Under the test guidelines ".

This standard compared with GB/Z18859-2002, the main technical changes are as follows.

--- to increase the concept of arc ignition protection zone, all the independent selection of live conductor to make the entire set of equipment into an arc Fire protection zone (see 3.9).

- increase the use of arc level to define the different forms of protection of the arc failure. (1) personnel protection; (2) part of the complete set of equipment damage;

For the limited use of complete sets of equipment (see 4.1).

--- increase the case of arc failure, the complete set of equipment to provide two levels of personnel protection. (1) installed in the skilled technical staff can be close to the area (2) Complete sets of equipment installed in the general accessible area (see 4.2).

- Increased arc ignited protection zone with minimum performance requirements (see Chapter 6).

The use of this standard is equivalent to the use of IEC/T R61641..2014 "closed low-voltage switchgear and control equipment in the internal Test Guidance for Faults in the Case of Faults ".

This standard has made the following editorial changes.

--- Change IEC 60529 in 6.1, 6.3, 8.7 to IEC 60529. 1989, consistent with Chapter 2.

This standard is proposed by China Electrical Equipment Industry Association.

This standard by the National Low Voltage Switchgear and Control Equipment Standardization Technical Committee (SAC/TC266) centralized.

The drafting unit of this standard. Tianjin Electric Science Research Institute Co., Ltd., Tianjin days of electronic control Power Distribution Co., Ltd., Sichuan Electric Co., Ltd., National Electric Power Distribution Equipment Quality Supervision and Inspection Center (Tianjin days of electronic control equipment Testing Co., Ltd.), Zhejiang Qunli Electric Co., Ltd., Zhejiang Three chen Electric Co., Ltd., Hangzhou Xin Mei complete sets of electrical manufacturing Co., Ltd., China Quality Certification Center, Chengdu Branch Star Power Electric Co., Ltd., Ningxia Li Cheng Electric Group Co., Ltd., Shanghai Jing Road Electric Co., Ltd.

1 Scope

This standard gives guidance on the test methods of the complete set of equipment due to internal faults in the air caused by the arc.

The purpose of this test is to assess the limitations of the complete set of equipment caused by the internal arc failure caused by personal injury, complete sets of equipment damage risk and continue to make with the ability to apply.

The test procedure provided by this standard applies only to.

--- Closed, floor-standing or wall-mounted low pressure in line with GB 7251.12 (complete sets of power switch and control equipment PSC complete sets of equipment) Complete sets of switchgear and control equipment.

Note: This standard may be used as a reference document for other product arc fault tests, but taking into account the characteristics of other complete sets of equipment or products, the test procedure and Acceptance criteria.

--- The door and cover of the complete set of equipment are closed and properly secured.

This standard may be used as a guide when an agreement is reached between the user and the manufacturer in a different or worse case.

The test procedure given in this standard should consider.

--- the role of the cover, the door above the internal pressure over the impact;

The thermal effect of the arc or arc root acting on the shell and the thermal effect of the injected hot and luminous particles.

The test procedure given in this standard does not include.

- other effects that can pose a hazard, such as toxic gases and noise;

--- maintenance work, open the door or similar situation;

--- close to the top and bottom of the complete set of equipment.

The test is a voluntary test conducted by the manufacturer.

2 Normative reference documents

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

GB 7251.1-2013 Low voltage switchgear and controlgear - Part 1. General (IEC 61439-1:2011, IDT) GB 7251.2-2013 Low-voltage switchgear and controlgear - Part 2. Complete sets of power switches and control equipment (IEC 61439-2:2011, IDT) IEC 60529. 1989 Enclosure protection class (IP code) [Degrees of protection provided by enclosures (IP Code)] IEC 60529. 1989/AMD1:1999 IEC 60529. 1989/AMD2:2013

3 Terms and definitions

GB 7251.2 Definitions and the following terms and definitions apply to this document.