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

GB/T 28565-2012

**High-voltage alternating-current series capacitor by-pass
switches**

高压交流串联电容器用旁路开关

(English Translation)

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Foreword

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

This standard uses redrafted law revision using IEC 62271-109:2008 "high-voltage switchgear and control equipment Part 109. AC Stream series capacitor bypass switch. " this standard and IEC 62271-109:2008 main differences are as follows.

--- Scope. According to China's circumstances, to apply to the frequency of 50Hz, 66kV and above voltage AC system series capacitance Used bypass switch, remove the relevant contents of the frequency of 60Hz. Consider closing the bypass can be performed at 60Hz test loop and input current type test, it retains the above test next 60Hz relevant content.

--- Rated voltage. According to the Chinese situation, increased 1100kV relevant content.

--- Rated bypass closing current IBP. according to project needs, increased 160kA, peak.

--- Nominal bypass input current IINS. according to project needs, to be equal or greater than the rated current of the capacitor bank.

--- Joint and brake release action voltage range. According to the Chinese situation, to 65% of rated power supply voltage of closing means (DC) or between 85% to 110% (AC).

--- Shunt opening release action voltage range. According to the Chinese situation, to the opening device rated supply voltage of 85% to 110% between.

--- Plurality of release. according to project needs, the requirements of the rated voltage of 72.5kV and above-ground bypass switch provides two and a joint Opening release.

--- Release of the minimum operating supply voltage. According to the Chinese situation, to not less than 30% of the rated supply voltage.

--- Earlier requirements. According to the Chinese situation, an increase of inter-pole-year requirement. If the provisions of the inter-pole operation does not provide for the same period Special requirements, contact the biggest difference when closing moment of contact should not exceed a quarter of the nominal cycle frequency, sub-gate contact the biggest difference separating the moment should not exceed six per week rated frequency wave.

--- Factory mechanical operation test. According to China, the requirements on the full bypass switch, including 50 points - combined cycle operation.

--- Field operation test. According to China, the mechanical operation test required by the factory.

The chapters in this standard, the order of the arrangement with the IEC 62271-109:2008 "high-voltage switchgear and control equipment Part 109. AC Stream series capacitor bypass switch" basically the same.

The standard proposed by China Electrical Equipment Industrial Association.

This standard by the national high-voltage switch equipment Standardization Technical Committee (SAC/TC65) centralized.

This standard was drafted. China Electric Power Research Institute, Xi'an High Voltage Apparatus Research Institute Co., Ltd., Henan high level of electrical shares have Ltd., New Northeast Electric (Shenyang) High Voltage Switchgear Co., Ltd. Xi'an high-voltage electrical, Northeast Power Grid Corporation, North Beijing Guodian North China Power Engineering Co., Ltd., East China Electric Power Research Institute, Shaanxi Electric Power Research Institute, ABB China Ltd., Simon Sub (Hangzhou) High Voltage Switchgear Co., Ltd., Suzhou AREVA High Voltage Electric Co., Sunrise Holdings Limited.

1.1 Scope

This standard specifies the high-voltage AC series capacitor bypass switch to the technical requirements, including ratings, design and construction, to test Requirements, installation, operation and maintenance rules.

This standard applies to the design, installation and operation in outdoor AC frequency 50Hz, voltage 66kV and above systems in the series capacitors Bypass switching.

This standard applies only to three-phase system bypass switch.

This standard also applies to the bypass switch actuator and its auxiliary equipment.

1.2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 1984-2003 high voltage AC circuit breaker (IEC 62271-100:2001, MOD) GB/T 2900.20-1994 Electrotechnical terminology voltage switchgear (neq IEC 60050. 1984) GB/T 4473 high-voltage AC circuit breaker synthetic test (GB/T 4473-2008, IEC 62271-101:2006, MOD) GB/T 6115.1-2008 Series capacitors for power systems - Part 1. General (IEC 60143-1:2004, MOD) GB/T 6115.2-2002 Series capacitors for power systems - Part 2. Protective equipment for series capacitor banks (IEC 60143-2:1994, IDT) GB/T 11022-2011 high-voltage switchgear and control equipment standard common technical requirements (IEC 62271-1:2007, MOD) GB/T 12022 Industrial sulfur hexafluoride (GB/T 12022-2006, IEC 376, IEC 376A, IEC 376B, MOD) GB/T 16927.1 High-voltage test techniques - Part 1. General definitions and test requirements (GB/T 16927.1-2011, IEC 60060-1:2010, MOD)

BIPM, IEC , IFCC, ISO , IUPAC, IUPAP, OIML.1995 Guide to the Expression of Uncertainty in Measurement

2 Normal and special service conditions

Shall comply with GB/T 11022-2011 Chapter 2.

3 Terms and Definitions

GB/T 2900.20-1994, GB 1984-2003, GB/T 6115.1-2008, GB/T 6115.2-2002 and GB/T 11022-2011 and defined the following terms and definitions apply to this document.

Generic term general terms 3.1.101 Switching and control equipment
switchgear and controlgear [GB 1984-2003 of 3.1.101]