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

GB/T 6115.2-2017

Replacing GB/T 6115.2-2002

**Series capacitors for power systems -- Part 2: Protective
equipment for series capacitor banks**

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2002 edition 1.3.28);

2002 edition 2.1.1.3);

4 6. 3. 2., 4. 6. 3. 2. 3, 4. 6. 3. 2. 4,.2002 ... 2.4.3.1);

2002 edition 3.7);

1 Scope

4.1 Examples of different overvoltage protection schemes.

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Foreword

GB/T 6115 "series capacitors for power system" is divided into the following sections.

--- Part 1. General principles;

--- Part 2. Series capacitor with protection equipment;

--- Part 3. Internal fuse;

--- Part 4. Thyristor controlled series capacitors.

This section GB/T 6115 Part 2.

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

This Part replaces GB/T 6115.2-2002 "Series capacitors for power systems Part 2 - series capacitor bank protection equipment",

The main technical changes compared with GB/T 6115.2-2002 are as follows.

--- Modify the definition of "protective equipment" (see Chapter 1,.2002 edition 1.1);

--- Removed "discharge equipment", "discharge voltage (variable resistor)", "capacitor group internal fault", "insulation level", "protection room

Gap ", 5 terms; (see.2002 edition 1.3.14, 1.3.15, 1.3.17, 1.3.23, 1.3.40);

--- Added "trigger on bypass clearance", "swing current", "through the fault current, part of the fault current", "variable resistor with

Current "," voltage breakdown conduction bypass gap "," auxiliary gap "six terms (see 3.14,3.44,3.49,3.55,3.57,3.58);

--- Change "(max.) Continuous operating voltage MCOV" to "continuous operating voltage COV, variable resistor MCOV" (see 3.10,

2002 edition 1.3.28);

--- Combine "Capacitor-Operable Pole" and "Pole (Capacitor-Operable Pole)" Modifications to "Module, (Capacitor-Operable) Pole"

(See 3.25,.2002 edition 1.3.11, 1.3.25);

--- For the "Test of Protective Gaps" section, follow the "Overview", "Trigger Circuit", "Trigger Gap", "Main Gap", "Voltage Breakdown Conduction

Clearance test ", triggering the gap test "and" special test (type test) "The idea of adding seven parts (see 4.2.3,

2002 edition 2.1.1.3);

--- For the "main gap" of the "type test" part, an increase of pilot projects, while refining the various test procedures and acceptance conditions (see

4.2.2.3.2.2,.2002 edition 2.1.1.3.1.1);

--- Removed the "trigger circuit" of various types of type test and factory test, an increase of "voltage breakdown conduction gap test" and

"Triggering the conduction gap type test" (see 4.2.3.5.4.2.3.6,.2002 edition 2.1.1.3.2);

--- Increased protection of the gap "special test (type test)" (see 4.2.3.7);

--- Modify the routine testing of variable resistors and type tests (see 4.3.3,.2002 edition 2.1.2.3);

--- Change "bypass circuit breaker" to "bypass equipment" and delete the test contents of "bypass circuit breaker" (see 4.4,.2002 version 2.2.3);

--- Modify the "use of bypass disconnectors" (see 4.5.2.1,.2002 edition 2.3.1.1);

--- For the "isolating switch and earthing switch" added a routine test and type test project (see 3.5.3,.2002 version 2.3.3);

--- Modified routine and type tests for "discharge current limiting damping equipment (DCLDE)" with the addition of special tests (see

4 6. 3. 2., 4. 6. 3. 2. 3, 4. 6. 3. 2. 4,.2002 ... 2.4.3.1);

--- Removed the "discharge reactor" of the relevant content (see.2002 version 2.5,3.8);

--- Added "electromagnetic type voltage transformer additional type test" (see 4.7.3.2);

--- Added "coupling capacitor" and "fiber optic platform connector" related content (see 4.9,4.11);

--- Modify the "discharge current limiting damping device" content, an increase of "discharge current limiting damping device position" and other related content (see 5.7,

2002 edition 3.7);

--- Modify the "relay protection, control equipment and platform to ground communication equipment" in the content (see 5.10,.2002 version 3.11);

--- Added "protection redundancy" related content (see 5.11);

--- Added "Appendix A" (see Appendix A).

This section uses the redrafted law to amend the use of IEC 60143-2.2012 "series capacitors for power systems Part 2. Series capacitors

Device group with protective equipment. "

This part of the structure compared with IEC 60143-2.2012 more adjustments, Appendix B lists this part of the IEC 60143-2.2012

Chapter number control list.

This section there are technical differences compared with IEC 60143-2.2012, the provisions of these differences have been passed in the outer margin of its margin

The position of the vertical single (I) was identified in Appendix C is given a list of the corresponding technical differences and their causes.

This part is proposed by China Electrical Equipment Industry Association.

This part of the National Power Capacitor Standardization Technical Committee (SAC/TC45) centralized.

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1 Scope

GB/T 6115 provisions of this part of the series capacitor capacitor protection equipment terms and definitions, quality requirements and testing, application and operation

Bank guidelines and so on.

This section applies to more than 10Mvar each phase capacitor series capacitor protection device. Protective equipment is to prevent damage to the capacitor

Bad or capacitor fault expansion devices, ancillary equipment and technical measures. The requirements of the series capacitor section are given by GB/T 6115.1-2008

Out, GB/T 6115.1-2008 in Chapter 3 and 10.6 refers to the protection of equipment.

The protection equipment involved in this section is as follows.

- Over-voltage protection;
- Protection of spark gap;
- Nonlinear resistors (variable resistors);
- Bypass equipment;
- Isolating switch and grounding switch;
- discharge current limiting damping equipment;
- voltage transformer
- current sensor;
- Coupling capacitor;
- Signal column;
- Fiber platform connector;
- Relay protection, control equipment and platform to ground communication equipment.

4.1 Examples of different overvoltage protection schemes.

Chapter 5 gives the principle of application and operation of series capacitors.

Chapter 5 also gives examples of fault conditions.

The purpose of this section is.

- Formulate uniform rules on performance, testing and rating;
- Describe different types of over-voltage protection;