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

GB/T 7354-2018

Replacing GB/T 7354-2003

High-voltage test techniques -- Partial discharge measurements

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Foreword

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

This standard replaces GB/T 7354-2003 "Partial Discharge Measurement". Compared with GB/T 7354-2003, the main changes are as follows.

--- Modified the definition of the term "digital partial discharge measuring instrument"; added the term "accumulated apparent charge" "number of partial discharge pulses"

Partial discharge mode";

--- Added a list of partial discharge measurement test procedures (for AC, DC);

---Modified the upper and lower limits of the broadband PD measurement system;

--- gives the calibrator - the condition that characterizes the unipolar step voltage amplitude U_0 parameter;

--- In the performance test of the calibrator, an indirect measurement method of the step voltage rise time is given;

--- Added Appendix F partial discharge measuring instrument;

--- Added an assessment of the results of the partial discharge test during the DC voltage test in Appendix I.

This standard uses the redrafting method to modify the IEC 60270.2000 "High Voltage Test Technology Partial Discharge Measurement".

This standard has more structural adjustments than IEC 60270.2000. Appendix A lists this standard and IEC 60270.2000.

The chapter number is compared to the list.

The technical differences between this standard and IEC 60270.2000 and their reasons are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory References", and the specific adjustments are as follows.

* Replace IEC 60060-1 with GB/T 16927.1-2011 modified to adopt international standards;

* Replace IEC 60060-2 with GB/T 16927.2-2013 modified to adopt international standards;

* Replace CISPR16-1.1993 with GB/T 6113.101 equivalent to the international standard;

--- In order to standardize test implementation and measurement, an enumeration of partial discharge measurement test procedures (for AC and DC) has been added;

--- In the performance test of the calibrator, in order to facilitate the operation and practical, an indirect measurement method of the step voltage rise time is given.

This standard also made the following editorial changes.

--- This standard incorporates amendments to IEC 60270.2000/Amd.1.2015, and the terms of these amendments have been adopted.

The vertical double line (||) of the outer side blank position is marked;

--- In the suppression of PD interference, the description of the single-point grounding method applied in China's power grid engineering has been added.

This standard was proposed by the China Electrical Equipment Industry Association.

This standard is under the jurisdiction of the National High Voltage Test Technology and Insulation Coordination Technical Committee (SAC/TC163).

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1 Scope

This standard defines the terminology of partial discharge and related measured parameters, specifies the test circuit used, the measurement circuit, and the general simulation.

And digital measurement methods, and give the calibration method and requirements for calibration instruments, test procedures, criteria for distinguishing between partial discharge and external interference.

This standard applies to electrical equipment, components or systems produced at AC voltage or DC voltage tests with a frequency of 400 Hz or less.

Raw partial discharge measurements.

The provisions of this standard can be used to draft technical conditions for partial discharge measurements of specific electrical equipment. This standard mainly involves pulse type (short duration

Time) Electrical measurements of partial discharges also give non-electrical measurement methods primarily used for partial discharge localization (see Appendix G).

The characteristic diagnosis of a particular power device can be digitized by a partial

discharge signal (see Appendix F) and primarily for partial discharge

The non-electrical measurement method of the bit (see Appendix G) is completed.

This standard mainly describes the electrical measurement method of partial discharge during AC voltage test, and also mentions the special phenomenon that occurs during DC voltage test.

Special problem (see Chapter 4).

This standard terminology, definitions, basic test circuits and procedures are also generally applicable to tests conducted at other frequencies, but may require special

Special test methods and measurement system characteristics, these requirements are not considered in this standard.

Appendix B provides the requirements for calibrator performance testing as a requirement.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 16927.1-2011 Part 1 . General definitions and test requirements (IEC 60060-1.2010, MOD)

GB/T 16927.2-2013 High voltage test techniques - Part 2. Measurement systems (IEC 60060-2.2010, MOD)

GB/T 6113.101 Radio disturbance and immunity measuring equipment and measuring methods - Part 1-1. Radio disturbance and immunity

Measuring equipment measuring equipment (CISPR16-1-1..2010, IDT)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Partial discharge partialdischarge; PD

Electrical insulation between conductors is only partially bridged electrical discharge. This discharge can occur near the conductor or not near the conductor.

Note 1. Partial discharge is generally caused by excessive concentration of local electric fields inside or on the insulating surface. Usually this discharge is characterized by a small