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NATIONAL METROLOGY VERIFICATION REGULATION OF THE PEOPLE'S REPUBLIC OF CHINA

JJG 1075-2012

Verification Regulation of High Voltage Standard Capacitors

高压标准电容器检定规程

(English Translation)

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Introduction

This procedure based on JJF1002-2010 "national verification procedures write rules" establishment.

This procedure uses a reference JB1811-1992 "compressed gas capacitor" relevant compressed gas capacitor measurability Energy requirements and with JJG 496-1996 "frequency high voltage divider" has been promulgated, JJG 563-2004 "high-voltage Yung bridge ", JJG 1021-2007" power transformer "and JJG 314-2010" measuring voltage transformer "phase coordination.

This procedure is the first national verification procedures developed.

High voltage standard capacitor test procedures

1 Scope

The order applies to the nominal frequency of 50 (60) Hz, rated voltage of 10kV or more, and the shield electrode structure High voltage standard capacitor initial verification, subsequent verification and the use of checks.

2. References

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This procedure refers to the following documents.

JJG 496-1996 frequency high voltage divider JJG 563-2004 high voltage capacitance bridge GB/T 16927.1 High-voltage test techniques Part 1. General test requirements for dated references, only the edition applies to the procedure; undated reference documents Member, the latest edition (including any amendments) applies to this procedure.

3 Overview

High voltage standard capacitor is stability of capacitance and dissipation factor of the order of 10-4 or more have reached a high voltage precision Capacitors. Its structure includes a high voltage electrode with a metal electrode material, electrode and a shielding electrode measurements, it must Edge structure includes supporting the high voltage electrode and the insulation of high voltage electrode and the shield electrode holder fixed measurement. gas Insulated high voltage standard capacitor electrode sealed in a pressure vessel, the vessel is filled with SF6, N2, CO2 such must Edge of the gas; standard insulated high voltage electrode is vacuum sealed in a container capacitor in a high vacuum. Loss of tiny solid and Liquid materials may also be used as a standard high-voltage capacitor dielectric.

High voltage standard capacitor of the most important performance measurement of electrical capacity and the loss factor and the operating voltage correlation (Referred to as the voltage coefficient) is extremely small, the order of 10-5 to reach. Therefore their capacity and dissipation factor can be lower Voltage (for example, 10% of the rated voltage) calibration, and then under a high voltage as capacitance and loss factor of the standard device use.

4 metering performance requirements 4.1 capacitance error Under reference conditions shown in Table 1, the high voltage standard capacitor capacitance found on the nameplate or certificate given nominal capacitance Deviation shall not exceed ± 0.3%.

NOTE: When the nameplate value with a valid certificate value inconsistent with a valid certificate values prevail. Articles in the case of the following nameplate value with a valid certificate They are treated similarly inconsistent values.

4.2 Loss Factor

The nominal reference conditions in table 1, high voltage standard capacitor loss factor found on the nameplate or certificate given Loss of value due to deviation shall not exceed ± 1 x 10-4.

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