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JJG

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

JJG 1176-2021

Harmonic Current Transformers

谐波电流互感器检定规程

(English Translation)

Issued on: October 18, 2021 **Implemented on: April 18, 2022**

Issued by: State Administration for Market Regulation

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7.6 Verification Period(6)

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Introduction

JJF1001-2011 "General Metrology Terms and Definitions", JJF1059.1-2012 "Measurement Uncertainty Evaluation and "Representation" and JJF1002-2010 "Rules for the Compilation

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of National Metrological Verification Regulations" together constitute the basis for supporting this regulation Series Specifications.

This specification refers to GB/T 14549-1993 "Power Quality Harmonics of Public Grid", GB/T 20840.1-2010 "Transformer Part 1: General Technical Requirements", GB/T 20840.2-2014 "Transformer Part 2" Points. Supplementary Technical Requirements for Current Transformers", JJG 313-2010 "Current Transformers for Measurement" and JJG 1021 "Power Transformer" and other technical documents.

This regulation is published for the first time.

Harmonic Current Transformer Verification Regulations

1 Scope

This regulation applies to the rated fundamental wave (frequency is 50Hz or 60Hz) installed in the power system of 6kV and above the current is not higher than 3000A, the total harmonic current is not higher than 600A, and the harmonic order is up to the 50th harmonic.

Initial verification, subsequent verification and in-use inspection of wave current transformers. Below 6kV can refer to this regulation.

This regulation does not apply to harmonic current transformers whose secondary output is digital signal.

2 Reference documents this procedure cites the following documents.

JJG 313-2010 Current transformer for measurement JJG 1021 Power Transformer GB/T 14549-1993 Power Quality Harmonics of Public Grid GB/T 20840.1-2010 Transformer Part 1: General Technical Requirements GB/T 20840.2-2014 Transformers Part 2: Supplementary technical requirements for current transformers for dated citations, only the dated version applies to this Regulation; for undated citations the latest version (including all amendments) applies to this regulation.

3 Terms and Definitions the terms and definitions defined in GB/T 20840.1-2010, GB/T 20840.2-2014 and the following apply to this protocol.

A current transformer that can convert primary current containing harmonic components into secondary current in proportion.

The Fourier series decomposition of the periodic AC quantity is carried out, and the components with the same frequency as the power frequency are obtained.

[GB/T 14549-1993, term 3.3] 3.3 harmonic(component) the Fourier series decomposition of the periodic AC quantity is carried out, and the components whose frequencies are greater than 1 integer times of the fundamental frequency are obtained.

[GB/T 14549-1993, term 3.4] 3.4 harmonic order(h) harmonicorder(h) Integer ratio of

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harmonic frequency to fundamental frequency.

[GB/T 14549-1993, term 3.5]

3.5 Harmonic content ratio (HR) the sum of the root mean square value Ih of the h-th harmonic component contained in the periodic AC quantity and the root mean square value I1 of the fundamental wave component ratio (expressed as a percentage).

The h-th harmonic current content is expressed as HRIh.

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