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

GB/T 15544.2-2017

**Short-circuit current calculation in three-phase a.c. systems --
Part 2: Factors for the calculation of short-circuit currents**

三相交流系统短路电流计算 第2部分：短路电流计算应用的系数

(English Translation)

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Foreword

GB/T 15544 "Three-phase AC system short-circuit current calculation" is divided into the following five parts.

--- Part 1. Current calculations;

--- Part 2. Coefficients for short circuit current calculation applications;

--- Part 3. Electrical Equipment Data;

--- Part 4. Simultaneous occurrence of two independent single-phase ground fault currents and currents flowing through the earth;

--- Part 5. Examples.

This part is part 2 of GB/T 15544.

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

This section uses the translation method equivalent to the use of IEC/T R60909-1.2002

"Three-phase AC system short-circuit current calculation Part 1. According to IEC 60909-0 Coefficients for Short-Circuit Current Calculation Applications." the Chinese documents that are consistent with the normatively cited international documents in this section are as follows.

---GB/T 156-2007 standard voltage (IEC 60038:2002, MOD);

---GB/T 15544.3-2017 Short-circuit current calculation for three-phase AC systems Part 3. Electrical equipment data (IEC TR60909-2:2008, IDT).

This section made the following editorial changes.

--- To be consistent with the existing standard series, change the name of this part to "Three-phase AC system short-circuit current calculation Part 2. Short-circuit electricity Flow Calculation Application Coefficients".

This section was proposed by the China Electricity Council.

This part is under the jurisdiction of the National Standardization Technical Committee on short-circuit current calculation (SAC/TC424).

This section drafted by. State Grid Corporation of China State Electric Power Dispatching Control Center, China Electric Power Research Institute, Xi'an Jiaotong University.

1.1 Scope and purpose

This part of GB/T 15544.1 specifies the method for calculating the short-circuit current of a three-phase AC system by introducing various coefficients to meet the standards.

Technical accuracy and simplification requirements. This section describes the various factors introduced in GB/T 15544.1. This section is right the addition of GB/T 15544.1 does not change the standardized calculation method already specified.

1.2 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 version (including all amendments) applies to this document.

GB/T 15544.1-2013 Three-phase AC system short-circuit current calculation Part 1. Current calculation (IEC 60909-0:2001, IDT) GB/T 15544.5-2017 Short-circuit current calculation for three-phase AC systems Part 5. Example (IEC/T R60909-4.2000, IDT) IEC 60038. 1983 IEC standard voltages IEC/T R60909-2.1992 Electrical equipment data for short-circuit current calculation applications according to IEC 60909 (1988) [Electrical equipment-Data for short-circuit current calculations in accordance to IEC 60909(1988)]

1.3.1 Coefficient c

The voltage coefficients c_{max} and c_{min} are used simultaneously with the equivalent voltage source at the short-circuit point to calculate the maximum and minimum initial short-circuit currents.

1.3.2 Coefficients K_G and K_S or K_{SO}

The impedance correction factor K_G , K_S or K_{SO} is introduced when calculating the short-circuit impedance of the generator-generator transformer group.

1.3.3 Coefficients $K_{G.S}$, $K_{T.S}$ or $K_{G.SO}$, $K_{T.SO}$

Short circuit between generator and unit transformer (with or without load adjustment taps), impedance correction system when calculating local short-circuit current Number $K_{G.S}$, $K_{T.S}$ or $K_{G.SO}$, $K_{T.SO}$.

1.3.4 Factor K_T

The impedance correction factor K_T is introduced when calculating the short-circuit impedance of the grid transformer.

1.3.5 Coefficient κ

The peak short-circuit current is calculated using the factor κ .

1.3.6 Coefficient μ , λ , q

Calculate the coefficient used when the AC component of the short-circuit current near the generator or near the induction motor decays.