

NATIONAL STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

Code for design of electrical measuring

Instrumentation for electrical installation

电力装置的电气测量

仪表装置设计规范

GBJ 63-90

Chief editorial department: Former Ministry of Water Resources and Electric Power

Approval department: Ministry of Construction

Date of enforcement: June 1. 1991

NOTICE

This code is written in Chinese and English. The Chinese text shall be taken as the ruling one in the event of any inconsistency between the Chinese text and the English text.

MINISTRY OF CONSTRUCTION P.R.C

July 2 .1990 No. JB [1990] 314

Notice on promulgation of "Code for design of electrical measuring instrumentation for electrical installation"

According to the requirement of the document No.JZ (1986) 2630 of the State Planning Commission. The "code for design of electrical measuring instrumentation device for electrical installation "which was revised by the Ministry of Energy has been jointly examined by relevant sectors. Now: "Code for design of electrical measuring instrumentation for electrical installation" GBJ 63-90 is approved as national standard and will be implemented since June 1 1991. the original "Design code for electrical measuring instrument device for industrial and civil electrical installation "GBJ 63-83 will be abrogated on the same date.

This code is placed under the management of the Ministry of Energy and Southwest Electric Power Design Institute is responsible for the concrete explanation thereof. The standard and norm institute of the ministry of construction is responsible for the organization of publishing and issuing.

MINISTRY OF ENERGE P.R.C

May 1990 Explanation of revision

According to the requirement of the document of the document No.(1986)2630 of the State Planning Commission .the Electric power planning and engineering administration of the former ministry of water resources and electric power is acted as the compiler in charge of this code and the concrete compiling work is jointly carried out by the southwest electric power design institute and related units.

During the course of revision, the code revision team had carried out extensive investigation and research works. Conscientionly summarized the experiences of the implementation of the original code. Assimilated part of scientific research results. Widely solicited for opinions of related units all over the country. Finally, the ministry of construction in junction with relevant sectors examined and finalized the revised code.

This code is divided into 5 chapters with 2 appendices. The main contents of this revision are:

- (1) Clearly stipulated the scope of application of this code.
- (2) Concretely and clearly stipulated the power metering.
- (3) To increase the stipulation for secondary circuit design
- (4) To increase the stipulation for frequency measurement. Synchronous parallel measurement. Harmonic wave measurement and negative sequence current measurement.
- (5) To revise and supplement the regulations for accuracy class of mutual inductor and parts used together with the electrical measuring instrument. In the course of implementation of this code. If there appears any need of amendment or replenishment. Please send your opinions and related data to southwest electric power design institute, Ministry of Energy along with a duplicate to the electric power planning and engineering administration. Ministry of Energy for Reference of further revision.

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1.0 General

- 1.0.1 For the sake of implementing conscientiously the national technical and economical policy in the design of electrical measuring instrumentation for the electrical installation to achieve accurate, reliable, technically advanced rationally economic, as well as to meet the requirement of safety operation of electric equipment and to assess the quality of electric power thus, this code is established.
- 1.0.2 This code is applicable to the design of fossil fuel power plant with unit capacity of 750-25000kw. Hydro-power station with unit capacity of 200-10000kw and substation of voltage level 110kv and below of newly built or extension project.
- 1.0.3 The design of electrical measuring instrumentation for electrical installation shall implement this code and shall also be in accordance with the stipulation in related national standard and code in force.

2.0 Common Measuring Instrument

2.1 General regulations

- **2.1.1** This chapter is applicable to indication instrument. Digital instrument. Recording instrument, fixed on the panel desk, board, cabinet as well as the instrument related mutual inductor, etc.
- 2.1.2 The common instrument shall be in compliance with the following requirements.
 - 1 To respond the operating parameters correctly.
 - 2 To monitor the insulation status of the electric installation circuit constantly
- 2.1.3 The class of accuracy of common measuring instrument shall be selected according to the following requirements.
- 1 Except the harmonic wave-measuring instrument, the class of accuracy for AC circuit instrument shall not be lower than class 2.5.
 - 2 The accuracy class of DC circuit instrument shall not be lower than class 1.5
- 3 The accuracy of instrument at the output side of electrical transmitter shall not be lower than class 1.0
- **2.1.4** The class of accuracy of instrument related mutual induction shall be selected according to the following requirements.
- 1 The mutual inductor accompanied with the common measuring instrument of class 1.5 and class 2.5 shall not be lower than class 1.0
 - 2 The CT accompanied with the electrical transmitter shall not be lower than class 0.5
- 2.1.5 The accuracy class of external shunt accompanied with the DC instrument shall not be lower than class 1.5
- 2.1.6 The accuracy class of electrical transmitter shall not be lower than class 0.5
- 2.1.7 The selection of instrument measuring range and the ration of transformation of CT should satisfy 70%~100% indication on the scale when the electrical installation circuit is



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