

**National Standard of  
The People's Republic of China**

中华人民共和国国家标准 **GB**

**Code for Design of 10kV & Under Electric Substation**

**10 kV 及以下变电所设计规范**

**GB 50053 - 94**

**Bei jing 1994**

## **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.

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**Code for design of 10kV & under electric substation**  
**GB 50053 – 94**

Chief Editing Department: Ministry of Machinery Industry of the People's Republic of China

Sanction Department: Ministry of Construction of the People's Republic of China

Execution Date: November 1<sup>st</sup>, 1994

Bei jing 1994

# **The Notice for the Issuance of the National standard 《Code for design of 10kV & under electric substation》**

**JB No. 201 [ 1994 ]**

Aclining to the requirements of the document of JZ No. 250 (1986) issued by the National Planning Committee, the national standard 《Code for Design of 10kV & Under Electric Substation》 set down by the Design & Research Institute of China Electric Power under the Ministry of Machine-Building Industry associated with other departments concerned have been jointly checked up by the concerning authorities. Now, 《Code for Design of 10kV & Under Electric Substation》 GB 50053 – 94 is approved to be applied as compellent national standard and shall be executed from November 1<sup>st</sup>, 1991.

The original national standard GBJ53-83 《Code for Design of industrial and Civil Electric Substations of 10kV & Under》 shall be abolished simultaneously.

The Ministry of Machine-Building Industry takes charge of management of this code and the Ministry's Design & Research Institute of China Electric Power is responsible for specific explanation while the Standard Ration Research Institute under the Ministry of Construction is responsible for publishing.

**Ministry of Construction of the People's Republic of China**

**March 23<sup>rd</sup>, 1994**

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## **Chapter 1 general principles**

**Article 1.0.1** The establishment of this code serves purpose to make substation design able to ensure personal security, reliable power supply, advanced technology, reasonable economy, easy maintenance and to ensure quality of design.

**Article 1.0.2** This code is applicable for design of newly built, enlarged and reconstructed substations with AC voltage 10kV and under.

**Article 1.0.3** In design of substation, its relationship between shortterm construction and longterm development shall be correctly treated in a lineance with the property, size and development program of the project. That is to say shortterm construction shall be taken as the dominant factor with the combination of shortterm construction and longterm development and the proper consideration of developing possibility.

**Article 1.0.4** The scheme for substation design shall be determined reasonably, considering factors such as property of load, capacity of electricity to be used, features of project, environment of the spot where the substation is located, power supply conditions of the district and saving of electricity energy, etc.

**Article 1.0.5** The equipment and facilities to be used in substation design shall conform to the national or industrial product technical standard. The technically advanced, economical, applicable and energy-saving equipment package shall be selected preferentially and no out-of-date product shall be applied.

**Article 1.0.6** For design of electric substation of 10kV and under, besides the stipulations in this code, other existing stipulations concerning the design standard and code of the country shall also be observed.

## **Chapter 2 Selection of the substation location**

**Article 2.0.1** The selection of location of substation shall be determined via technical and economical comparison and a lineing to following requirements:

- a. The substation shall be close to the center of load;
- b. It shall be convenient for outgoing connection;
- c. The substation shall be close to the side of power supply;
- d. The transportation of equipment shall be convenient;
- e. The substation shall not be located where there exists exquisite vibration or high temperature;
- f. The substation shall not be located where there exists corrosive gas or much dust. When

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