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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

P **GB 50059–2011**

Code for Design of 35kV—110kV Substation

35kV~110kV 变电站设计规范

Issued on September 16, 2011 **Implemented on August 01, 2012**

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General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

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Code for Design of 35kV~110kV Substation 35kV~110kV

GB 50059-2011

Chief Development Department: China Electricity Council

Approval Department: Ministry of Housing and Urban-Rural Development of the People's Republic of China

Implementation Date: August 1, 2012

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Announcement of Ministry of Housing and Urban-Rural Development of the People's Republic of China

No.1162

Announcement on Publishing the National Standard of "Code for Design of 3 5kV~110kV Substation"

"Code for Design of 35kV~110kV Substation" has been approved as a national standard with a serial number of GB 50059-2011, and shall be implemented on August 1, 2012. Therein, Article 3.1.3 is a compulsory provision and must be enforced strictly. The original "Design Code for Substation 35~110kv"GB 50059-92 shall be abolished simultaneously.

Authorized by the Research Institute of Standards and Norms of the Ministry of Housing and Urban-Rural Development, this code is published and distributed by China Planning Press.

Ministry of Housing and Urban-Rural Development of the People's Republic of China

September 16, 2011

Foreword

This code is revised from the original national standard “Design Code for Substation 35~110kv” GB 50059-92 by East China Electric Power Design Institute jointly with organizations concerned according to the requirements of the former Ministry of Construction—“Notice on Development and Revision Plan of National Engineering Construction Standards in 2004” (Jian Biao [2004] No. 67).

During the process of revising this code, the revision group conducted large amount of investigation and study in combination with the actual conditions of China electric power construction and engineering design, extensively solicited for the opinions of nationwide relevant design, management, operation and development organization, absorbed domestic and foreign advanced design concept and method, and finalized upon review.

This code comprises 8 chapters and 3 appendixes, with the main contents: general provisions, selection of the substation location and general plan, electrical part, civil works, fire protection, environmental protection, labour safety and occupational health, and energy saving. Therein, the contents of selection of the substation location and general plan, electrical part, civil works, etc. are revised and supplemented, besides, fire protection, environmental protection, labour safety and occupational health', energy saving, etc. are newly added.

The contents of this revision for this code are:

——Canceling “transformer substation” and changing into “substation”;

——Revising the contents of electrical and civil works and adjusting the chapters and sections;

——Supplementing the content of DC station service;

——Supplementing the content of monitoring & control system;

——Supplementing the content of dispatch automation;

——Supplementing the content of water supply and drainage;

——Supplementing the content of fire protection;

——Adding the content of environmental protection;

——Adding the content of labour safety and occupational health;

——Adding the content of energy saving.

In this code, the provisions printed in bold type are compulsory ones and must be enforced strictly.

The Ministry of Housing and Urban-Rural Development of the People's Republic of China is in charge of the administration of this code and the explanation of the compulsory provisions; China Electricity Council Standardization Center is responsible for specific management and East China Electric Power Design Institute is responsible for the explanation of specific technical contents. During the process of implementing this code, all organizations are kindly requested to seriously sum up experience in combination with engineering practice and accumulate data, and feed back any opinions and advice, whenever necessary, to East China Electric Power Design Institute (Address: No. 409, Wuning Road, Shanghai, 200063, China) for future reference.

Chief Development Organizations, Participating Development Organizations, Chief Drafting Staff and Chief Examiners of this code:

Chief Development Organizations: East China Electric Power Design Institute

Shanghai Electric Power Design Institute Co., Ltd.

Participating Development Organizations:

MCC Capital Engineering & Research Incorporation Limited

SINOPEC Nanjing Design Institute

Chief Drafting Staff: Yu Zheng, Wang Xiaojing, Tang Hongde, Chao Qiong, Ye Jun, Wang longdi, Zhu Tao, Wang Xiangping, Wei Yi, Liu Aiqin, Mao Jianqin, Huang Ping, Wang Zheng, Lu Tinglong, Zhuang Wenliu, Pu Songfu, Shi Xicai

Chief Examiners: Xia Quan, Zong Ming, Qin Jianxin, Li Yihong, Zhang Guijuan, Wang Yong, Wang Xiaoping, Si Fuxuan, Wang Jingman, Sun Jingyu

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1 General Provisions

1.0.1 This code is formulated with a view to normalizing substation design and enabling such design to meeting the national relevant policies, laws and regulations, and to achieve safety and reliability, economy and rationality requirements.

1.0.2 This code is applicable to the substation design of construction, expansion and renovation works with voltage 35kV~110kV and single transformer capacity 5000kV • A or above.

1.0.3 The substation design shall be based on 5~10 years' development plan of the works and achieve the combination of long and short term, give priority to short term, correctly handle the relation between short-term construction and long-term development, and reserve the expansion possibility as required.

1.0.4 The substation design shall depart from overall situation, give overall consideration and reasonably determine the design scheme according to load nature, power capacity, environment characteristics and in combination with local development level.

1.0.5 The substation design shall persist in the principle of resource saving and social benefit compromise.

1.0.6 The substation design shall not only comply with the requirements of this code, but also those in the current relevant standards of the nation.

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