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NATIONAL STANDARD OF  
THE PEOPLE'S REPUBLIC OF CHINA

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Code for design of small-size power plant

小型火力发电厂设计规范  
GB50049-94

Issue date: November 5, 1994

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NATIONAL STANDARD OF  
THE PEOPLE'S REPUBLIC OF CHINA

**CODE FOR DESIGN OF  
SMALL-SIZE POWER PLANT**

**GB 50049-94**

Chief Editorial Department : The Ministry of Electric Industry, P.R.C

Approved Department : The Ministry of Construction, P.R.C

Date of Implementation : July 01, 1995

## NOTE

This book is the English translation of Code for design of small-size power plant GB50049-94. In the event of any inconsistency between the Chinese-language text of the Code and the present English-language text of the Code, the Chinese-language text shall be taken as ruling.

## **Document of The Ministry of Construction , P.R.C**

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### **Jianbiao(1994) No.670**

#### ***Notice concerning Promulgating of the national standard "Code for design of small-size power plant "***

In accordance with the requirements of (1989) No.30 file issued by State Planning Commission, the "Code for design of small-size power plant" edited mainly by Ministry of Electric Industry and revised by Ministry of Electric Industry and other relevant units has been examined and approved as a standard. Now GB50049-94 "Code for design of small-size power plant" is approved as a compulsory national standard, and it is put into effect from July 1,1995. At the same time, primary national standard GBJ49-83 "Code for design of small-size power plant" is abolished.

This Code shall be in charge of technical supervision of Ministry of Electric Industry, P. R. C. Electric Power Reconnaissance Design Institute of Henan Province shall be responsible for the explanation and interpretation of this Code. And the Research Institute for Standards and Norms of Ministry of Construction shall organize its publication.

**The Ministry of Construction, P. R. C  
November 5, 1994**

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## 1. General

- 1.0.1 In the design of small-size power plant (power plant in brief as follows), the code is made in order to follow basic construction guideline and policy of China, first put heat and electricity cogeneration into practice, pursue economic and social benefits, save energy and engineering investment, save raw material, decrease construction duration, utilize coal minerals to local conditions, realize comprehensive utilization, save water and land consumption, protect environment, execute present national regulations such as labor security and industry sanitation, accord with national status, make economy reasonable, make operation safe and reliable.
- 1.0.2 The code is adaptable to the design of new-built or expanded coal-fired power plant with pressure parameters of hypo-middle-pressure, middle-pressure and hypo -high-pressure, 20~130t/h rated capacity of single boiler, 1.5~12MW power of heat supply turbine, 3~25MW power of condensing turbine.
- 1.0.3 The ascertainment of power plant type should accord with the regulations listed below.
- 1.0.3.1 According to the thermodynamic plan in urban area, the present status and development of heat/electrical load, and the characteristics and magnitude of thermodynamic load, heat supply power plant should be built in reasonable and economic heat supply range.
- 1.0.3.2 According to thermodynamic plan in urban area, condensing power plant with proper capacity should be built with the adaptation to local conditions in some area lack of power or without power when the coal is abundant but the traffic is inconvenient, and in some area where little waterpower is in majority.
- 1.0.3.3 Self-supply heat supply power plant of enterprise with proper size can be built according to the requirements of heat and electrical load for enterprise development.
- 1.0.4 The unit type selection of heat supply power plant should rely on the principles of “electricity depending on heat”. It should be ascertained according to the magnitude and characteristics of heat load only after technical and economical evaluation is reasonable.
- 1.0.5 The selection of unit pressure parameters in power plant should be planned in long-term and short-term construction and should accord with the regulations listed below.
- 1.0.5.1 The unit with the single capacity of 1.5MW in heat supply power plant should adopt hypo-middle-pressure or middle-pressure parameters. The unit with capacity of 3MW should adopt middle-pressure parameters. The unit with capacity of 6MW should adopt middle-pressure or hypo-high-pressure parameters. And the unit with the capacity of 6MW and above should adopt the hypo-high-pressure parameters.
- 1.0.5.2 The unit with the single capacity of 3MW in condensing power plant should adopt hypo-middle-pressure parameters. And the unit with the capacity of 6MW and above should adopt the middle-pressure or hypo-high-pressure parameters.
- 1.0.5.3 The units in the same power plant should adopt the same parameters.
- 1.0.6 The unit amount of power plant should not exceed six for heat supply power plant and not exceed 4 for condensing power plant.
- 1.0.7 A general plan should be made for power plant according to plan capacity. New-built power plant can built in one-shot or phased construction according to load increasing speed and plan capacity. Main control building (house), shore-side water pump house can



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