

HG

CHEMICAL INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HG/T 20508-2014

Replacing HG/T 20508-2000

Design code for control room

控制室设计规范

(English Translation)

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Foreword

This code was revised in accordance with the requirements of the "Notice on Issuing the First Batch of Industry Standard Development and Revision Plans for 2010" of the Ministry of Industry and Information Technology (Gong Xin Ting Ke [2010] No. 74) and of the "Notice on Forwarding the Notice of the General Office of the Ministry of Industry and Information Technology on Issuing the First Batch of Industry Standard Development and Revision Plans for 2010" of the China Petroleum and Chemical Industry Federation (Zhong Shi Hua Lian Zhi Fa [2010] No. 222). Entrusted by the China Petroleum and Chemical Engineering Survey and Design Association, the National Chemical Industry Automatic Control Design Technical Center Station organized SINOPEC Ningbo Engineering Co., Ltd. to carry out the revision.

From its date of implementation, this code replaces "Regulations for control room design" HG/T 20508-2000.

The main technical contents of this code are as follows: Part 1, General provisions; Part 2,

Terms; Part 3, Control room, including general requirements, location on the general layout, arrangement and area, architecture and structure, natural lighting and artificial lighting, heating, ventilation, air conditioning and environmental conditions, cable entry mode and indoor cable laying, installation and fixing of equipment, health, safety and environmental protection design requirements, and communication and CCTV systems; Part 4, Field auxiliary room.

Compared with HG/T 20508-2000, the main changes of this code are as follows:

1. "Central control room for distributed control systems" has been changed to "control room";
2. The content on control rooms for conventional instruments has been deleted;
3. Content relating to the central control room and the field auxiliary room has been added;
4. Content on health, safety and environmental protection design requirements has been added.

This code was proposed by and is under the jurisdiction of the China Petroleum and Chemical Industry Federation.

SINOPEC Ningbo Engineering Co., Ltd. is responsible for the interpretation of the technical contents of this code. Any comments and suggestions arising in the course of implementing this code should be sent to SINOPEC Ningbo Engineering Co., Ltd. (address: No. 660 Yuanshi Road, National Hi-tech Zone, Ningbo, Zhejiang Province; postcode: 315103) for reference in future revisions.

Chief editorial organization of this code: SINOPEC Ningbo Engineering Co., Ltd.

Participating organization: China Petroleum Engineering and Construction Corporation.

1 General provisions

1.0.1

This code is formulated in order to unify the technical requirements for control rooms in the chemical industry, to promote the standardization of control room engineering design, and to achieve the objectives of advanced technology, economic rationality, safety and suitability for use.

1.0.2

This code specifies the requirements for the automatic control engineering design of control rooms, central control rooms and field auxiliary rooms.

1.0.3

This code is applicable to the automatic control design of control rooms, central control rooms and field auxiliary rooms of new, expanded and revamped chemical engineering

projects.

1.0.4

In addition to complying with the requirements of this code, the design of control rooms shall also comply with the provisions of the current relevant national standards.

2.0.1 control room

A building located within a chemical process unit or integrated unit, having the functions of production operation, process control, advanced control and optimization, safety protection, instrument maintenance, etc.

2.0.2 central control room

A comprehensive building located within a chemical plant, having plant-wide functions of production operation, process control, safety protection, advanced control and optimization, instrument maintenance, simulation training, production management, information management, etc.

2.0.3 local control room

A building located in the field at the utilities, storage and transportation systems, auxiliary units or package units of a chemical plant, having the functions of production operation, process control, safety protection, etc.

2.0.4 field auxiliary room

A building located in the field of a chemical plant, used to house control system cabinets and other equipment.

3.1 General requirements

3.1.1

The engineering design of control rooms shall meet the requirements of occupational health, safety and environmental protection.

3.1.2

The provision of control rooms and central control rooms shall be determined according to the scale and characteristics of the chemical project, taking into account the different requirements of the management and production modes.

3.2 Location on the general layout

3.2.1

The location on the general layout of control rooms for units of different scales shall comply with the following provisions:

- 1 The control room should be located within the unit or integrated unit and shall be located outside hazardous areas with explosive atmospheres;
- 2 The central control room should be arranged in the production management area.

3.2.2

For process units containing flammable, explosive, toxic, harmful, dusty, water-mist or corrosive media, the control room should be located on the downwind side of the wind direction with the minimum annual frequency in the region.

3.2.3

The control room should not be arranged close to main roads used for transporting materials.

3.2.4

The control room shall be located away from sources of high noise.

3.2.5

The control room shall be located away from sources of vibration and from places with strong electromagnetic interference.

3.2.6

The control room shall not be arranged adjacent to warehouses for hazardous chemicals.

3.2.7

The control room shall not be adjacent to the main substation.

3.2.8

The control room should not be adjacent to area substations and distribution stations; where it has to be arranged adjacent to them owing to site constraints, they shall not share the same building.

3.2.9

The central control room shall not be adjacent to substations and distribution stations.

List of quoted standards

GB 50116 Code for design of automatic fire alarm system

GB 50160 Fire prevention code of petrochemical enterprise design