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GB 50030-2013

Code for design of oxygen station
氧气站设计规范

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

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

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

No.: 262

Announcement of ministry of Housing and Urban-Rural Development on Publishing the
National Standard of *Code for Design of Oxygen Station*

Code for Design of Oxygen Station has been approved as a national standard with a serial number of GB 50030-2013 and shall enter into force as of July 1, 2014. Wherein, 1.0.3, 3.0.2(2), 3.0.4, 3.0.5, 3.0.6, 3.0.9, 3.0.10, 4.0.8, 4.0.16, 4.0.23(1,2), 6.0.12, 6.0.13, 7.0.3, 7.0.4, 7.0.5, 7.0.8, 7.0.11, 8.0.2, 8.0.7, 8.0.8, 10.0.1, 10.0.4, 11.0.2(1,2), 11.0.3(1,2,3,4), 11.0.4(1), 11.0.5, 11.0.7, 11.0.12(1) and 11.0.17 are compulsory provisions and must be strictly enforced. Original national standard *Code for Design of Oxygen Station* GB 50030-91 shall be abolished simultaneously.

The Code is organized by Standard Rating Research Institute of our department and published and distributed by China Planning Press,

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

December 19, 2013

Foreword

According to the original requirements of document Jian Biao [2005] No. 124 issued by Ministry of Construction (MOC)-*"Notice on Printing the Development and Revision Plan (the 2nd Batch) of National Engineering Construction Standards in 2005,"* this Code is revised by China IPPR International Engineering Co., Ltd. and China Electronics Engineering Design Institute jointly with other organizations concerned.

This Code has been finalized after examine through deep investigation and research, carefully learning practical experience (referring to relevant international standards and advanced foreign standards) and widely seeking advice from all aspects during the revision process.

This Code comprises 11 chapters and 4 appendixes with the main contents as follows: general provisions, terms, layout of oxygen station, process system, process device, process arrangement, architecture and structure, electrical and instrumentation, water supply, drainage and fire protection, heating and ventilation and oxygen pipeline etc.

The revision of this Code extends the applicable scope from the design of oxygen station that uses cryogenic method to produce oxygen, nitrogen and other air-separation products and has a less than 300m³/h of per unit production capacity to the design of oxygen station that uses cryogenic method and normal-temperature method to produce oxygen, nitrogen and other air-separation products and has various scales. Accordingly, relevant adjustment and modification have been made to the contents of each chapter.

The articles in bold-face marked in the Code are the mandatory articles, which shall be performed strictly.

Ministry of Housing and Urban-Rural Development of the People's Republic of China is responsible for the management and interpretation for the mandatory articles of this Code, the China Electricity Council is responsible for daily management, and the China IPPR International Engineering Co., Ltd. is responsible for the interpretation of the specific technical contents. All relevant organizations are kindly requested to sum up and accumulate your experiences in actual practices during the process of implementing this Code. The opinions and advice can be posted to China IPPR International Engineering Co., Ltd. (Address: No. 5 of North Xisanhuan Road, Beijing, Postal Code: 100089, Fax:

010-68732907), for the reference of future revision.

Organization unit, editor units, participating editor units, participating units, main drafters and main examiners of the Code:

Organization unit: China Exploration & Design Association

Contents

1	General provisions	1
2	Terms	2
3	Layout of oxygen station	4
4	Process system.....	10
5	Process equipment	15
6	Process arrangement.....	18
7	Architecture and Structures.....	22
8	Electrical and instruments.....	24
9	Water supply, drainage, and fire protection.....	27
10	Heating and ventilation	28
11	Oxygen pipeline.....	29
	Appendix A Type of fire risk and minimum fire resistance rating of each room in air separation plant and oxygen station.....	41
	Appendix B The minimum clear distance between overhead oxygen pipeline and pipe rack in plant area and buildings, structures, railways and roads	43
	Appendix C The minimum clear distance between overhead oxygen pipeline and other overhead pipelines in plant area and workshop	45
	Appendix D The minimum clear distance between underground oxygen pipeline in the plant area and buildings, structures and other underground pipelines.....	46
	Explanation of Wording in this Code	48
	List of quoted standard.....	49

1 General provisions

1.0.1 The Code is formulated with a view to keep advanced technology, rational economy and comprehensive utility of the engineering design of oxygen station in order to save energy, protect environment and guarantee safety production.

1.0.2 The Code is applicable to the following designs of constructed, renovated and extended oxygen stations and their pipeline engineering.

1 Design of oxygen station that uses cryogenic air-separation method to produce oxygen, nitrogen, argon and other gaseous or liquid products;

2 Design of oxygen station that uses normal-temperature air-separation method to produce oxygen, nitrogen, argon and other gaseous or liquid products;

3 Design of gasification station for oxygen, nitrogen, argon and other liquid air-separation products;

4 Design of manifold room for oxygen, nitrogen, argon and other gaseous air-separation products;

1.0.3 **The type of fire risk and minimum fire resistance rating of each room in oxygen station shall meet the requirements of Appendix A of the Code.**

1.0.4 In addition to comply with the Code; the design of the oxygen station shall comply with the provisions of existing national standards.

2 Terms

2.0.1 Oxygen station

It is a general term of oxygen produce station, oxygen pouring station or oxygen pressing station, outdoor process device and other relevant architectures and structures established in accordance with process requirements to prepare and supply oxygen, nitrogen, argon and other air-separation products with the cryogenic method or normal-temperature method.

2.0.2 Oxygen produce station

It is a main and secondary workshop architecture used for arranging process device for preparing oxygen and other air-separation products.

2.0.3 Oxygen pouring station

It is a main and secondary workshop architecture used for arranging process device for compressing, pouring, storing and conveying oxygen, nitrogen, argon and other air-separation products.

2.0.4 Oxygen compression station

It is a main and secondary workshop architecture used for arranging process device for compressing and conveying oxygen and other air-separation products.

2.0.5 Rare gas room

It is a main and secondary workshop architecture used for arranging process device for purifying rare gas.

2.0.6 Gasification station

It is an architecture mainly used for arranging storage tanks and gasification device of liquid air-separation products.

2.0.7 Manifold room

It is a architecture used for arranging manifolds or bundles of gas cylinders for conveying oxygen, nitrogen, argon and other gases to supply users and store a certain number of gas cylinders.

2.0.8 Full cylinder

It is a gas cylinder with a certain pouring pressure, generally referring to a gas cylinder



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