

# PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# 中华人民共和国行业标准

CJJ 58-2009

Ρ

Record No. J 967-2009

Technical Specification for Operation, Maintenance and Safety of City and Town Waterworks

城镇供水厂运行、维护及安全技术规程

# Ministry of Housing and Urban-rural Development of the People's Republic of China (MOHURD)

#### **Public Notice**

No. 444

# Notice on Issuance of Industrial Standard Technical Specification for Operation, Maintenance and Safety of City and Town Waterworks

Technical Specification for Operation, Maintenance and Safety of City and Town Waterworks is hereby approved as industrial standard with the number of CJJ 58-2009 and shall take effects from August 1, 2010. Where, 2.1.4, 2.2.1, 2.7.1, 2.8.6, 3.1.2, 3.1.4, 4.1.1, 4.1.3, 4.13.2, 4.13.4, 9.1.1, 9.1.5, 9.2.2, 9.2.3, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.7, 9.3.8, 9.3.9, 9.3.11, 9.3.12, 9.13.13, 9.3.14, 9.3.16, 9.4.1, 9.4.3, 9.5.2, 9.5.5, 9.5.6, 9.5.8, 9.5.9 and 9.5.10 are compulsory provisions and must be strictly enforced. Original Operation, Maintenance and Safety Technology Specification for Urban Water Supply Plant CJJ 58-94 shall be repealed simultaneously.

The Specification is published and distributed by China Building Industrial Press organized by standard rating research institute of our department.

Ministry of Housing and Urban-Rural Development of the People's Republic of
China (MOHURD)
November 24, 2009

#### **Foreword**

According to the requirements of *Notice on Issuance of Formulation and Modification Plan for Urban Construction in Engineering Construction and Construction Engineering Industrial Standard in 2004* (JB[2004] Document No.66), the specification preparation team modifies the specification based on extensive research, conscientiously summary of practical experience, reference to relevant international standards and extensive opinion seeking.

The main technical contents of the Specification are: 1 General Provision; 2 Water Quality Monitoring; 3 Water Production Process; 4 Operation of Water Supply Facilities; 5 Operation of Water Supply Equipment; 6 Maintenance of Water Supply Facilities; 7 Maintenance of Water Supply Equipment; 8 Operation and Maintenance Automatic System; 9 Safety.

The main amendments are: add online monitoring, pretreatment and deep treatment process, sludge treatment, groundwater treatment, lightning protection device and automatic system and other related content.

The articles written in bold-face in this Specification are the mandatory provisions, which shall be strictly implemented.

Housing and Urban-rural Construction Department is responsible for management of the Specification and interpretation of compulsory provisions, and China Urban Water Association is responsible for the interpretation of specific technical contents. Any comments or suggestions during the execution please send to China Urban Water Association (Address: Housing and Urban-rural Construction Department, No. 9 Sanlihe Road, Haidian District, Beijing; Postal Code: 100835).

Units engaged in China Urban Water Association codification of the Beijing Waterworks Group Co., Ltd.

Specification:

Units engaged in Tianjin Waterworks Group Co., Ltd.
codification of the Shanghai Waterworks Shibei Co., Ltd.
Specification: Wuhan Water Service Group Co., Ltd.
Shenzhen Water Service (Group) Co., Ltd.

The main drafters of	Liu Zhiqi	Ning Ruizhu	Xu Yang	Liu Yongkang
this Specification:				

una opconication.				
	Liu Baide	Zhao	Shu Fuxing	Wang Fuju
		Shunping		
	Zhao Guizhi	Gu Junnong	Song Tao	Liang Zaihui
	Xu Yan	Gan Baolin	Han Yanping	Sun Youchun
	Tian Baoyi	Yang Zuping	Bao Shirong	Lu Yujun
	Fan Aili	Lu Yixin	Zeng Zhuo	Yu Shaoxian
Main examiners of	Wang	Song Renyuan	Hong Juemin	He Wenjie
this Specification:	Zhansheng			
	Yue Shunlin	Han Qingxiang	Zhang Jinsong	Fan Kangping

Wang Qiang

## Contents

1	Gene	ral Provisions	1
2	Wate	r Quality Monitoring	2
	2.1	General Requirement	2
	2.2	Raw Water	2
	2.3	Quality Check Point in Water Purification Processes	2
	2.4	The Indicator and Frequency of Water Quality Test	3
	2.5	Test Method	
	2.6	Online Monitoring	4
	2.7	Water Purification Chemical and Material	4
	2.8	Quality Control	7
3	Wate	r Producing Process	
	3.1	General Requirement	
	3.2	Quality Control	
4	Opera	ation of Water Supply Facilities	
	4.1	Water Intake	
	4.2	Raw Water Supply Pipeline	
	4.3	Pretreatment	
	4.4	Dosing and Disinfection	
	4.5	Mix and Flocculation	
	4.6	Precipitation	
	4.7	Clarification Tank	
	4.8	Ordinary Filter	
	4.9	Ozonic Contacting Tank	
	4.10	Activated Carbon Filter Tank	
	4.11	Ozonic System	
	4.12	Ozonizer Source System	
	4.13	Clean Water Tank	
	4.14	Sludge Treatment System	
	4.15	Underground Water Treatment System	
	4.16	Factory Scheduling	
5		ation of Water Supply Equipment	
•	5.1	Water-pump	
	5.2	Motor	
	5.3	Transformer	
	5.4	Distribution Equipment.	
	5. <del>-</del> 5.5	Low-voltage Distribution Equipment	
	5.6	Lightning Protection Device	
	5.7	Power Cable	
	5. <i>1</i>	Overhead Power Line (≤10kV)	
	5.6 5.9	Indoor Distribution Lines Electrical Appliances and Lighting Equip	
	<b>3.3</b>	51	mem
	5.10	Abnormal Operation of Distribution Lines and Accident Disposal	52

	5.11	DC Power Supply	52
	5.12	Frequency-converter	52
	5.13	Relay Protection Device	53
6	Maint	tenance of Water Supply Facility	54
	6.1	General Requirements	54
	6.2	Water Intake Facility	54
	6.3	Raw Water Distribution Pipeline	55
	6.4	Pre-Treatment Facility	56
	6.5	Dosing Facility	58
	6.6	Mix and Flocculation Facility	60
	6.7	Facilities Precipitation and Clarification	60
	6.8	Ordinary Filter Tank	65
	6.9	Ozonic Contacting Tank	66
	6.10	Activated Carbon Filter Tank	67
	6.11	Ozonizer	68
	6.12	Ozonizer Source System	68
	6.13	Clean Water Tank	69
	6.14	Disinfection Facility	69
	6.15	Sludge Treatment System	70
	6.16	Underground Water Treatment System	72
	6.17	Drainage Facility	72
7	Maint	tenance of Water Supply Equipment	73
	7.1	General Requirement	73
	7.2	Water-pump	73
	7.3	Motor	79
	7.4	Transformer	83
	7.5	High-voltage Distribution Equipment	84
	7.6	High-voltage Circuit Breaker	85
	7.7	High-voltage Isolation, Load Switch	86
	7.8	High-voltage Fusegear	87
	7.9	High-voltage Current and Voltage Transformer	87
	7.10	Power Capacitor	88
	7.11	Low-Voltage Distribution Equipment	88
	7.12	Secondary Circuit System	89
	7.13	Lightning and Overvoltage Protection Device	90
	7.14	Grounding Device	91
	7.15	Overhead Line (≤10kV)	92
	7.16	Power Cable Line (≤10kV)	92
	7.17	Frequency Converter	93
8	Opera	ation and Maintenance Automated System	95
	8.1	General Requirement	95
	8.2	Control Room	96
	8.3	Onsite Monitoring Station	96
	8.4	UPS and the Accumulator	97

	8.5	Instruments and Meters	97
	8.6	Actuators and the Drivers	97
	8.7	Lightning and Electromagnetic Flow Protection	98
	8.8	Video System	98
9	Safety		
	9.1	Water Quality and Safety Safeguard	99
	9.2	Safety of Water Producing Process	99
	9.3	Safe Usage of Chlorine Gas, Ammonia Gas Oxygen and Ozone	100
	9.4	Safe Usage of Chlorine Dioxide and Sodium Hypochlorite	101
	9.5	Electrical Safety	101
Ex	planat	ion of Wording in This Code	103
No	rmativ	ve Standards	104

#### 1 General Provisions

- **1.0.1** In order to strengthen and standardize the management of urban water supply plant and ensure safety, stableness, high-quality, low consumption of water supply, the Specification is hereby enacted.
- **1.0.2** The Specification applies to operation, maintenance and safety management of urban water supply that uses surface water and groundwater as water source.
- **1.0.3** The Specification regulates the basic technical requirements for operation, maintenance and safety of city and town waterworks. If the Specification is contradictory with stipulations in national laws and administrative regulations, the national laws and administrative regulations shall prevail.
- **1.0.4** The operation, maintenance and safety of city and town waterworks shall also be consistent with regulations in relevant existing national standards besides the Specification.



#### 北京文心雕语翻译有限公司

Beijing Lancarver Translation Inc.

## 完整版本请在线下单

或咨询:

TEL: 400-678-1309

00: 19315219

Email: info@lancarver.com

http://www.lancarver.com

### 线下付款方式:

1. 对公账户:

单位名称:北京文心雕语翻译有限公司

开户行:中国工商银行北京清河镇支行

账号: 0200 1486 0900 0006 131

2. 支付宝账户: info@lancarver.com

注:付款成功后,请预留电邮,完整版本将在一个工作日内通过电子 PDF 或Word 形式发送至您的预留邮箱,如需索取发票,下单成功后的三个工作日内安排开具并寄出,预祝合作愉快!

