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**INDUSTRY STANDARD OF THE
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**Technical specifications for oxidation ditch activated sludge
process**

氧化沟活性污泥法污水处理工程技术规范

(English Translation)

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Foreword

In order to implement the Law of the People's Republic of China on Prevention and Control of Water Pollution, prevent and control water pollution, improve environmental quality, and regulate the oxidation sludge activated sludge process.

This standard is formulated for use in wastewater treatment projects.

This standard specifies the process design, main equipment, detection and control, electrical and application of sewage treatment engineering using oxidation ditch activated sludge method.

Technical requirements for work and acceptance, operation and maintenance.

Appendix A of this standard is a normative appendix, and Appendix B is an informative appendix.

This standard is the first release.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. China Environmental Protection Industry Association

(Water Pollution Control Committee), Anhui Guosheng Environmental Protection and Energy Saving Technology Co., Ltd., Hunan Provincial Architectural Design Institute, Wuhan Wukong System Engineering Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on October 12, 2010.

This standard has been implemented since January 1, 2011.

This standard is explained by the Ministry of Environmental Protection.

Oxidation ditch activated sludge method sewage treatment engineering technical specification

1 Scope of application

This standard specifies the process design, main equipment, detection and control, electrical and application of sewage treatment engineering using oxidation ditch activated sludge method.

Technical requirements for work and acceptance, operation and maintenance.

This standard is applicable to urban sewage and industrial wastewater treatment projects using the oxidation ditch activated sludge process, which can be used as environmental impact assessment, design, Technical basis for construction, acceptance and operation and management after completion.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB 3096 Acoustic Environmental Quality Standard GB 12348 Environmental noise emission standards for industrial enterprises General rules for safety and health requirements of GB 12801 production process GB 18599 General industrial solid waste storage and disposal site pollution control standards GB 18918 Pollutant discharge standard for urban sewage treatment plants GB 50014 Outdoor Drainage Design Code GB 50015 Building Water Supply and Drainage Design Code GB 50016 Building Design Fire Code GB 50040 power machine basic design specification GB 50053 10 kV and below substation design specifications GB 50187 General Plan for Design of Industrial Enterprises GB 50204 Concrete Structure Engineering Construction Quality Acceptance Specification GB 50222 Building interior decoration design fire protection specification General specification for construction and acceptance of GB 50231 mechanical equipment installation engineering GB 50268 Water supply and drainage pipeline engineering construction and acceptance specifications GB 50352 General rules for civil building design GB J 87 Industrial Enterprise Noise Control Design Specification GB 50141 Water supply

and drainage structure engineering construction and acceptance specification GBZ 1 industrial enterprise design hygiene standard GBZ 2 workplace occupational exposure limit CJ/T 51 Standard for urban sewage quality inspection methods CJJ 60 Urban Wastewater Treatment Plant Operation, Maintenance and Safety Technical Regulations HJ/T 91 Surface Water and Wastewater Monitoring Technical Specifications HJ/T 242 environmental protection product technical requirements belt press filter for sludge dewatering HJ/T 247 Technical requirements for environmental protection products Vertical shaft mechanical surface aerator HJ/T 259 environmental protection product technical requirements rotary brush aeration device HJ/T 260 Environmental Protection Product Technical Requirements Blasting Submersible Aerator HJ/T 279 environmental protection product technical requirements push flow submersible mixer HJ/T 280 environmental protection product technical requirements rotary aerator HJ/T 283 environmental protection product technical requirements chamber filter press and plate and frame filter press HJ/T 335 environmental protection product technical requirements sludge concentration belt dewatering machine HJ/T 353 Water Pollution Source Online Monitoring System Installation Technical Specification (Trial) HJ/T 354 Water Pollution Source Online Monitoring System Acceptance Technical Specification (Trial) Technical Specifications for Operation and Assessment of HJ/T 355 Water Pollution Source Online Monitoring System (Trial) "Administrative Measures for Environmental Protection Acceptance of Completion of Construction Projects" (State Environmental Protection Administration, 2001) "Standards for the Construction of Urban Sewage Treatment Projects (Revised)" (Ministry of Construction, National Development and Reform Commission, 2001)

3 Terms and definitions

The following terms and definitions apply to this standard.

Oxidation ditch activated sludge process Refers to the reaction tank is closed and non-terminal circulation flow channel arrangement, the pool is equipped with oxygenated and push water flow equipment activated sludge method sewage treatment law. The main processes include single-slot oxidation ditch, double-slot oxidation ditch, three-slot oxidation ditch, vertical axis aerator oxidation ditch and concentric circular centripetal oxidation ditch.

The deformation process includes an integrated oxidation ditch and a microporous aeration oxidation ditch.

Aerobic zone (pool) oxic zone Refers to the oxygenation zone (pool) of the oxidation ditch. The dissolved oxygen concentration is generally not less than 2 mg/L. The main function is to degrade organic matter, nitrated ammonia and the amount of phosphorus is taken.

Anoxic zone

Refers to the non-oxygenation zone (pool) of the oxidation ditch. The dissolved oxygen concentration is generally 0.2-0.5 mg/L. The main function is to carry out denitrification and

denitrification.

Anaerobic zone (pool) anaerobic zone Refers to the non-oxygenated zone (pool) of the oxidation ditch. The dissolved oxygen concentration is generally less than 0.2 mg/L. The main function is to release phosphorus.

Mechanical surface aerator mechanical surface aerator Refers to a device for aeration using an impeller or a rotating brush (disc) provided on the surface of the aeration tank, including a vertical shaft type mechanical surface aerator and a turntable Surface aeration device, rotating surface aeration device, etc.

Mixer mixer

Refers to a device with a propeller blade of less than 1 m and a medium-high rotational speed (generally greater than 300 r/min) to make the medium evenly stirred.

Pusher flowmaker

Refers to the device that the propeller blade is larger than 1 m and the rotational speed is low (generally less than 100 r/min).

Pretreatment

Refers to the treatment measures set in front of the oxidation ditch when the influent water quality can meet the biochemical needs of the oxidation ditch. Such as grilles, grit chambers, etc.

Preprocessing

Refers to the treatment process set in front of the oxidation ditch according to the need to adjust the water quality when the influent water quality cannot meet the biochemical needs of the oxidation ditch. As early as Sinking pool, hydrolysis acidification tank, air flotation tank, homogenization tank, accident pool, etc.

3.10

Internal return gate Refers to the unique structure of some ditch types of the oxidation ditch system, which can make the mixed liquid from the aerobic zone (pool) to the anoxic zone (pool) to achieve the powerless return.

Roads and equipment.

3.11

Standard state

It refers to a state where the atmospheric pressure is 101 325 Pa and the temperature is 293.15 K.