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PEOPLE'S REPUBLIC OF CHINA**

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**Technical specification for seawater flue gas desulfurization
project of thermal power plant
(English Translation)**

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Foreword

For the implementation of the "People's Republic of China Environmental Protection Law", "People's Republic of China Air Pollution Prevention Law" and "Power Plant Air pollutant emission standards" to regulate the seawater thermal power plant flue gas desulfurization project construction, to reduce sulfur dioxide emissions from thermal power plants, improve the environment Quality, protection of human health, the development of this standard.

This standard specifies the seawater thermal power plant flue gas desulfurization project design, construction and installation, commissioning, operation and management of technical requirements and acceptance.

This standard is a guiding standard.

This standard is the first release.

This standard is developed by the Ministry of Environmental Protection Science, Technology organization.

Drafting of this standard. Beijing Longyuan Environmental Engineering Co., Ltd., China Environmental Science Society.

The Ministry of Environmental Protection Standards December 19, 2014 for approval.

This standard since March 1, 2015 implementation.

This standard by the Ministry of Environmental Protection is responsible for interpretation.

Thermal power plant flue gas desulfurization project technical specification seawater
Method

1 Scope

This standard specifies the seawater thermal power plant flue gas desulfurization project design, construction, inspection, operation and maintenance and other technical requirements.

This standard applies to coastal a unit capacity of 300 MW and above Thermal Power Plant seawater flue gas desulfurization project, 300 MW thermal power less it may refer to when seawater flue gas desulfurization unit. Its waters should have good diffusion ocean conditions.

2 Normative references

The following documents for the application of this standard is essential. For undated references, the effective version applies to this standard quasi.

GB 3097 water quality standards GB 12348 industrial enterprises of environmental noise emission standard plant boundary GB 12801 General requirements for the production process safety and health GB 13223 Thermal Power Plant Air Pollutant Emission Standards GB/T 19229.3 Part III coal-fired flue gas desulphurization equipment. Seawater Flue Gas Desulfurization equipment GB 50016 architectural design code for fire protection GB/T 50033 architectural lighting design standards GB 50040 dynamic machine foundation design specification GB 50046 Code for anticorrosion design of industrial buildings GB 50069 Water Supply and Drainage Structural design code GB/T 50087 Industrial Enterprise Noise Control Design Specification GB 50140 Building fire extinguishers configuration design specifications GB 50222 interior decoration of buildings for fire protection design GB 50229 fire protection design of power plant and substation GB 50243 Construction Quality Acceptance of Ventilation and Air Conditioning Engineering GB 50660 and medium-sized power plant design specifications GB J 22 factories and road design specifications GB Z 1 Design of Industrial Enterprises hygiene standards DL 5009.1 power construction safety regulations (thermal power plant section) DL/T 5029 power plant construction decoration design standards DL/T 5035 power plant heating, ventilation and air conditioning design technical regulations DL/T 5044 Electric Power Design Engineering Technical specification DC system DL 5053 power plant labor safety and industrial hygiene regulations Design DL/T 5136 power plant, substation secondary wiring design technical regulations DL/T 5153 power plant auxiliary power design regulations DL/T 5196 Technical specification for power plant flue gas desulfurization design DL/T 5339 Hydraulic power plant design

specifications DL/T 5436 seawater thermal power plant flue gas desulfurization project commissioning adjustment and quality assessment procedures and acceptance HJ/T 75 stationary sources Continuous Emission Monitoring Technical Specifications HJ/T 76 stationary sources flue gas emissions continuous monitoring system technical requirements and test methods HJ/T 179 thermal power plant flue gas desulfurization project technical specification limestone/lime - gypsum HJ/T 255 Construction Project Environmental Protection acceptance for power plant "Project (Project) final acceptance approach" (Total construction [1990] No. 1215) "Acceptance of completed construction projects management approach" (SEPA Order No. 13)

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Seawater FGD seawater flue gas desulfurization

Using seawater as a wet flue gas desulfurization absorber, the present standard of the process does not add other chemicals.

3.2 Absorbent

Desulfurization process for removing sulfur dioxide reactants (SO₂) and other harmful substances. Absorbent seawater desulfurization process is used Seawater, usually from the coastal thermal power condenser circulating cooling water.

3.3 Absorber

Desulfurization reaction apparatus removing SO₂ and other harmful substances.

3.4 Seawater recovery system seawater recovery system

Seawater after desulfurization were, aeration and other methods to make the final discharge water quality is restored to meet the relevant quality requirements of the system.

Generally include aeration tank, aeration blowers and aeration and the like.

3.5 Aeration tank aeration basin

Utilization and aeration methods such as seawater desulfurization of water quality recovery processing building structures.

3.6 Flue gas cooling system accident emergency quench water system

When the temperature in the boiler flue gas desulfurization equipment accident conditions exceed the design inlet temperature of flue gas, desulfurization system equipment and to protect the wood preservative Safe operation of the flue gas material provided emergency

cooling equipment and systems.

4 Pollutants and pollution load

The amount of flue gas desulfurization equipment 4.1 flue gas inlet, SO₂ content can be calculated according to the provisions of HJ/T 179's.

4.2

smoke constituents other contaminants (such as hydrogen chloride (HCl), hydrogen fluoride (HF), sulfur trioxide (of SO₃)) should be based on the design data of the fuel Material analysis data calculated or measured data is determined.

4.3

system design desulfurization efficiency seawater flue gas desulfurization devices shall meet local thermal power plant SO₂ emission limits and total control. Take off Efficiency of sulfur by HJ/T 179 is calculated.

5.1 General provisions

5.1.1

new construction, renovation, expansion of the FGD plant should be the main project and thermal power plants or heating boiler at the same time design, construction, and Put into use.

5.1.2

absorber design life of new generating units shall not be less than 30 years, the absorber design life of not less than existing turbines Generator set life.

5.1.3

seawater FGD boilers, coal-fired its average sulfur content (as received) should be not more than 1%. When the unit has both cooling sea when water does not meet the needs of the desulfurization process, the water should be added to the amount inadequate. Supplemented seawater through technical and economic measures should be integrated more reasonable after determine.

5.1.4

flue gas inlet dust concentration of seawater FGD unit should not exceed 30 mg/Nm³.

5.1.5

desulfurization equipment design, construction should be consistent with GB 50660, DL/T 5196 and other relevant requirements of standards and regulations, and to ensure that its exhaust fumes Put in line with GB 13223 standards or local requirements.

Water quality efflux 5.1.6 seawater flue gas desulfurization apparatus treatment should be