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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Engineering technical specification of flue gas ive non-catalytic
reduction dentration for thermal power plant
(English Translation)**

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Foreword

To implement the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution, and the Air Pollution of Thermal Power Plants Dust emission standards, regulate the construction of flue gas denitrification projects in thermal power plants, improve the quality of the atmospheric environment, and develop this standard.

This standard specifies the technical requirements for the design, construction, acceptance, operation and maintenance of the selective non-catalytic reduction flue gas denitration project in thermal power plants.

begging.

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

This standard is the first release.

This standard is mainly drafted by. China Environmental Protection Industry Association, Xi'an Thermal Power Research Institute Co., Ltd., Beijing Environmental Protection Science Research Research Institute, Southeast University, State Grid Power Technology Company, Beijing Boqi Power Technology Co., Ltd., Beijing Guodian Longyuan Environmental Protection Engineering Co., Ltd.

Tsinghua Tongfang Environmental Co., Ltd., Zhejiang Tiandi Environmental Protection Engineering Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on February 3, 2010.

This standard has been implemented since April 1, 2010.

This standard is explained by the Ministry of Environmental Protection.

Technical specification for flue gas denitration engineering of thermal power plants
Selective non-catalytic reduction

1 Scope of application

This standard stipulates that the design, construction, acceptance, operation and maintenance of the selective non-catalytic reduction flue gas denitration project of thermal power plants should be followed.

Technical requirements, can be used as environmental impact assessment, engineering design and construction, project completion environmental protection acceptance and operation and management after completion Technical basis.

This standard is applicable to the flue gas denitration project of coal-fired, gas-fired, oil-fired boilers or built boilers in thermal power plants (cogeneration). for Thermal boilers and other industrial boilers, furnaces, and flue gas denitration projects for construction or built boilers may be referred to.

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 536 liquid anhydrous ammonia GB 12348 Environmental noise emission standards for industrial enterprises General rules for safety and health requirements of GB 12801 production process GB 14554 Odor Pollutant Discharge Standard GB 18218 Identification of major hazard sources of hazardous chemicals GB 50016 Building Design Fire Code GB 50040 power machine basic design specification GB 50160 Petrochemical Enterprise Design Fire Protection Code GB 50222 Building interior decoration design fire protection specification GB 50229 Fire power plant and substation design fire protection specification GB 50243 Ventilation and air conditioning engineering construction quality acceptance specification GB 50351 Tank design fire protection design code GB/T 16157 Determination of particulate matter in fixed pollution source exhaust gas and sampling method of gaseous pollutants GB/T 21509 coal-fired flue gas denitration technology equipment GB/T 50033 Architectural lighting design standard GB J 87 Industrial Enterprise Noise Control Design Specification GB J 140 building fire extinguisher configuration design specification GBZ 1 industrial enterprise design hygiene standard DL 5009.1 Safety Practice for Power Construction (Part of Thermal Power Plant) DL 5053 Labor Safety and Industrial Hygiene Design Regulations for Thermal Power Plants DL/T 5029 Thermal Power Plant Building Decoration Design Standard Technical specification for heating, ventilation and air conditioning design of DL/T 5035 thermal power plant DL/T 5120 Small Power Engineering DC System Design Procedure DL/T 5136 Technical specification for secondary wiring design of thermal power plants and substations DL/T 5153 Thermal power plant power consumption design technical regulations HJ/T 75 Technical Specifications for Continuous Monitoring of Flue Gas Emissions from Fixed Sources (Trial) Technical requirements and testing methods for HJ/T 76 continuous pollution source emission monitoring system Regulations on the Safety Management of Dangerous Chemicals (Order No. 344 of the People's Republic of China) Measures for the Safety Review of Production and Storage Projects of Dangerous Chemicals (State Administration of Work Safety, National Coal Mine Safety Supervision Bureau) no. 17) "Measures for Completion and Acceptance of Construction Projects (Engineering)" (Project Construction [1990] No. 1215) Measures for the Administration of Environmental Protection Acceptance for Completion of Construction Projects (Order No. 13 of the State Environmental Protection Administration)

3 Terms and definitions

The following terms and definitions established by GB/T 21509 apply to this standard.

3.1 Selective non-catalytic reduction (SNCR)

The use of a reducing agent to selectively react with nitrogen oxides (NO_x) in the flue gas without the need for a catalyst to generate Nitrogen and water methods.

3.2 Denitrification system denitrification system

A system for removing nitrogen oxides (NO_x) from flue gases by physical or chemical means. This standard refers to selective non-catalytic reduction for denitrification system.

3.3 Reducing agent reductant

A substance and raw material used in a denitration system for reducing reaction with NO_x.

3.4 Ammonia escape mass concentration ammonia slip

The mass of ammonia in the flue gas at the inlet of the air preheater and the volume of the flue gas during operation of the denitration system (101.325 kPa, 0 ° C, dry basis, excess air) the ratio of the coefficient 1.4) is generally expressed in mg/m³.

3.5 System availability

The percentage of annual normal operating time of the denitration system to the total annual operating time of the boiler. Calculated according to formula (1).

100% AB

= x availability rate (1) where. A--the total annual running time of the boiler, h;

B--Dehydration system total outage time per year, h.

3.6 Boiler maximum continuous rating

The condition of the maximum continuous output thermal power matched by the design flow of the boiler and the steam turbine, referred to as the BMCR operating condition.

3.7 Boiler economic operation conditions boiler continuous rating

The working condition of the boiler economic evaporation corresponds to the heat consumption guarantee condition of the steam turbine unit, referred to as the BECR working condition.