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**Technical specification for flue gas cleaning system of
waste-to-energy plant
(English Translation)**

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Foreword

This standard is in accordance with GB/T 1.1-2009 "Guidelines for Standardization Part 1: Standard Structure and Compilation" Drafting of rules.

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

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This standard was proposed and managed by the China Electricity Council.

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1 Scope

This standard specifies the process aspects of deacidification, dust removal, heavy metal and dioxin adsorption, and denitrification of the flue gas purification system of waste-to-energy plants skills requirement.

This standard applies to the flue gas purification system of newly built, renovated and expanded household waste incineration power plants. Waste incineration plant waste heat without power generation project can refer to implementation.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this file. For undated references, the latest version (including all amendments) applies to this document.

GB/T 16157 Determination of particulate matter in emissions from stationary sources and sampling method for gaseous pollutants GB 18485 Standard for pollution control of domestic waste incineration GB 50264 Industrial equipment and pipeline insulation engineering design code HJ/T 75 Technical Specification for Continuous Monitoring of Smoke Emissions from Stationary Pollution Sources (Trial) HJ/T 76 Technical requirements and testing of continuous monitoring system for flue gas emissions from stationary sources (for trial implementation) HJ.2012 Technical Specification for Garbage Incineration Bag Dust Removal Engineering

3 Terms and definitions

Semi-dry deacidification of flue gas when removing acidic pollutants in the flue gas, the added neutralizing agent enters the deacidification system in a liquid or high water content form. The neutralizing agent A process in which the reactants obtained after reacting with the acidic pollutants in the flue gas in a wet environment are discharged in the form of solid or dry matter.

Dry deacidification of flue gas when removing acidic pollutants in the flue gas, the added neutralizer enters the deacidification system in a solid form, and the neutralizer interacts with the acid in the flue gas.

A process in which the reactants obtained after the reaction of sexual pollutants in a dry environment are also discharged in solid form.

Wet deacidification of flue gas when removing the acid gas in the flue gas, the added neutralizer enters the deacidification system in liquid form. The neutralizer and the acid in the flue gas A process in which the reactants obtained after the pollutants react in a wet environment are also discharged in liquid form.

Activated carbon adsorbent Spray a certain amount of powdered activated carbon in the flue gas pipeline in front of the dust collector or other locations to adsorb dioxins and harmful heavy substances in the flue gas.

Contaminants such as metals.

Dry power absorbent

Spray a certain amount of solid neutralizer in front of the dust collector or in the flue gas pipeline at other locations to neutralize the acidic pollutants in the flue gas.

4 Basic regulations

4.1

The emission indicators of various pollutants in the purified flue gas should meet GB 18485 and local environmental protection requirements, and should meet the requirements of domestic waste incineration.

The requirements for the approval of the environmental impact assessment report of the burning power plant and the total pollutant discharge requirements.

4.2

Each incinerator shall be equipped with an independent flue gas purification system.

4.3

The flue gas purification system should select a reasonable flue gas treatment process based on pollutant emission indicators, garbage characteristics, incineration technology, and flue gas characteristics.

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4.4

The flue gas purification system should include deacidification system, activated carbon adsorption and dust removal system, denitration system, etc.

4.5

Except for the selective catalytic reduction denitrification system and the wet deacidification system, the flue gas purification system should not be provided with a bypass system.

4.6

Each set of flue gas purification production line should be equipped with a separate flue gas online monitoring device, monitoring point layout, monitoring instrumentation, data processing and transmission it shall meet the requirements of HJ/T 75 and HJ/T 76, and the test content shall meet the requirements of GB 18485, and shall be in accordance with the local environmental protection administration the monitoring center of the competent

department is connected to the Internet.

4.7

The flue gas purification system should take anti-corrosion measures according to the characteristics of the flue gas; when the surface temperature of the equipment and pipes exceeds 50°C, it should be insulated.

It should meet the requirements of GB 50264; the equipment and pipes should take wear-resistant measures according to the dust content and characteristics.

4.8

The flue gas purification system should be incorporated into the plant-wide distributed control system (DCS); when the flue gas purification system adopts a separate programmable logic control During PLC control, important control data should be uploaded to the plant-wide distributed control system (DCS), and all equipment should be able to be distributed Type Control System (DCS) for emergency stop.

4.9

The flue gas purification system should set temperature, pressure, flow, liquid level and other detection and control data at the entrance and exit of each important equipment.

5.1 Flue gas volume and flue gas temperature

5.1.1

The amount of flue gas should be calculated based on the design calorific value of the waste, the amount of incineration into the furnace and the characteristics of the waste. For the calculation method, see Appendix A.

5.1.2

The designed flue gas temperature at the inlet of the flue gas purification system should be the highest actual operating temperature of the boiler outlet under the maximum continuous working condition (MCR) of the incinerator.

5.2 Determination of pollutant components in flue gas

The pollutant components in the flue gas are particulate matter, sulfur dioxide, hydrogen chloride, nitrogen oxides, mercury, lead, cadmium, chromium, arsenic and other heavy metals, Dioxins and carbon monoxide.

6.1 General provisions

6.1.1

The flue gas deacidification process should be based on factors such as the initial concentration of pollutants, emission limits, and the removal efficiency of various