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**Requirements for Energy Saving Management of
Industrial Boiler Systems**

工业锅炉系统节能管理要求

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Requirements for Energy Saving Management of Industrial Boiler Systems

1 Scope

This Standard specifies the basic requirements, use management, inspection and assessment for energy-saving management of industrial boiler systems.

This Standard is applicable to the energy-saving management of steam boilers, hot water boilers, organic heat carrier boilers and their systems for industrial production and domestic use. This Standard is not applicable to energy-saving management of waste incineration boilers, waste heat boilers, cogeneration boilers and their systems.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 1576 Water Quality for Industrial Boilers

GB 17167 General Principle for Equipping and Managing of the Measuring Instrument of Energy in Organization of Energy Using

GB 24500 Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades of Industrial Boilers

GB/T 24747 Safety Technology Conditions for Heat Transfer Fluids

NB/T 47035 Energy Performance Assessment for Industrial Boilers System

NB/T 47061 Energy Efficiency Index and Grading of Industrial Boiler System

TSG G0002 Supervision Administration Regulation on Energy Conservation Technology for Boiler

- d) Check the implementation of various energy-saving management systems of the boiler system;
- e) Check the economic operation, equipment maintenance, and regular maintenance of the boiler system;
- f) Organize energy-saving technical review of boiler system installation and renovation;
- g) Prepare statistical analysis and evaluation plans for boiler system energy consumption and energy efficiency, verification (calibration) plans for measuring instruments and testing (monitoring) instruments, and be responsible for organization and implementation;
- h) Formulate energy-saving technical training plans for boiler system managers and operators, and be responsible for organization and implementation;
- i) Regularly organize assessments of the energy-saving performance of the boiler system; analyze the energy utilization status of the boiler system; and evaluate the economics of the boiler system operation and the effect of energy-saving funds;
- j) Establish and improve the energy efficiency technical file of the boiler system.

4.3 The boiler user organization shall establish and improve the energy-saving management system of the boiler system. The energy-saving management system includes at least:

- a) Energy-saving target responsibility system: it establishes the boiler system energy-saving target, and distributes it to departments and teams, and conducts regular assessments;
- b) The post responsibility system: it clearly stipulates the post responsibilities of energy-saving management personnel, measurement management personnel, fuel inspection and analysis personnel, boiler operation personnel, water (medium) quality treatment operators, etc.;
- c) Daily energy-saving inspection system: it stipulates the items, content and requirements of daily inspections; clearly brings whether the following items have the problems of “evaporating, emitting, dripping or leaking” into the routine inspection range, such as boiler fuel consumption, medium inlet and outlet temperatures and pressures, boiler make-up water (medium) quality and make-up water (medium) temperature, and exhaust temperature, surface temperature of the furnace wall, and boiler systems;
- d) Boiler fuel admission inspection analysis and management system: it stipulates the management requirements for the procurement, acceptance, warehousing,

- e) Boiler system operation records, water treatment equipment operation records, maintenance records, energy saving inspection records;
- f) Records of training and assessment of energy-saving managers and operators;
- g) Energy-saving target assessment records, statistical analysis reports of boiler system energy consumption and energy efficiency status, etc.

5 Use Management

5.1 In the construction, update, and transformation of boiler systems, it is encouraged to use the boiler products that meet the requirements of level 1 of the boiler energy efficiency specified in GB 24500 and other high-efficiency energy-saving products; it is prohibited to use the boiler products with index not meeting the requirements of energy efficiency index limit value specified in TSG G0002, as well as the mechanical and electrical products that have been explicitly eliminated.

5.2 The configuration of the measuring instruments and detection (monitoring) instruments of the boiler system under use shall meet the relevant requirements of TSG G0002 and GB17167, and shall be kept in good condition.

5.3 The boiler water (medium) quality shall meet the requirements of GB/T 1576 and GB/T 24747. The selection of water treatment methods, processes, and equipment shall match the local water quality and boiler supply (make-up) water amount; and the energy-saving and water-saving water treatment processes is encouraged to use.

5.4 The used fuel shall meet the boiler design requirements and match the boiler combustion equipment. Solid fuel boilers shall also control the particle size of the fuel. Fuel storage shall take measures to prevent spontaneous combustion and other losses; when fuel is used, it shall be rationally used according to fuel storage time and moisture content. When a variety of coal is burned or mixed with other solid fuels, an effective coal blending facility shall be used.

5.5 When multiple boilers are operated in parallel, the boiler user organization shall reasonably arrange the number of operated boilers and the boiler output according to the steam (heat) load. When the load changes, the boiler system shall be adjusted in time.

5.6 The boiler user organization shall determine the blowdown method and blowdown amount according to the boiler water quality; and adjust it according to the changes in water quality. The regular blowdown of steam boilers shall be carried out at low load.

5.7 Boiler operators should regularly check the tightness and integrity of the boiler fuel supply system, flue gas system, steam-water system, ash system, as well as instruments, valves, insulation structures, etc.; and regularly clean the ash

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