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**Boiler Safety Technical Supervision**  
**Administration Regulation**  
**锅炉安全技术监察规程**

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## Foreword

On May, 2007, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (hereinafter referred to as "AQSIQ") issued the project approval plan for formulation (revision) of the "Boiler Safety Technical Supervision Administration Regulation" (hereinafter referred to as "Boiler Regulation"). On September, 2007, the China Special Equipment Inspection and Research Institute (hereinafter referred to as "CSEIRI") organized the relevant experts to establish a formulation (revision) working group and held the first working group meeting in Beijing. The working group discussed the formulation (revision) principles, key contents, significant problems and structure (chapters and sections) frame, made specific division of the drafting work and developed drafting schedule. From October, 2007 to March, 2008, group discussion meetings were held. In April, 2008, the working group held the second plenary session in Hangzhou, and worked out the Draft for Comments of "Boiler Regulation" through discussion; and the CSEI solicited for opinions of the primary sections, relevant organizations, experts and citizen with Document ZHIJIANTEHAN [2008]No.67. In December, 2009, the working group held the third working meeting to study and discuss the opinions sought for the first time and form the second draft for comments; and the CSEI sought advice from the public for the second time with the Document ZHIJIANTEHAN [2010]No.10. On May, 2010, the working group held the fourth conference, studied and worked out the Draft Standard for Examination according to the solicited suggestions. In the process of formulation (revision), experts from the power sector of the boiler factory are invited for many times to have a special material discussion meeting. In August, 2011, the CSEI submitted the Draft Standard for Examination to the Special Equipment Safety Technology Committee, GAQSIQ for deliberation, and the working group worked out the Draft Standard for Approval after the amendment according to the deliberation suggestions. In February, 2012, the AQSIQ informed the WTO/TBT of the Draft Standard for Approval of the "Boiler Regulation". On October 23, 2012, the "Boiler Regulation" was approved and issued by the AQSIQ.

The basic principle of this revision was to integrate the "Steam Boiler Safety Technology Supervisory Regulations" (1996) issued by the former Ministry of Labour and Personnel, "Hot-water Boiler Safety Technology Supervision Regulation" (issued in 1991 and revised in 1997), "Supervision Regulation on Safety Technology for Organic Heat Transfer Material Heater" (issued in 1993) with "Stipulations on Safety Supervision of Small Size and Normal Pressure Hot water Boilers" issued by the former State Bureau of Quality and Technical Supervision in 2000; full embodiment of regulations was the idea of the basic safety requirements, where were put forward with regard to manufacturing, installation, renovation, repair, use and inspection and the original effective body content was basically reserved to make it the basis of relevant boiler regulations and technical standards in China; according to the current boiler development and actual demands of the safety supervision, classification and level-to-level management, boiler equipment classification was carried out; in combination with the current basic state policies with regard to the energy conservation and emission reduction and by absorbing mature science and technology as well as scientific management achievements, relevant basic requirements were put forward; according to the

demands of the current boiler technology development and by fully absorbing mature technology and management experience of the power, mechanical, steel and iron system, relevant content on large power boilers were added as a focus and safety technical requirements for small boilers were adjusted with great efforts, and, by learning from the overseas experience and in line with international practice, a basic boiler safety supervision system basically consistent with the international practice and suitable for our national conditions was developed; under the premise of safety, subject responsibilities of enterprises were further implemented, administrative examination and approval were minimized and the examination and approval procedures were simplified to promote the economical development; with a view to persistently promoting the technical progress, keeping pace with the times and absorbing advanced science and technology achievements, new ways and channels were reserved for the application of new materials, process, technology and methods as well as special issues.

Main organizations and staffs participating in the formulation (revision) of the "Boiler Regulation" are as follows:

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In addition, organizations such as China Special Equipment Inspection and Research Institute, China Boiler Water Quality Association, Harbin Boiler Company Limited, Shanghai Boiler Works Co., Ltd., Dongfang Boiler Group Co., Ltd., Wuhan Boiler Co., Ltd., Babcock & Wilcoxian Beijing Company Ltd., Hangzhou Boiler Group Co., Ltd., Dalian Boiler Factory, Taishan Group Co., Ltd. and Zhejiang Unipower Boiler Co., Ltd. had provided great support and assistance for the formulation (revision) of the "Boiler Regulation".

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# Boiler Safety Technical Supervision Administration Regulation

## 锅炉安全技术监察规程

### 1 General Provisions

#### 1.1 Purpose

With a view to strengthening safety supervision of boilers, preventing and minimizing accidents, guaranteeing life and property safety of the masses and promoting the economic development, this regulation is formulated according to the relevant requirements of "Regulation on Safety Supervision of Special Equipment".

#### 1.2 Application scope

This regulation is applicable to the stationary pressure-bearing steam boiler (Note 1-1), pressure-bearing hot-water boiler, organic heat transfer material boiler as well as flue boiler and flue-shell composite waste heat boiler, both of which take the waste heat utilization as the fundamental purpose.

Note 1-1: the stationary boiler means that the boiler is fixed during the service period.

##### 1.2.1 Boiler body

The integral that is composed of boiler drum, heating surface and the header & connecting pipeline, furnace, combustion equipment and air preheater (including flue and air duct), structure (including platform and staircase), furnace wall and slag removal equipment.

##### 1.2.2 Boiler external piping

(1) Power station boiler, including main feed water pipeline, main steam pipe and reheat steam pipe;

(2) Boilers beyond power station boilers are divided into the boiler with steam (water/oil) manifold (Note 1-2) and without it; the former includes the pressure pipe [including steam (water/oil) manifold] in the first pass of circumferential weld connected between the boiler feed water (oil) pump & steam (water/oil) manifold outlet and the external pipe while the latter includes the pressure pipe in the boiler feed water (oil) pump outlet and boiler main steam (water and oil) outlet valve.

Note 1-2: the steam (water/oil) manifold shall meet the relevant requirements of the header in this regulation.

##### 1.2.3 Boiler safety accessories and instruments

Boiler safety accessories and instruments includes safety valve, pressure measuring device, water level meter and indicator, temperature measuring device, blowdown and drainage device as well as safety protection devices and relevant instruments.

##### 1.2.4 Boiler accessory and system

Boiler accessory and system includes the fuel preparation, steam-water and water treatment equipment and systems.

#### 1.3 Inapplicable scope

This regulation is not applicable to the following equipment:

- (1) Steam boiler with the normal design water volume less than 30L;
- (2) Hot-water boiler with the rated water-delivery pressure or rated thermal power less

than 0.1MPa or 0.1MW respectively;

- (3) Heat exchanger required for equipment and process flow cooling.

## **1.4 Boiler equipment grade**

### **1.4.1 Grade A boiler**

Grade A boiler refers to that with  $p$  (gauge pressure, the same below, Note 1-3) greater than or equal to 3.8MPa, including:

- (1) Supercritical boiler,  $p \geq 22.1\text{MPa}$ ;
- (2) Supercritical boiler,  $16.7\text{MPa} \leq p < 22.1\text{MPa}$ ;
- (3) Superhigh pressure boiler,  $13.7\text{MPa} \leq p < 16.7\text{MPa}$ ;
- (4) High pressure boiler,  $9.8\text{MPa} \leq p < 13.7\text{MPa}$ ;
- (5) Sub-high-pressure boiler,  $5.3\text{MPa} \leq p < 9.8\text{MPa}$ ;
- (6) Medium pressure boiler,  $3.8\text{MPa} \leq p < 5.3\text{MPa}$ .

### **1.4.2 Grade B boiler**

- (1) Steam boiler,  $0.8\text{MPa} < p < 3.8\text{MPa}$ ;
- (2) Hot-water boiler,  $p < 3.8\text{MPa}$  and  $t \geq 120^\circ\text{C}$  ( $t$  is the rated outlet water temperature, the same below);
- (3) Gas-phase organic heat transfer material boiler,  $Q > 0.7\text{MW}$  ( $Q$  is the rated thermal power, the same below); liquid-phase organic heat transfer material boiler,  $Q > 4.2\text{MW}$ .

### **1.4.3 Grade C boiler**

- (1) Steam boiler,  $p \leq 0.8\text{MPa}$  and  $V > 50\text{L}$  ( $V$  is the normal design water volume, the same below);
- (2) Hot-water boiler,  $p < 3.8\text{MPa}$  and  $t < 120^\circ\text{C}$ ;
- (3) Gas-phase organic heat transfer material boiler,  $0.1\text{MW} < Q \leq 0.7\text{MW}$ ; liquid-phase organic heat transfer material boiler,  $0.1\text{MW} < Q \leq 4.2\text{MW}$ .

### **1.4.4 Grade D boiler**

- (1) Steam boiler,  $p \leq 0.8\text{MPa}$  and  $30\text{L} \leq V \leq 50\text{L}$ ;
- (2) Multifunctional boiler (steam and hot water) (Note 1-4),  $p \leq 0.04\text{MPa}$  and  $D \leq 0.5\text{ t/h}$  ( $D$  is the nominal capacity, the same below);
- (3) Hot-water boiler with only tap water pressurization and  $t \leq 95^\circ\text{C}$ ;
- (4) Gas-phase or liquid-phase organic heat transfer material boiler,  $Q \leq 0.1\text{MW}$ .

Note 1-3:  $p$  is the rated working pressure of the boiler; for the steam boiler, it represents the rated steam pressure; for the hot-water boiler, it represents the rated water-delivery pressure; for the organic heat transfer material boiler, it represents the rated outlet pressure.

Note 1-4: other multifunctional boilers (steam and hot water) respectively belong to the above boilers at all levels according to the outlet steam conditions and nominal capacity.

## **1.5 Manufacturing and application of imported and exported boilers**

(1) Foreign boilers that are used in China shall meet requirements of this regulation; in case of any inconsistency with those specified in this regulation, consent from the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (hereinafter referred to as "AQSIQ") shall be obtained in advance.

(2) Domestic boilers that are used in overseas shall be implemented according to the technical regulation, standard and management requirements stipulated by the Parties in the Contract.

## **1.6 Treatment in particular case:**



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