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Emission standard of air pollutants for ironmaking industry

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Ministry of Environmental Protection

of the People's Republic of China

Announcement

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In order to implement the “Environmental Protection Law of the People's Republic of China”, “Water Pollution Prevention Law of the People's Republic of China” and “Air Pollution Prevention Law of the People's Republic of China”, combat pollution and protect the environment and human health, the 8 standards, including “Emission standard for pollutants for mining and mineral processing industry”, are now approved as national emission standards for pollutants; they are jointly issued by the Ministry of Environmental Protection and the General Administration of Quality Supervision, Inspection and Quarantine of the People’s Republic of China.

The standard name and number are as follows:

1. Emission standard for pollutants for mining and mineral processing industry (GB 28661-2012)

2. Emission standard of pollutants for sintering and pelletizing of iron and steel (GB 28662-2012)

3. Emission standard of air pollutants for iron smelt industry (GB 28663-2012)

4. Emission standard of air pollutants for steel smelt industry (GB 28664-2012)

5. Emission standard of air pollutants for iron smelt industry (GB 28665-2012)

6. Emission standard of pollutants for ferroalloy smelt industry (GB 28666-2012)

7. Discharge standard of water pollutants for iron and steel industry (GB 13456-2012)

8. Emission standard of pollutants for coking chemical industry (GB 16171-2012)

According to relevant laws and regulations, these standards have the effect of enforcement.

Above standards are implemented since October 1, 2012.

Above standards are published by the China Environmental Science Press. The

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Foreword

In order to implement the laws and regulations of “Environmental Protection Law of the People's Republic of China”, “Air Pollution Prevention Law of the People's Republic of China”, “State Council on Scientific Development and Strengthening Environmental Protection” etc. and "State Council on Preparation of Main Functional Area Planning”, protect the environment, prevent pollution and promote the progress of ironmaking industry’s production processes and pollution control technologies, this Standard is formulated.

This Standard specifies the emission limits, monitoring and control requirements of air pollutant concentration for ironmaking manufacturing enterprises. In order to promote the coordinated development of regional economy and the environment, promote the adjustment of economic structure and the transformation of economic growth mode, and guide the development of production processes and pollution control technologies of ironmaking industry, this Standard specifies the special emission limits of air pollutants.

The pollutant emission concentration in this Standard is mass concentration.

The relevant national pollutant emission standards are applicable to water pollutants, odor pollutants and environmental noise emitted by ironmaking manufacturing enterprises; the national solid waste pollution control standards are applicable to the identification, treatment and disposal of discharged solid wastes.

This Standard is released for the first time.

From the date of implementation of this Standard, the emission control of air pollutants of ironmaking manufacturing enterprises shall be executed in accordance with the specifications of this Standard; the relevant specifications in “Standard of smoke and dust emission for industrial kiln and furnace” (GB 9078-1996) and “Standard of smoke and dust emission for industrial kiln and furnace” (GB 16297-1996) are not executed anymore.

For those pollutants that are not specified in this Standard, the local provincial governments can establish local pollutant emission standards; for those pollutants that have been specified in this Standard, it can establish local pollutant emission standards that are more strict than this Standard.

This Standard was formulated by the Technology Standard Office of the Ministry of Environmental Protection Science.

Drafting organizations of this Standard: Sinosteel Tiancheng Environmental Protection Science and Technology Co., Ltd., Institute for Environmental Standards of the Ministry

Emission standard of air pollutants for ironmaking industry

1 Scope

This Standard specifies the emission limits, monitoring and control requirements of air pollutants for ironmaking manufacturing enterprises or production facilities, and the implementation and supervision of the standard and other relevant specifications.

This Standard applies to the air pollutant emission management of existing ironmaking manufacturing enterprises or production facilities, and the environmental impact assessment, environmental protection facility design, environmental protection acceptance after completion and air pollutant emission management after launching into production of ironmaking industry's construction projects.

This Standard applies to the pollutant emission behavior permitted by law; the site selection of newly established pollution sources and the management of existing pollution sources within the special protection area shall be in accordance with the relevant specifications of laws, regulations and rules such as "Air Pollution Prevention Law of the People's Republic of China", "Water Pollution Prevention Law of the People's Republic of China", "Marine Environmental Protection Law of the People's Republic of China", "Solid Waste Pollution Prevention Law of the People's Republic of China" and "Environmental Impact Assessment Law of the People's Republic of China".

2 Normative references

This Standard references the following documents or their terms.

GB/T 15432-1995 Ambient air - Determination of total suspended particulates - Gravimetric method

GB/T 16157-1996 The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source

HJ/T 42-1999 Stationary source emission - Determination of nitrogen oxide - Ultraviolet spectrophotometric method

HJ/T 43-1999 Stationary source emission - Determination of nitrogen oxid - N(1-naphtye) - Ethylenediamine dihydrochloride spectrophotometric method

HJ/T 56-2000 Determination of sulphur dioxide from exhausted gas of stationary source - Iodine titration method

HJ/T 57-2000 Determination of sulphur dioxide from exhausted gas of stationary source - Fixed-potential electrolysis method

HJ/T 397-2007 Technical specifications for emission monitoring of stationary source

HJ/T 629-2011 Stationary source emission - Determination of sulphur dioxide - Non-dispersive infrared absorption method

"Pollution Automatic Monitoring and Management Measures" (State Environmental Protection Administration Order No. 28)

"Environmental Monitoring Management Measures" (State Environmental Protection Administration Order No. 39)

3 Terms and definitions

The following terms and definitions apply to this Standard.

3.1

Blast furnace ironmaking

The production process of using blast furnace to smelt pig iron. Blast furnace is the main part of the production process; the iron ores, fuels and fluxes that are loaded from the upper part move downward; air fuels are blew into the lower part to burn; a large amount of high-temperature reducing gas is generated and moved upward; after a series of physical-chemical processes such as heating, reduction, melting, slagging, carburizing and desulfurization, the furnace charge turns into liquid slag and pig iron.

3.2

Existing facility

Before the implementation of this Standard, the ironmaking manufacturing enterprises or production facilities that have been built and launched into production or the environmental impact assessment documents have been approved.

3.3

New facility

The new, rebuilt and expanded ironmaking industry production facility's construction projects of which the environmental impact assessment documents have been approved, from the date of implementation of this Standard.

3.4

Standard condition

The condition when the temperature is 273.15K and the pressure is 101325Pa. The air pollutant emission concentration specified in this Standard is on the basis of dry gases under standard conditions.

3.5

Blast furnace cast house

The place where blast furnace casts iron, including tap hole, main tap drain, sand hole, iron runner, residue runner, tank level, swinging spout and other production facilities; it is also known as blast furnace.

3.6

Hot blast stove

Regenerative heat exchange devices of which the air supply system provides hot air for the blast furnace.

3.7

Raw material system

Equipment that prepare raw materials for the blast furnace smelting, including ore storage bins, ore storage tanks, coke tanks, material transport equipment (train, tub or belt) on the tank, ore and coke screening equipment under the tank (vibrating screen), return mine and return coke transport equipment (belt and transfer station), weighing devices of ore and coke into the furnace, belts that transport the furnace charge to the top of furnace, material loading car, receiving hoppers on the roof of furnace.

3.8

Pulverized coat system

Coal mill, coal transportation equipment and pipelines, storage, injection tank and mixer of blast furnace pulverized coal, distribution damper, spray gun, compressed air and safety protection systems.

3.9

Particulates

The general term of the kiln dust and the productive dust that emit during the

4.7 Production processes and equipment that produce air pollutants must establish partial or total gas collection system and purification devices, the emissions shall meet standards.

4.8 All stack height shall not be less than 15m. When there is a building within a radius of 200m around the stack, the stack shall be higher than the maximum building height by more than 3m.

4.9 Before the reference gas displacement per production unit is specified by the state, the measured concentration is regarded as the basis for determining whether the air pollutant emissions complies to the standard.

5 Monitoring requirements for air pollutants

5.1 The sampling of exhaust gas emit from the enterprises shall be conducted at the specified monitoring sites of pollutant emissions according to the type of monitoring pollutants. For the enterprises with exhaust gas treatment equipment, the monitoring shall be located at after-treatment. There must be the sign of permanent outfall at monitoring sites of pollutant emissions.

5.2 The requirements for new facilities and existing facilities to install automatic monitoring equipment of pollutant emissions shall be in accordance with relevant laws and the specifications of "Automatic monitoring and management measures for pollutant emissions".

5.The requirements for the monitoring frequency and sampling time of air pollutant emission condition of enterprises shall be in accordance with national monitoring technical regulations of pollution sources.

5.4 The monitoring and sampling of the air pollutants in stacks shall be conducted according to the specifications of GB/T 16157-1996 and HJ/T 397-2007.

5.5 The sampling sites of fugitive emissions of air pollutants shall be set at the outfalls such as doors, windows and roofs of workshop; it shall choose the maximum concentration value. If the fugitive emission sources are the open air or have a top without walls, the monitoring sites shall be selected at any site that is 5m from the particulate emission sources and the minimum height is 1.5m; it shall choose the maximum concentration value. The sampling of fugitive emission monitoring sites adopts the samples that are collected in any continuous 1h to calculate the mean, or the 4 samples that are collected in any 1h at equal time intervals to calculate the mean.

5.6 Enterprises shall monitor the pollutant emission situation and save the original monitoring records in accordance with relevant laws and the specifications of "Environmental Monitoring Management Measures".

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