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GB

NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB 30485-2013

**Standard for pollution control on co-processing of solid
wastes in cement kiln**

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Supervision and Inspection and Quarantine

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In order to carry out *Environmental Protection Law of the People's Republic of China*, *Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution* and *Law of the People's Republic of China on Prevention and Control of Water Pollution*, prevent and control pollution, protect environment, and protect human health, we hereby approve the 4 standards including *Emission Standard of Atmospheric Pollutants for Cement Industry* as the national standards for emission (control) of pollutants. They are jointly issued by the Ministry of Environmental Protection and State Administration for Quality Supervision and Inspection and Quarantine. Standard names and standard numbers are as follows:

1. Emission standard of atmospheric pollutants for cement industry (GB 4915-2013);
2. Standard for pollution control on co-processing of solid wastes in cement kiln (GB 30485-2013);
3. Emission standard of pollutants for battery industry (GB 30484-2013);
4. Emission standard of water pollutants for leather and fur making industry (GB 30486-2013).

In accordance with the provisions of relevant laws, above standards are compulsory.

The above standards are effective since March 1, 2014.

The above standards have been published by the China Environmental Press and the standards' contents can be searched from the website of the Ministry of Environmental Protection (bz.mep.gov.cn). Newly established enterprises shall stop to execute GB 4915-2004 *Emission Standard of Air Pollutants for Cement Industry* from March 1, 2014. And existing enterprises shall stop to execute GB 4915-2004 from July 1, 2015.

Hereby it is noticed.

Ministry of Environmental Protection

December 27, 2013

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Foreword

This Standard is hereby prepared to carry out *Environmental Protection Law of the People's Republic of China*, *Law of the People's Republic of China on Prevention of Environmental Pollution Caused by Solid Waste*, *Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution*, *Circular Economy Promotion Law of the People's Republic of China*, *Law of the People's Republic of China on Product Quality*, and other laws and regulations to protect the environment, prevent and control the pollution caused during the process of co-processing solid wastes in the cement kiln, and to improve the production process and pollution control technology.

This Standard specifies the technical requirements for cement kiln facilities for co-processing solid wastes, property requirements of wastes entering the kiln, technical requirements for operation, emission limits of pollutants, control requirements, monitoring, supervision and management requirements for pollutants caused by cement products manufactured.

This Standard is first-time issued.

Emission of water pollutants, environment noises caused during the process of co-processing solid wastes in cement kiln is subject to relevant national emission standards for pollutants. And the identification, treatment and disposal of solids wastes caused are subject to relevant national control standards for solid waste pollution.

Emission limits of the pollutants specified in this Standard are the basic requirements. Local provincial governments may develop local emission standard of pollutants for pollutant items that are not covered in this Standard. It may develop local emission standard of pollutants stricter than this Standard for pollutant items that are already covered in this Standard. If the limit values approved by the environmental influence assessment are stricter than that of this Standard or local standard, the limit values approved by the environmental influence assessment shall prevail.

This Standard was organized and formulated by Department of Science, Technology and Standards, Ministry of Environmental Protection of the People's Republic of China.

Drafting organizations of this Standard: Chinese Research Academy of Environmental

Sciences, China Building Materials Academy, Beijing Jinyu Mangrove Environmental Protection Technology Co., Ltd., and Foreign Economic Cooperation Office, Ministry of Environmental Protection.

The Standard was approved by Ministry of Environmental Protection on December 16, 2013.

This Standard will be implemented on March 1, 2014.

The Ministry of Environmental Protection is responsible for the interpretation of this Standard.

Standard for pollution control on co-processing of solid wastes in cement kiln

1 Scope of application

This Standard specifies the technical requirements for cement kiln facilities for co-processing solid wastes, property requirements of wastes entering the kiln, technical requirements for operation, emission limit of pollutants, control requirements, monitoring, supervision and management requirements for pollutants caused by cement products manufactured.

This Standard is applicable to the pollution control, supervision and management during the process of co-processing hazardous wastes, household wastes (including waste plastics, waste rubbers, waste paper, waste tire, etc.), sludge caused by urban and industrial wastewater treatment, processing waste of animals and plants, polluted soil, emergency wastes and other solid wastes using cement kiln. When using cement kiln to co-process household wastes, if the mass of household wastes added exceeds 30% of the total mass of kiln (furnace) materials, the *Standard for Pollution Control on the Municipal Solid Waste Incineration* shall be executed.

This Standard applies to the behavior of pollutants emission allowed by law. Site selection of newly established pollution source and management of existing pollution source within the special protection zone shall be executed in accordance with relevant provisions of *Law of the Peoples Republic of China on the Prevention and Control of Atmospheric Pollution*, *Law of the Peoples Republic of China on the Prevention and Control of Water Pollution*, *Marine Environment Protection Law of the Peoples Republic of China*, *Law of the People's Republic of China on Prevention of Environmental Pollution Caused by Solid Waste*, *Law of the Peoples Republic of China on Prevention and Control of Radioactive Pollution*, *Law of the People's Republic of China on Appraising of Environment Impacts* and other laws, regulations and rules.

2 Normative references

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

- GB 4915 Emission standard of air pollutants for cement industry
- GB 14554 Emission standard for odor pollutants
- GB 18597 Standard for pollution control on hazardous waste storage
- GB/T 16157 The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source
- HJ 77.2 Ambient air and waste gas Determination of polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs)
- HJ 543 Stationary source emission. Determination of mercury. Cold atomic absorption spectrophotometry (Provisional)
- HJ 657 Ambient air and stationary source emission - Determination of metals in ambient particulate matter – Inductively coupled plasma/mass spectrometry (ICP-MS)
- HJ 662 Environmental protection technical specification for co-processing of Solid wastes in cement kiln
- HJ 668 Water quality-Determination of total nitrogen by flow injection analysis (FIA) and N-(1-naphthyl) ethylene diamine dihydrochloride spectrophotometry
- HJ/T 27 Stationary source emission -- Determination of hydrogen chloride -- Mercuric thiocyanate spectrophotometric method
- HJ/T 38 Stationary source emission -- Determination of nonmethane hydrocarbons -- Gas chromatography
- HJ/T 55 Technical guidelines for fugitive emission monitoring of air pollutants
- HJ/T 75 Specifications for continuous emissions monitoring of flue gas emitted from stationary sources (on trial)
- HJ/T 176 Technical specifications for centralized Incineration facility construction on hazardous waste

environment protection in a centralized manner.

3.5

New dry process cement kiln

It refers to the rotary cement kiln that is additionally equipped with suspension pre-heater and discomposing furnace.

3.6

Compound mode

It refers to the mode that the kiln and mill are working collaboratively in such a manner that the waste gas in cement kiln is introduced into the material grinding system to dry materials using its waste heat, so that the exhaust gas emitted from the kiln and mill are processed in the same set of dust-removing-equipment.

3.7

Waste heat utilization system of kiln exhaust gas

It refers to the system that introduces cement kiln exhaust gas to dry materials and generate power, etc., using its waste heat to purify the exhaust gas after utilization of waste heat.

3.8

Standard state

The state when the temperature is 273.15 K and pressure is 101325 Pa, "Standard State" for short. This Standard specifies that the emission concentration of atmospheric pollutants refers to the value of flue gas with the O₂ volume fraction of 10% under standard state.

3.9

Maximum acceptable emission concentration

The average concentration of pollutants of exhaust funnel after the treatment facilities shall not exceed the limit value within the specified time period.

3.10

Dibenzo-p-dioxins and dibenzofurans

General term of PCDDs and PCDFs.

3.11

4.2 The location of cement kiln used for co-processing solid wastes shall meet the following conditions:

- a) It shall meet the requirements of overall urban development plan and urban industrial development plan;
- b) The location of the kiln shall be free from the risks of flood, tide or water-logging. Elevation of the location of the facility shall be above the flood level in the recurrence period of not less than once-every-100-years. And the facility shall be constructed off the inundated area and protection area of existing and various kinds of water reservoirs being planned and other artificial water storage facilities.

4.3 Special solid waste storage facilities shall be provided.

Hazardous waste storage facilities shall meet the requirements of GB 18597 and HJ/T 176.

Storage facilities of household wastes and sludge from urban sewage treatment plant shall be provided with good anti-seepage performance and with sewage collection devices. Storage facilities shall be provided with enclosing measures to ensure that such facilities are under negative pressure state when household wastes or sludge are stored. The air taken from the storage facilities shall be introduced into the high temperature area of the cement kiln for incineration or discharged after reaching the standards through other treatment measures.

Storage facilities of other solid wastes not covered in the above-mentioned 2 provisions shall be provided with good anti-seepage performance as well as necessary rain-proof and dust-proof functions.

4.4 Special solid waste dosing facilities shall be provided based on properties of solid wastes to be co-processed. Solid waste dosing facilities shall meet the requirements of HJ662.

4.5 Co-processing of solid wastes shall ensure that it will not cause adverse effects on the production of cement and control of pollution. In case of failure to meet this requirement, necessary pre-treatment measures shall be provided based on the properties of the solid wastes to be co-processed for pre-treatment. If it still fails to meet the requirement after pre-treatment, such wastes shall not be processed in the cement

pyrite cinder, blast furnace slag, gangue as replaced raw materials (including mixed materials) shall refer to Article 8.2 of this Standard.

9 Monitoring requirements

9.1 Flue gas monitoring

9.1.1 The enterprise shall build enterprise monitoring system and formulate monitoring scheme to carry out its own monitoring on waste emission and its influence on surrounding environment quality. It shall maintain the original monitoring records and publish monitoring results according to relevant laws and *Environment Monitoring Management Regulations*.

9.1.2 New enterprises and existing enterprises shall install automatic monitoring equipment of pollutant emissions. The requirements are according to relevant laws and *Source of Pollution Automatic Monitoring Regulations*.

9.1.3 The enterprise shall design, build, maintain the signs of sampling ports, sampling test platforms and draining outlets according to the environmental monitoring management regulations and the requirements of technical specifications.

9.1.4 Sampling waste gas discharged by enterprise at specified waste emission monitoring place shall be according to type of monitored pollutant. If there is waste gas treatment, it shall be monitored after treatment. Sampling atmospheric pollutants in air exhaust funnel shall be on the basis of provisions of GB/T 16157, HJ/T397 or HJ/T75. Monitoring disorganized emissions of atmospheric pollutants shall be according to provisions of HJ/T 55.

9.1.5 Monitoring heavy metals (mercury, thallium, cadmium, lead, arsenic, beryllium, chromium, tin, antimony, copper, cobalt, manganese, nickel, vanadium, and other compounds), TOC, hydrogen chloride, hydrogen fluoride in flue gas shall be at least once a quarter when cement kiln co-processing dangerous waste. When the cement kiln co-processing non-dangerous waste, it shall be done once half a year at least. Monitoring dioxins in flue gas shall be once a year at least. And the sampling shall be according to relevant provisions of HJ77.2. Its mass concentration shall be the average value of continuous 3 times' estimated value. Monitoring frequency and sampling time for other

the county level's administrative department of environmental protection together with relevant departments.

10.2In any case, the cement production enterprises co-processing solid waste shall conform to waster control requirements of this Standard. And it shall take necessary measures to ensure that pollution prevention facility operates normally. When conducting supervision check to enterprise, the environmental protection administration can take the on-site sampling or monitoring results as the basis to judge whether the waste discharge behavior has met the emissions standard and it has implemented the relevant environmental protection management.

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