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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 29446-2019

Replacing GB 29446-2012

The norm of the power consumption of coal washing

选煤电力消耗限额

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB 29446-2012 The norm of the power consumption of coal washing. Compared with GB 29446-2012, the main technical changes are as follows: grades of the norm of the power unit consumption of coal washing have been added (see 3.1 and 3.2); the advanced values of the power consumption of coal washing have been deleted (see 4.1 and 4.2 of the 2012 edition); the limit values and the access values of the power unit consumption of coal washing have been modified (see 4.1 and 4.2, and 4.1 and 4.2 of the 2012 edition).

This standard was proposed by and is under the jurisdiction of the Standardization Administration of China.

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The previous edition of the standard replaced by this standard is GB 29446-2012.

1 Scope

China's mandatory energy quota for the electricity a coal preparation plant is allowed to spend on washing a tonne of raw coal. Washing is the step that turns run-of-mine coal into a saleable product, and it is also where a large share of a colliery's electricity bill is made: pumps, screens, dense-medium circuits, flotation cells and the compressors that feed them all run continuously while coal is being fed. Because the electricity needed depends heavily

on which process route a plant uses - jigging, dense medium, flotation, or combinations of the three - a raw comparison between two plants tells you very little. This standard answers that by defining the unit consumption of coal washing as electricity consumed multiplied by a process-type conversion factor and divided by the raw coal fed, so that plants running different circuits can be measured against each other on the same scale. It then sets three grades of consumption for coking coal preparation plants and three for steam coal plants, fixes which grade an existing plant must not exceed and which grade a new, rebuilt or expanded plant must reach to be allowed in, and states where the metering of electricity starts and stops. It is used by coal preparation plants, by the groups that audit their energy performance and by the designers of new plants. The 2019 edition added the graded scale, removed the advanced values of the 2012 edition and revised both the limit values and the access values.

This standard specifies the technical requirements, the statistical scope and the calculation method for the norm of the power unit consumption of coal washing in the coal washing process of the coal industry.

This standard is applicable to the calculation and the assessment of the power unit consumption of coal washing in the coal washing process of the coal industry, and to the control of the power unit consumption of newly built, rebuilt and expanded enterprises.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 The power unit consumption of coal washing

Within the statistical period, the ratio of the product of the electricity consumed in coal washing and the conversion factor of the coal washing process type to the quantity of raw coal fed to washing.

3 Grades of the power consumption norm

3.1 Grades of the norm of the power unit consumption of coking coal preparation enterprises. The grades are given in Table 1, which sets three grades of unit consumption in kW-h per tonne, grade 1 being the lowest consumption.

3.2 Grades of the norm of the power unit consumption of steam coal preparation enterprises. The grades are given in Table 2, which likewise sets three grades of unit consumption in kW-h per tonne, grade 1 being the lowest consumption.

4 Technical requirements

4.1 Norm of the power unit consumption of coking coal preparation enterprises. 4.1.1 The

limit value for the power unit consumption of existing coking coal preparation enterprises shall conform to grade 3 of Table 1. 4.1.2 The access value for the power unit consumption of newly built, rebuilt or expanded coking coal preparation enterprises shall conform to grade 2 of Table 1.

4.2 Norm of the power unit consumption of steam coal preparation enterprises. 4.2.1 The limit value for the power unit consumption of existing steam coal preparation enterprises shall conform to grade 3 of Table 2. 4.2.2 The access value for the power unit consumption of newly built, rebuilt or expanded steam coal preparation enterprises shall conform to grade 2 of Table 2.

5 Statistical scope and calculation method

5.1 Statistical scope of the power unit consumption of coal washing. The metering of electric energy begins where raw coal is delivered to the preparation plant and ends where the washed products are transported out of it. It covers the electricity consumed by coal preparation, machine maintenance, lighting and the laboratory, together with the losses in the lines and transformers associated with them.

5.2 Calculation method of the power unit consumption of coal washing. The unit consumption is calculated by Formula (1) as the electricity consumed in the statistical period, multiplied by the conversion factor of the coal washing process type, divided by the quantity of raw coal fed to washing in the same period. The electricity is expressed in kW-h, the raw coal in tonnes and the unit consumption in kW-h per tonne; the conversion factor is selected from Annex A.

A Annex A (normative) Conversion factors of coal washing process types

Table A.1 gives the conversion factor for each combination of enterprise type and process route: five routes for coking coal preparation plants and seven for steam coal preparation plants, covering dry separation, jigging, dense medium, flotation and their combinations.