ICS 73.040
CCS D21

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43218-2023

Guidance for performance acceptance of determinator of total sulfur in coal

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents" Drafting. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by the China Coal Industry Association. This document is under the jurisdiction of the National Coal Standardization Technical Committee (SAC/TC42). This document was drafted by: Coal Science and Technology Research Institute Co., Ltd. The main drafters of this document. Sui Yan, Xing Xiuyun, Chen Sihan, and Mark Fu. Performance Acceptance Guidelines for Coal Sulfur Testers

1 Scope

GB/T 43218-2023 covers the acceptance of the instrument that measures sulfur in coal. Sulfur content decides both what a consignment of coal is worth and what it will emit when burned, so the number produced by a sulfur analyser is the number a contract is settled on and an emissions calculation starts from. Laboratories buy these instruments routinely, and the point at which their performance can be established is when they are installed, before they enter the routine work where a slow bias would be invisible. This document specifies the performance requirements for coal sulfur determinators, the acceptance methods for

verifying them, and the content of the acceptance report - so that acceptance is a defined procedure with a documented outcome rather than a demonstration by the supplier. It applies to coulometric sulfur analysers and infrared sulfur analysers, the two techniques in general use. Under ICS 73.040 and CCS D21, it is written for coal testing laboratories, for power stations and coal traders whose settlements rest on these results, and for the instrument suppliers who have to demonstrate that what they delivered performs as specified.

This document specifies the performance requirements, acceptance methods and acceptance reports of coal sulfur testers. This document applies to coulomb sulfur meters and infrared sulfur meters.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 212 Industrial analysis methods for coal

GB/T 214 Determination method of total sulfur in coal

GB/T 18510 Criteria for Validation of Alternative Methods for Coal and Coke Testing

GB/T 25214 Infrared spectroscopy method for determination of total sulfur in coal

GB/T 28732 Determination method of total sulfur in solid biomass fuel

GB/T 31425 Coulomb sulfur meter technical conditions

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4 Coulomb Sulfur Meter

4.1 Overview The working principle of the coulomb sulfur meter is as follows: the coal sample is burned and decomposed in the air flow under the action of a catalyst, and the sulfur in the coal generates sulfur oxides, where Sulfur dioxide is absorbed by the potassium iodide solution, titrated with the iodine produced by the electrolysis of the potassium iodide solution, and calculated based on the electricity consumed by the electrolysis. Total sulfur content. Coulomb sulfur meter mainly consists of a tubular high-temperature furnace, electrolytic cell and electromagnetic stirrer, air supply and purification device, Coulomb integrator, It is composed of sample delivery program

controller and other parts. Figure 1 is a schematic diagram of the basic structure of the coulomb sulfur meter.