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

GB/T 37539-2025

Replacing GB/T 37539-2019

**Corrosion control engineering life cycle in fossil fuel power
plants - General requirements**

火电厂腐蚀控制工程全生命周期 通用要求

(English Translation)

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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.

This document supersedes GB/T 37539-2019 "Requirements for the Entire Life Cycle of Corrosion Control Engineering in Thermal Power Plants" and is consistent with GB/T 37539-2019.

Aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2019 edition);
- b) Some content in the "Terms and Definitions" section has been changed (see Chapter 3, Chapter 3 of the 2019 edition);
- c) Some technical content in the "General Requirements" has been changed (see Chapter 4, Chapter 4 of the 2019 edition);
- d) Some technical content in the "Objectives" section has been modified (see Chapter 5, Chapter 5 of the 2019 edition);
- e) Some technical details in the "Corrosion Sources" section have been modified (see Chapter 6, Chapter 6 of the 2019 edition);
- f) A new chapter on "Materials" has been added (see Chapter 7);
- g) Some technical content in the "Technology" section has been changed (see Chapter 8, Chapter 7 of the 2019 edition);
- h) Some technical details in the "Design" section have been changed (see Chapter 9, Chapter 8 in the 2019 edition);
- i) A new chapter on "Research and Development" has been added (see Chapter 10);
- j) Some technical details in the "Manufacturing" section have been changed (see Chapter 11, Chapter 9 in the 2019 edition);
- k) A new chapter on "Storage and Transportation" has been added (see Chapter 12);
- l) Some technical content in "Construction and Installation" has been changed (see Chapter 13, Chapter 10 in the 2019 edition);
- m) The "Debugging" guidelines have been changed, and the "Trial Run" section has been removed (see Chapter 14, Chapter 11 of the 2019 edition);

- n) The "Acceptance" criteria have been revised, and the "Inspection" section has been removed (see Chapter 15, Chapter 12 of the 2019 edition);
- o) Some technical details in "Run" have been changed (see Chapter 16, Chapter 13 in the 2019 edition);
- p) The chapter on "Detection" has been removed (see Chapter 14 in the 2019 edition);
- q) The regulations for "Maintenance" and "Inspection" have been changed, and the content for "Repair" has been removed (see Chapters 17 and 18, 2019 edition).

Chapter 15);

- r) The chapter on "Replacement and Life Extension" has been removed (see Chapter 16 in the 2019 edition);

- s) The provisions on "Scrap and Disposal" have been amended, and the section on "Scrap and Post-Scrap Green Environmental Treatment" has been removed (see Chapter 19, 2019 edition).

Chapter 17

- t) The provisions for "Documents and Records" have been changed, and the content for "Document Management and Records" has been removed (see Chapter 20, 2019 edition).

Chapter 18);

- u) The rules for "Resource Management" have been changed, and the content related to "Resources" has been removed (see Chapter 21, Chapter 19 of the 2019 edition);

- v) The provisions for "Comprehensive Assessment" have been changed, and the content on "Evaluation" has been removed (see Chapter 22, Chapter 20 of the 2019 edition).

This document adopts ISO 24239:2022 "General requirements for corrosion control engineering throughout the entire life cycle of thermal power plants".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Corrosion Control Standardization (SAC/TC381).

1 Scope

This document specifies the general requirements for all elements throughout the entire lifecycle of corrosion control engineering in thermal power plants.

This document applies to corrosion control engineering in all types of thermal power plants.

2 Normative references

The contents of the following documents, through reference in the text, constitute essential provisions of this document. For dated references, only the cited document is considered relevant.

The version numbered by date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

Note: GB/T 10123-2022 Corrosion terminology for metals and alloys (ISO 8044:2020, IDT) eral requirements) Note. GB/T 33314-2023 General requirements for the entire life cycle of corrosion control engineering (ISO 23123:2020, IDT) assessment) Note. GB/T 37183-2023 Risk assessment of the entire life cycle of corrosion control engineering (ISO 23222:2020, IDT)

3 Terms and Definitions

The terms and definitions defined in ISO 8044, ISO 23123, and ISO 23222, as well as the following terms and definitions, apply to this document.

Thermal power plants utilize various corrosion control technologies to keep the metal corrosion rates of their equipment, facilities, and systems within required limits.

process.

The process of metal corrosion can be controlled by adding chemical agents to the water vapor system to adjust the water vapor quality.

Combustion adjustment Adjusting boiler combustion conditions helps prevent heat exchange tube corrosion.

Under specific operating conditions, corrosion occurs when changes in the flow of the medium accelerate the dissolution and thinning of the oxide film on the inner wall of a metal pipe.

form.

Corrosion that occurs on the surface of metal parts under high-temperature steam conditions.