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

GB/T 33314-2023

Replacing GB/T 33314-2016

Corrosion control engineering life cycle - General requirements

腐蚀控制工程全生命周期 通用要求

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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 replaces GB/T 33314-2016 "General Requirements for the Life Cycle of Corrosion Control Engineering" and is consistent with GB/T 33314-2016: In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Changed the scope (see Chapter 1, Chapter 1 of the:2016 edition);
- b) Added the terms and definitions of "best benefit", "factor", "component" and "green plan" (see 3:3, 3:4, 3:5 and 3:6);
- c) The contents of "General Provisions" and "Objectives" have been changed (see Chapter 4 and Chapter 5, Chapter 3 and Chapter 4 of the:2016 edition);
- d) Delete the "schematic diagram of continuous improvement of corrosion control engineering system" (see Figure 1 of the:2016 version);

- e) Changed the content of "Corrosion Sources", "Materials" and "Technology" (see Chapter 6~8, Chapter 5~7 of the:2016 edition);
- f) The content of "development" has been deleted (see Chapter 8 of the:2016 version);
- g) Changed the content of "Design" (see Chapter 9, Chapter 9 of the:2016 edition);
- h) Added a "R&D" chapter (see Chapter 10);
- i) The contents of "manufacturing", "construction and installation" and "loading, unloading, storage and transportation" have been changed (see Chapter 11 ~ Chapter 13,:2016 edition Chapter 10~Chapter 12);
- j) Changed "Debugging" to "Installation and Debugging", and changed the content of installation and debugging (see Chapter 14, Chapter 13 of the:2016 version);
- k) Changed the content of "acceptance" and "operation" (see Chapter 15, Chapter 16, Chapter 14 and Chapter 15 of the:2016 edition);
- l) The chapter "Testing and Inspection" has been deleted (see Chapter 16 of the:2016 edition);
- m) Changed the content of "Maintenance" (see Chapter 17, Chapter 17 of the:2016 edition);

1 Scope

GB/T 33314-2023 sets the general requirements for corrosion control across the whole life of an engineering asset. Corrosion is estimated to cost China something over three per cent of GDP a year, and the reason the loss is that large is rarely a bad coating: it is that corrosion is treated as a maintenance problem discovered late rather than as a design decision taken early, so the material selection, the geometry, the drainage, the access for inspection and the provision for cathodic protection are all fixed before anyone with corrosion expertise is consulted. This standard is written against that. It sets out the corrosion control requirements at each stage of the life cycle: the feasibility study and the corrosion risk assessment, the design, covering material selection, protective coatings, cathodic protection, inhibitors and design detailing, the procurement and construction, the commissioning, the operation and maintenance with the monitoring and inspection regime, and the decommissioning, together with the management system, the competence requirements and the documentation that has to pass from each stage to the next. The 2023 edition replaces GB/T 33314-2016.

This document specifies the general requirements for various control factors in the entire life cycle of corrosion control projects: This document is applicable to all types of corrosion control projects:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

The following terms and definitions apply to this document: 3:

1 Selection of corrosion control materials and technologies, systems involved in the entire process from identification of corrosion sources (3:2) to control of corrosion behavior All aspects of the project including design, construction, inspection, evaluation and maintenance:

Note 1: Corrosion is a process in which natural objects interact with the corresponding environment to change their original properties:

Note 2: Engineering is a process in which many related factors are integrated into a corresponding entity through the orderly and effective integration of science and technology: Engineering points in the world It refers to naturally formed projects, artificially formed projects and projects formed by a combination of nature and man-made: 3:2 corrosion sourcecorrosionsource A general term for various factors that cause or cause corrosion: 3:3 optimal benefitoptimumbenefit The best state based on comprehensive consideration based on coordinated control and optimized selection: 3:4 factor element All factors that affect the best efficiency (3:3) of the entire life cycle (3:1) of corrosion control projects: 3:5 componentscomponents Any subcomponent, assembly, part or process that is or contributes to the final assembly: 3:6 green plan greenplan Green environmental protection measures that comprehensively consider all known relevant factors such as reducing resource consumption and the generation and recycling of engineering waste:

4 General rules

1 This document defines the general requirements for all factors involved in the entire life cycle of corrosion control projects, and