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

GB/T 46878-2025

**Carbon dioxide capture, transportation and geological storage -
Geological storage**

二氧化碳捕集、运输和地质封存 地质封存

(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 is equivalent to ISO 27914:2017 "Carbon dioxide capture, transport and geological storage" 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 and is under the jurisdiction of the National Technical Committee on Standardization of Environmental Management (SAC/TC207).

Introduction

Geological carbon dioxide sequestration is considered a key technology for mitigating carbon dioxide emissions into the atmosphere or ocean, and is a crucial component of carbon dioxide capture and storage.

Carbon dioxide sequestration (CCS)[5] is an important component of the process. The purpose of this document is to provide a method for the safe and effective sequestration of carbon dioxide in formations.

It is recommended to apply this approach throughout all stages of the project lifecycle (see Figure 1). Although CCS is an emerging industry, this document has received support from pilot projects.

Supported by a series of operational experiences from commercial-scale carbon dioxide sequestration projects, these projects utilize technologies primarily developed by the oil and gas industry.

And widely deployed methods and technologies, including enhanced oil recovery (EOR) using carbon dioxide. This document provides recommended practices for carbon dioxide sequestration.

The book and numerous standards and technical recommendations developed for the oil and gas industry (see references [20], [39] and [54]~[63]).

Carbon dioxide capture, transport and geological storage Geological Sequestration

1 Scope

This document.

a) Requirements and recommendations for geological carbon dioxide sequestration were proposed, with the aim of promoting the economical, safe, and long-term sequestration of carbon dioxide.

To minimize risks to the environment, natural resources, and human health;

b) Applicable to geological sequestration in porous and permeable reservoirs, including oil and gas reservoirs, both onshore and offshore, where the injected carbon dioxide flow does not require...

Storage related to oil and gas production or enhanced carbon dioxide recovery;

c) This includes site screening and selection, characterization, design and development, site closure operation, and closure preparation;

d) Recognizing that the site selection and management of each project are unique, and that inherent technical risks and uncertainties will vary depending on the specific site conditions.

To handle;

e) Confirm that regulatory approvals and permits are required throughout the project lifecycle (including the closing phase), although this document does not cover all such matters.

Includes licensing process;

f) Provide requirements for the establishment of a management system, the involvement of the community and other stakeholders, risk assessment, risk management, and risk

communication.

And suggestions;

g) This does not apply to modify, interpret, or supersede any national or international regulations, treaties, protocols, or laws applicable to the activities described in this document.

Documents;

h) This does not apply to modifications of any property rights or interests (including mining rights) on or beneath the surface, or any existing rights relating to the aforementioned property.

Some commercial contracts or agreements.

The lifecycle of a carbon dioxide geological storage project encompasses all aspects, periods, and phases of the project, from pre-project activities (including...) this encompasses the entire process from site screening, selection, characterization, assessment, engineering, permitting, and construction, to commencement of operational injection and closure. This document applies to...

The range is shown in Figure 1.

Note 1: This document does not cover any requirements to be followed in the post-closing phase or any specific phase after the closing.

This document is not applicable to.

---Post-closing phase;

---Carbon dioxide injection primarily aimed at enhancing oil and gas recovery, or carbon dioxide injection related to carbon dioxide-enhanced oil and gas recovery.

Carbon sequestration;

---Other acidic gas treatments, except for components in the carbon dioxide stream;

---Disposal of waste and other additives;

---Injecting and sealing carbon dioxide into coal seams, basalt, shale, and salt caverns;

---Use any form of underground storage tank for sealing.

Note 2: This document may not be applicable to research projects, such as those whose primary purpose is to test technologies or monitor methods.

Note 3: This document does not involve the transfer of responsibility.