

ICS 27.010
CCS F 29



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

GB/T 46876-2025

**Specification for the operation and management of flue gas
carbon dioxide capture and compression facilities**

烟气二氧化碳捕集与压缩装置运行管理规范

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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 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). This document was drafted by: China Huaneng Group Clean Energy Technology Research Institute Co., Ltd., China National Institute of Standardization, and China Energy Investment Corporation. New Energy Technology Research Institute Co., Ltd., Beijing Hatech Engineering Technology Co., Ltd., Tongxing Environmental Protection Technology Co., Ltd., Beijing Huairou Industrial Co., Ltd. Laboratory, Shenyang Blower Works Group Co., Ltd., Zhejiang University, China Power Engineering Consulting Group East China Electric Power Design Institute Co., Ltd., China Power Engineering Cheng Consulting Group, North China Electric Power Design Institute Co., Ltd., Huaneng Gansu Energy Development Co., Ltd., Tsinghua University, Huaneng Longdong Energy Co., Ltd. The company's Zhengning Power Plant, Huaneng International Power Development Corporation Shanghai Shidongkou No.

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Operation of flue gas carbon dioxide capture and compression unit Management Standards

1 Scope

GB/T 46876-2025 is the Chinese national standard covering running a capture and compression plant - the solvent inventory and its make-up and reclaiming, the steam and power drawn from the host plant, the compression train, the emissions of the capture plant itself and the response when the host unit changes load. First edition, with the CO₂ pipeline specification GB/T 46875-2025. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the preparation, startup and commissioning, operation, shutdown, troubleshooting and handling, and data acquisition procedures for flue gas carbon dioxide capture and compression devices. The system meets operational and management requirements, and corresponding verification methods are described. This document applies to the operation and management of carbon dioxide capture and compression devices in flue gas using chemical absorption methods (organic amines, etc.).

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB 13223 Emission Standard of Air Pollutants for Thermal Power Plants

GB 16297 Integrated Emission Standard for Air Pollutants

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 carbon dioxide capture The process of separating carbon dioxide from flue gas to meet certain performance requirements.

3.2 Leansolvent In the carbon dioxide absorption/desorption cycle, the absorbent is desorbed in the regeneration tower and then transported from the bottom of the tower to the absorption tower.

3.3 Rich solution In the carbon dioxide absorption/desorption cycle, the absorbent is absorbed in the absorption tower and then transported from the bottom of the tower to the regeneration tower.

3.4 Absorber A tower used to ensure sufficient contact between lean liquor and flue gas, thereby absorbing carbon dioxide from the flue gas.

3.5 Regeneration Tower Stripper The tower obtains sufficient heat from the reboiler and exchanges heat fully with the rich liquid, thereby completing the desorption of carbon dioxide from the rich liquid.

3.6 The high-parameter superheated steam is regulated to the required steam parameters (pressure, temperature) using a desuperheating system, a pressure reduction system, and a control system. Device. [Source: DL/T 2493-2022, 3.1]