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

GB/T 46423-2025

**Technical specification for recovery of venting gas for
transmission pipelines**

长输天然气管道放空回收技术规范

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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 Petroleum and Natural Gas (SAC/TC355). This document was drafted by: the Branch of the Science and Technology Research Institute of China Oil & Gas Pipeline Network Corporation, and China Oil & Gas Pipeline... China National Petroleum Pipeline Group Corporation West-East Gas Pipeline Branch, China Petroleum Engineering & Construction Corporation Southwest Branch, China Oil & Gas Pipeline Network Corporation Limited Company Shandong Branch, China Petroleum Pipeline Engineering Co., Ltd., China University of Petroleum (East China), and China Pipeline Group Western Pipeline Limited Liability Company, China Pipeline Group Beijing Pipeline Co., Ltd., Sinopec Zhongyuan Petroleum Engineering Design Co., Ltd., China Pipeline Group Zhejiang Jiangxi Provincial Natural Gas Pipeline Network Co., Ltd. The main drafters of this document are. Peng Shiyao, Wang Weibin, Xu Dong, Guo Gang, Ren Fujian, Ouyang Xin, Yang Wenchuan, Dai Xiaohua, Zhang Hanwen, and Tian Wang. Miao Qing, Liu Cuiwei, Yang Ming, Pan Biao, Zhao Baocai, Zhang Shuanglei, Chai Chong, Tan Xiao, Wei Dan, Nie Chaofei, Sun Sheng, Wang Yubin, Cheng Lei, Pei Yebin Lin Baohui, Wang Wenjiang, Yang Yujian, and Zhu Quezhi. Technical Specifications for Venting and Recovery of Long-Distance Natural Gas Pipelines

1 Scope

GB/T 46423-2025 is the Chinese national standard covering recovering the gas that would otherwise be vented before maintenance - the recompression into the adjacent section or into a mobile unit, the pressure down to which recovery is worth doing, the safety of the operation, and the emissions avoided. Venting a pipeline section releases methane straight to atmosphere, which is why this now has a standard. First edition, in force from 1 May 2026. Issued on 5 October 2025, it has been in force since 1 May 2026.

This document establishes the general principles for using compressor units to recover vented gas from long-distance natural gas pipelines and stations, and specifies the venting recovery procedures. Volume measurement, venting and recovery system, on-site installation of venting and recovery system, operation of venting and recovery system, and evaluation of venting and recovery. This document applies to the design, installation, and recovery operations of venting and recovery systems for long-distance natural gas pipelines.

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 1589 Limits for the overall dimensions, axle load and mass of automobiles, trailers and automobile combinations

GB/T 7777 Measurement and Evaluation of Mechanical Vibration in Positive Displacement Compressors

GB/T 25359 Integrated Skid-Mounted Reciprocating Compressors for the Petroleum and Gas Industry

GB/T 37170 Safety Technical Specification for Stationary Gas Engines

GB 50540 Construction Specification for Process Piping Engineering in Oil and Gas Stations

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Vent The process of discharging natural gas from pipelines.

Note. This includes both cold venting and hot venting.

3.2 Gas venting recovery The natural gas that was originally intended to be vented will be recovered and reused.

Note. The core equipment of the venting and recycling system is the compressor.

3.3 gas-tight test For containers and pipelines holding or transporting flammable, explosive, or toxic media, the pressure should be raised to the specified value according to the specifications and maintained for a certain period of time. During this period, tests were conducted to check for leaks. [Source: GB/T 8423.3-2018, 2.1.29, with modifications]

4 General Principles

4.1 The venting and recovery methods for long-distance natural gas pipelines should be implemented in two categories. line venting and recovery and station venting and recovery.

4.2 The recovery of venting from long-distance natural gas pipelines should be determined based on the venting volume, while the recovery of venting from stations should be determined based on a comprehensive consideration of venting frequency and total venting volume.