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GB/T 43926-2024

Technical specification for state assessment after oil and gas transportation pipeline accident

油气输送管道事故后状态评估技术规范

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting: Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document was proposed and coordinated by the National Technical Committee for Petroleum and Natural Gas Standardization (SAC/TC355): This document was drafted by: China National Petroleum and Natural Gas Pipeline Network Corporation, China Special Equipment Testing and Research Institute, China National Pipeline Network Corporation Nan Pipeline Co:, Ltd:, China Institute of Safety Science and Technology, China Petroleum and Natural Gas Pipeline Engineering Co:, Ltd:, CNOOC Gas and Electricity Group China National Pipeline Network Corporation Limited, China National Pipeline Network Corporation Engineering Technology Innovation Co:, Ltd:, Beijing Zhiwang Digital Technology Co:, Ltd:, China National Pipeline Network Corporation Beijing Fang Pipeline Co:, Ltd:, National Pipeline Network Group Western Pipeline Co:, Ltd:, National Petroleum and Natural Gas Pipeline Network Group Co:, Ltd: West Gas East Transmission Branch, National Pipeline Network Group Beijing Pipeline Co:, Ltd:, National Oil and Gas Pipeline Network Group Co:, Ltd: South China Branch, National Petroleum Natural Gas Pipeline Network Group Co:, Ltd: Central China Branch, National Petroleum and Natural Gas Pipeline Network Group Co:, Ltd: North China Branch, National Petroleum and Natural Gas Branch of the General Research Institute of Science and Technology of China Pipeline Network Group Co:, Ltd: The main drafters of this document are: Wang Zhensheng, Feng Qingshan, Liu Kuirong, Dai Lianshuang, Wang Ailing, Hou Hao, Wu Dongrong, Liu Yuting, Wang Leichao, He Renyang, Wang Haitao, Wang Rujun, Duo Yingquan, Zhang Shengzhu, Xiong Jian, Wang Lianwei, Yan Bingchuan, Zhang Hailiang, Chen Jian, Wang Ting, Sun Wei, Yu Yao, Li Shili, Jiang Qingmei, Chang Jinglong, Fu Liwu, Zhang Xiaochun, Li

Jingchang, Wang Ye, Tan Xiao, Zhang Libo, Yu Dongliang, Zhu Quezhi, Zou Bin, Liu Jun, Xiu Linran, Hu Yabo, Lei Hongfeng, Feng, Wenxing, Feng, Wei, Liu, Bing, Qiu, Xujian, and Zhao, Kang: Technical specification for post-accident status assessment of oil and gas pipelines

1 Scope

GB/T 43926-2024 specifies how the state of an oil or gas transmission pipeline is assessed after an accident. The immediate question after a leak is answered quickly - the line is isolated and the escape stopped - but the harder question follows: whether what failed was a local defect or the first appearance of a condition present along the whole line, and therefore whether the pipeline can be returned to service. The answer depends on the failure mechanism, so the standard is organised by mechanism. It sets the general requirements and the assessment process, then the determination of the state for a weld leak, for a corrosion leak, for a fracture leak and for other leak types, each with its own assessment process, content and requirements, followed by the overall conclusion, the disposal recommendations and the assessment report. It took effect on 1 August 2024.

This document specifies the maximum allowable operation of oil and gas pipelines after weld leakage, corrosion leakage, fracture leakage and other leakage accidents: The stress assessment process clarifies the assessment content and requirements: This document is applicable to the determination of the maximum allowable operating pressure after emergency treatment of buried long-distance oil and gas pipelines that have leakage accidents: Reference for determination of the maximum allowable operating pressure after emergency treatment of leakage accidents in process pipelines, crossing pipelines and submarine pipelines within the station use:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document: For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document:

GB/T 21447 Specification for external corrosion control of steel pipelines

GB/T 23258 Specification for internal corrosion control of steel pipelines

GB/T 28896 Test method for determination of quasi-static fracture toughness of welded joints of metallic materials

GB 32167 Specification for integrity management of oil and gas pipelines

GB/T 36676 External detection method for stress corrosion cracking (SCC) of buried steel

pipelines

GB/T 42033 Technical specification for integrity assessment of oil and gas pipelines SY/T 0087:

1 Corrosion evaluation standard for steel pipelines and storage tanks Part 1: Direct evaluation of external corrosion of buried steel pipelines SY/T 0087:

2 Corrosion evaluation standard for steel pipelines and storage tanks Part 2: Direct evaluation of internal corrosion of buried steel pipelines

3 Terms and definitions

The terms and definitions defined in GB 32167 and the following apply to this document: 3:1 accidentpipeline Caused by corrosion, weld cracking, low temperature brittle fracture, hydrogen cracking, fatigue failure, natural and geological disasters, third-party damage, misoperation, etc: Oil and gas pipelines that fail due to leakage: 3:2 failure Physical changes that cause pipelines or related facilities to lose the functions specified in the original design or cause certain losses:

Note: Includes leakage, damage or degradation: [Source: GB 32167-2015, 3:15, modified] 3:

3 Third-party damage Acts by individuals or organizations other than pipeline companies and their contractual contractors that damage the pipeline system unintentionally or intentionally: [Source: GB 32167-2015, 3:20]