

ICS 25.040
CCS N 10



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

GB/T 46712-2025

**Directives for the comprehensive evaluation of the operation
and risk prevention and control level of unattended stations**

无人值守场站运行及风险防控水平综合评价导则

Issued on: December 2, 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 by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Industrial Process Measurement, Control and Automation (SAC/TC124). This document was drafted by: the Institute of Instrumentation Technology and Economics of the Machinery Industry, and the Northern Pipeline Company of China Pipeline Network Corporation. Southwest Pipeline Company of

State Pipeline Group, China Southern Power Grid Company Limited Ultra-High Voltage Transmission Company, and China National Petroleum Corporation. Southwest Oil and Gas Field Branch of State Grid Corporation of China, Beijing Railway Communication and Signal Research and Design Institute Group Co., Ltd., and State Grid Zhejiang Electric Power Co., Ltd. Hangzhou Power Supply Company, China Datang Corporation Science and Technology Research Institute Co., Ltd., Beijing Jingneng Clean Energy Power Co., Ltd., and the State Oilfield Pipeline Network Corporation of China Science and Technology Research Institute Branch and China National Petroleum Corporation Changqing Oilfield Branch First Oil Transportation Division, Oil and Gas Control Center of China Oil & Gas Pipeline Network Corporation, Beijing Pipeline Co., Ltd. of China Pipeline Network Corporation State Grid Jiangxi Electric Power Research Institute, Shanghai Energy Construction Engineering Design & Research Co., Ltd., and Henan Natural Gas Pipeline Network Co., Ltd. Limited Liability Company, China Petroleum Pipeline Engineering Co., Ltd., Shanghai Natural Gas Pipeline Network Co., Ltd., Supcon Technology Co., Ltd., Hangzhou He Lishi Automation Co., Ltd., Shanghai Chenzhu Instrument Co., Ltd., Shenmu Information Industry Development Group Co., Ltd., and Unicom Digital Technology Co., Ltd. The company is Nanjing Port Machinery Heavy Industry Manufacturing Co., Ltd. The main drafters of this document are. Cui Tao, Wang Linkun, Liu Yao, Li Qiujuan, Shi Suijing, Shuai Bing, Diao Yu, Sun Yong, Xu Deteng, Liao Hua, and Zhang Wei. Ding Jian, Li Zhengtao, Guan Liangliang, Dong Xiujuan, Shi Xueling, Deng Yong, Li Wang, Sun Tieliang, Li Maofeng, Zhang Pengxiong, Shen Liang, Zhang Chao, Huang He, Lü Feng Li Lin, Bao Weihua, He Miao, Zhu Minglu, Cheng Zhonghai, Liang Yi, Bu Zhijun, Sun Xiangdong, Wei Zhenqiang, Jin Jianghong, Wang Jian, Liu Yujie, Chen Jingdong Wang Qiushi, Ma Tieliang, Guo Miao, Su Liangzhi, Dai Jiasheng, Hong Pengda, Shen Yushi, Li Fan, Chen Sensen, Wang Zepu, Pan Dongbo, Shi Lei, Zhu Jie Jiang Shaodong, Liu Shengqiang, Zhou Lichao, Wei Juren, Jiang Shanshan, Chen Xiaohua, Zhang Han, Wang Jie, Zhu Hongyi, Sun Shu, Jin Ling, Cui Yanxing, Sun Yongkang Chen Chaoyang, Zhang Zhaoyun, An Ke, Wang Jia, Zhou Li, Nie Zhongwen, Yin Weibing, Yu Feng, Zhang Lubing, Hou Mingyan, Li Xinjie, Kong Yong, Duan Hongjie, Ren Zhigang Wang Shuai, Pan Lei, Xiong Wenze, Yang Liu.

With the continuous advancement of technologies such as automation and information technology, and the ongoing transformation of operation and maintenance models, innovative management models are essential for high-quality industrial development. This is an inevitable requirement. Industries such as oil and gas extraction and pipeline transportation, and power generation have successively begun to implement unmanned operation and management models for their facilities. To ensure... This document, combining new technologies and management models, outlines the safe and stable operation of unmanned stations. It also considers the construction and development needs of relevant domestic industries. Drawing on advanced experience, a comprehensive evaluation method for the operation and risk control level of unmanned stations is proposed, and relevant technical requirements are given. This document aims to guide

unmanned depots in identifying weaknesses and potential risks during operation, and to objectively evaluate and effectively assess these risks. This study examines the implementation effects and current technical and management status of unmanned operation modes at facilities with varying basic conditions, aiming to effectively evaluate unmanned facilities across different industries. This provides a basis for assessing the operational level and risk control capabilities of the stations. Furthermore, it can fully identify the transition of relevant stations from traditional management models to unmanned operation. Risks arising from technological upgrades and management changes during the transition of management models will be addressed through management optimization, safety control, emergency management, and response. Such means or technical measures ensure that risks are controllable, thereby safeguarding national industrial security and the safety of people's lives and property. Level of operation and risk control of unmanned stations Comprehensive Evaluation Guidelines

1 Scope

GB/T 46712-2025 is the Chinese national standard covering judging whether a station can safely run with nobody there - the instrumentation and its coverage, the remote monitoring and the response time of the crew that would have to travel to it, the failure modes that need a human present, and the scoring that says yes or no. At 74,500 words this is one of the largest documents in the catalogue. First edition. Issued on 2 December 2025, it has been in force since 1 July 2026.

This document specifies the general requirements, evaluation system model, evaluation implementation, and other aspects for the comprehensive evaluation of the operation and risk control level of unmanned stations. Content related to ability perfection level assessment. This document applies to the overall operation and risk control level of facilities that have already implemented unmanned operation and those planned to implement unmanned operation management models. Evaluation and related activities, such as at stations in the energy (oil and gas, electricity, new energy, etc.), rail transit, and manufacturing industries.

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/T 20438 (all parts) Functional safety of electrical/electronic/programmable electronic safety-related systems