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PEOPLE'S REPUBLIC OF CHINA**

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**Industrial internet platforms - Digital management of production
safety - Part 2: Petrochemical and chemical industry**

工业互联网平台 安全生产数字化管理 第2部分：石化化工行业

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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 Part 2 of GB/T 46884 "Digital Management of Safe Production on Industrial Internet Platforms". GB/T 46884 has been... The following sections were published.

1. General Provisions;

2. Petrochemical Industry. 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 Ministry of Industry and Information Technology of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of the Integration of Informatization and Industrialization (SAC/TC573). This document was drafted by: China Academy of Safety Science and Technology, School of Emergency Management Science and Engineering, University of Chinese Academy of Sciences, and China Industrial... Internet Research Institute, China Petroleum Group Safety and Environmental Protection Technology Research Institute Co., Ltd., Qingyun Zhitong (Beijing) Technology Co., Ltd., Beijing ShouChuang Atmospheric Environment Technology Co., Ltd., China Oil & Gas Pipeline Network Corporation, Jilin Electric Power Co., Ltd., and China Energy Investment Corporation. China National Petroleum Corporation Limited, China Coal Shaanxi Energy and Chemical Group Co., Ltd., China Salt Anhui Hongshifang Co., Ltd., Shandong Energy Group New Materials Co., Ltd., Hebei Xinhai Chemical Group Co., Ltd., Guoneng Yulin Chemical Co., Ltd., China National Petroleum Corporation Changqing Oilfield Branch, China Coal Information Technology (Beijing) Co., Ltd., Zibo Qixiang Tengda Chemical Co., Ltd., Shanghai Runba Information Technology Limited Liability Company, Anyuan Technology Co., Ltd., Hubei Xinyi Chemical Co., Ltd., Dongtu Technology (Yichang) Co., Ltd., Sinopec Safety Engineering Research Institute Co., Ltd., Suzhou Zhenqu Information Technology Co., Ltd., Fujian Energy and Petrochemical Information Technology Co., Ltd., Zhong'an Industrial Internet Network (Chengdu) Co., Ltd., Shenzhen Jiangxing Lianjia Intelligent Technology Co., Ltd., Beijing Dameisheng Software Co., Ltd., Shenzhen Kunyun Information Technology Co., Ltd. Technology Co., Ltd., China Unicom Digital Technology Co., Ltd., Beijing Taice Technology Co., Ltd., Suzhou Tongqi Artificial Intelligence Technology Co., Ltd., Nanjing He Electric Technology Co., Ltd., Shandong Yuntian Safety Technology Co., Ltd., China Petroleum Pipeline Engineering Co., Ltd., Anhui Shihua Engineering Technology Co., Ltd. Joint-stock company, Sichuan Xintu Fluid Control Technology Co., Ltd., Guangzhou Tinci Advanced Materials Co., Ltd., Zhejiang Quzhou Fluorochemical Co., Ltd. Limited Company, Ningbo Zhongjin Petrochemical Co., Ltd., Shanghai Hechuang Chemical Co., Ltd., Tianjin Bohua Chemical Development Co., Ltd., Donghua Engineering Science Technology Co., Ltd., Maoming Ruipai Petrochemical Engineering Co., Ltd., Shandong Jingbo Petrochemical Co., Ltd., Hebei Yiqiyun Technology Co., Ltd. Sichuan Better Petroleum Technology Co., Ltd., Saifite Engineering Technology Group Co., Ltd., and CNOOC Petrochemical Engineering Co., Ltd. The main drafters of this document are. Guan Lei, Xie Hongbo, Shang Duo, Wu Shuncheng, Li Ying, Zhang

Zhiqiang, Zhang Yinglei, Liu Liang, Yu Jianyu, and Huang Qizhong. Wang Guangping, Li Jinglin, Li Qingwen, He Xiaoguang, Li Pei, Liu Fuliang, Shi Hongjun, Wang Shunyi, Liu Hongtai, Wang Jian, Lu Siwei, Yang Wuyan, Liu Yongwei Zhang Yuangang, Cao Yandong, Wang Xisheng, Xu Zhixin, Yan Weiguo, Xu Xuerui, Li Lei, Dai Chuangchuang, Xu Yan, Shi Weijing, Zhao Ying, Meng Dong, Shi Xuebin, Han Jiao Li Yuanyuan, Li Haoran, Xu Jiao, Liu Na, Chang Weichun, Gou Zenian, Xu Zhihong, Sun Zhenqiang, He Zhanyou, Zhang Rui, Xiao Wei, Li Chao, Wang Sanming, Ma Ying Chen Jiuzhou, Huang Leguan, Ye Jinhua, Li Chen, Dang Wenyi, Shi Hongxun, Wu Lei, Liu Xiaowei, Yu Fujie, Wu Bin, Li Weimin, Hu Anlin, Pang Haitian Fan Xiaoyi, Li Yansong, Sun Aimei, Wang Shaojun, Niu Xinyu, Guan Ying, Liu Yong, Wang Xiaojun, Ding Qiang, Li Feng, Wang Xuejun, Liu Pengfei, Zhai Xujiong Mei Dehong, Ying Yu, Ma Jingjiu, Zhong Junwei, An Fengfa, Liu Gehong, Wu Huantao, Xiong Quanneng, Zhang Shuping, Yu Zhenbao, Chen Yang, Li Di, Tao Cheng.

The petroleum and chemical industry is an important basic and pillar industry in my country, accounting for approximately 40% of the global output of chemicals. Chemical production processes are complex. The materials involved are diverse and complex, often flammable, explosive, toxic, or hazardous. Production conditions frequently involve high temperatures and pressures, as well as low temperatures and negative pressures. Large quantities of hazardous chemicals are stored on-site, posing significant risks. Risk sources are concentrated. As a process industry, the petrochemical sector is promoting the integration of next-generation information technologies such as the Industrial Internet, big data, and artificial intelligence with safety. Deep integration of comprehensive management is an important strategic choice for promoting the modernization of the governance system and governance capabilities for the safe production of hazardous chemicals, and is crucial for advancing the development of hazardous chemical safety management. The digitalization, networking, and intelligentization of hazardous chemical safety management effectively drive quality, efficiency, and power transformation, and have a very positive impact. significance. This document provides the standards and requirements for the petrochemical industry to carry out digital management of safe production based on the industrial internet platform. GB/T 46884 "Digital Management of Safe Production on Industrial Internet Platforms" aims to provide the petrochemical industry with a platform-based approach for safe production. This paper outlines the basic ideas and framework for digital management of safe production, aiming to improve the application level of industrial internet technology in digital management of safe production. The project aims to lay the foundation for the standardization and normalization of digital management of safe production in the petrochemical industry, and is planned to consist of 10 parts.

1.General Provisions. The purpose is to provide a basic framework for digital management of safe production based on an industrial internet platform, and to stipulate... Key application scenarios and digital elements of digital management for safe production based on industrial internet platforms.

2.Petrochemical Industry. The aim is to provide data on safe production in the

petrochemical industry based on an industrial internet platform. The basic framework of digital management is defined, and the key application scenarios for digital management of safe production in the petrochemical industry are specified.

3. Mining and Processing Industry. The aim is to provide digital data on safe production in the mining and processing industry based on an industrial internet platform. The basic framework of digital management is defined, and the key application scenarios for digital management of safe production in the mining and beneficiation industry are specified.

4. Oil and Gas Storage and Transportation Industry. The aim is to provide insights into the oil and gas storage and transportation industry based on industrial internet platforms. The basic framework for digital management of safe production is defined, specifying key scenarios for digital management of safe production in the oil and gas storage and transportation industry. Application development.

5. Civil Explosives Industry. The aim is to provide safety guidelines for the civil explosives industry based on an industrial internet platform. The basic framework of digital management for production is defined, and key application scenarios for digital management of safe production in the civil explosives industry are specified. Construction.

6. The Steel Industry. The aim is to provide a framework for digital management of safe production in the steel industry based on an industrial internet platform. The basic framework specifies the key application scenarios for digital management of safe production in the steel industry.

7. Non-ferrous Metals Industry. The aim is to provide data on safe production in the non-ferrous metals industry based on an industrial internet platform. The basic framework of digital management is defined, and the key application scenarios for digital management of safe production in the non-ferrous metals industry are specified.

8. Building Materials Industry. The aim is to provide a framework for digital management of safe production in the building materials industry based on an industrial internet platform. The basic framework specifies the key application scenarios for digital management of safe production in the building materials industry.

9. Fireworks and Firecrackers Industry. The aim is to provide data on safe production in the fireworks and firecrackers industry based on an industrial internet platform. The basic framework of digital management is established, and key application scenarios for digital management of safe production in the fireworks and firecrackers industry are defined.

1 Scope

GB/T 46884.2-2025 is the Chinese national standard covering the same digital safety management applied to a petrochemical or chemical plant - the major hazard inventories, the interlocks and alarms, the permit to work, the contractor control and the monitoring of