

ICS 27.120.20

CCS F 04



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

GB/T 46175-2025

**General requirements for the construction and application
management of intelligent management system for nuclear
power projects**

核电工程智能管理系统建设及应用管理通用要求

Issued on: October 5, 2025

Implemented on: October 5, 2025

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

Table of Contents

1.Scope ...	1
2 Normative References ...	1
3.Terms and Definitions ...	1
4.Abbreviations ...	1
5.Overall Requirements for System Construction ...	2
5.1 Normative...	2
5.2 Reasonableness ...	2
5.3 Economic Efficiency ...	2
5.4 Reliability ...	2
6 System Architecture ...	2
6.1 System Overview ...	2
6.2 Access Layer ...	3
6.3 Transport Layer ...	3
6.4 Platform Layer ...	3
6.5 Application Layer ...	3
7.Technical Requirements ...	3
7.1 Basic Requirements ...	3
7.2 System Non-functional Requirements ...	4
7.3 System Security Requirements ...	5
8.Business Functions ...	5
8.1 Personnel Management ...	5
8.2 Construction Machinery and Tools ...	6
8.3 Materials Management ...	6
8.4 Environmental Management ...	6
8.5 Safety Management ...	6
8.6 Quality Management ...	7
8.7 Other Management ...	7
8.8 Extended Modules ...	7
9.Application and Operations Management ...	8
9.1 Organization and Management ...	8
9.2 Application Management ...	8
9.3 Operations and Maintenance Management ...	9

Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. 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 Nuclear Energy Standardization Technical Committee (SAC/TC 58). This document was drafted by: Jiangsu Nuclear Power Co., Ltd., Nuclear Industry Standardization Institute, Nuclear Power Operation Research (Shanghai) Co., Ltd., China Nuclear Power Co., Ltd., China Nuclear Power Engineering Co., Ltd., Shanghai Nuclear Engineering Research & Design Institute Co., Ltd., CGN Power Cheng Co., Ltd., China National Institute of Standardization, Renmin University of China, China National Nuclear Corporation, Chengdu Nuclear Power Research and Design Institute Engineering Co., Ltd., CNNC Nuclear Information Technology (Beijing) Co., Ltd., CNNC Operation and Maintenance Technology Co., Ltd., China Nuclear Power Research and Design Institute Institute, CNNC Suneng Nuclear Power Co., Ltd., Inspur Computer Technology Co., Ltd., Huaneng Shandong Shidaowan Nuclear Power Co., Ltd., CNNC Liaoning Nuclear Power Limited Liability Company, China National Nuclear Corporation Zhangzhou Energy Co., Ltd., Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics, and North China Electric Power University. The main drafters of this document are. Liu Zhaohua, Zhang Yi, Li Lianhai, Zhi Fengchun, Yang Qiang, Wang Anping, Liang Xueyuan, Fang Daonan, and Xu Jianhua. Deng Ruiyuan, Luo Hongchun, Lü Chenyong, Hu Shengli, Ran Yang, Li Jiang, Wang Wei, Su Dehua, Zhang Fei, Xu Chang, Liang Yeja, Lü Jie, He Xiangjie, Lu Xiaowei, Tang Jun, Li Dongsheng, Zhang Yong, Su Desong, Zhang Guangdi, Qin Xutao, Zeng Qingzhu, Zhang Fuhai, Zhao Kun, Xu Xiajun Meng Xiangshan, Sun Yecong, Zhang Zhuo, Zhu Jianjun, Zeng Wei, Zhou Lijun, Li Bin, Zheng Chun, Guo Wentao. Construction and Application Management of Intelligent Management System for Nuclear Power Engineering General Requirements

1 Scope

GB/T 46175-2025 is the Chinese national standard covering the digital management system of a nuclear construction project - the schedule, document and configuration control it has to hold, the interfaces to design and to the supply chain, the quality records it becomes the custodian of, and its own validation. First edition, already in force. Issued on 5 October 2025, it has been in force since 5 October 2025.

This document specifies the overall requirements, system architecture, technical

requirements, business functions, and application and operation of the intelligent management system for nuclear power engineering. Camp management. This document applies to the construction and application management of intelligent management systems for nuclear power engineering projects.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below. For references to documents, only the version corresponding to that date applies; for undated references, the latest version (including all amendments) applies. In this document.

GB/T 18336 (All Parts) Network Security Technology - Information Technology Security Assessment Guidelines

GB/T 20988 Information Security Technology - Disaster Recovery Specification for Information Systems

GB/T 22239 Information Security Technology - Basic Requirements for Network Security Level Protection

GB/T 36073 Data Management Capability Maturity Assessment Model

GB/T 36951 Information Security Technology - Security Technical Requirements for Internet of Things Sensing Terminal Applications

GB 50169 Code for Construction and Acceptance of Grounding Devices in Electrical Installations

GB 50254 Code for Construction and Acceptance of Low-Voltage Electrical Equipment in Electrical Installations

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Intelligent management system for nuclear power projects Utilizing modern information technologies such as the Internet of Things, artificial intelligence, cloud computing, and big data, the system monitors personnel, machinery, materials, and methods at nuclear power plant construction sites. The system manages various legal and environmental factors to achieve an intelligent management system for nuclear power plant construction sites.

4. Abbreviations The following abbreviations apply to this document. AI. Artificial Intelligence DMZ. Demilitarized Zone HTTPS. Hypertext Transfer Protocol Secure IPv

6 Internet Protocol version

6 LoRa. Long Range Communication RFID. Radio Frequency Identification UPF. User Plane Function VPN. Virtual Private Network

chinastandards.org - PREVIEW