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

GB/T 46917.1-2026

**Standard semantic knowledge base - Part 1: General
requirements for the semantic expression of standard content**

标准语义知识库 第1部分：标准内容语义化表达通用要求

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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 1 of GB/T 46917, "Standard Semantic Knowledge Base". GB/T 46917 has already

published the following parts.

1.General Requirements for Semantic Expression of Standard Content;

2.Data Interface Requirements. 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 Standards Digitalization Standardization Working Group (SAC/SWG29). This document was drafted by: China National Institute of Standardization, Beijing State Grid Information & Communication Accenture Information Technology Co., Ltd., Inner Mongolia University, and Sichuan Province. Quality and Standardization Research Institute, Guangdong Provincial Institute of Standardization, China Academy of Building Research, China Southern Power Grid Science Research Institute Limited Liability Company, China Grid Advanced (Beijing) Information Technology Research Institute Co., Ltd., China Jiliang University, State Grid Shandong Electric Power Company Jining Power Supply Electric Power Company, Xinjiang Uygur Autonomous Region Quality Infrastructure Development Research Institute, China University of Mining and Technology (Beijing), Institute of Medical Information, Chinese Academy of Medical Sciences Institute. The main drafters of this document are: Sun Hongjun, Liu Xize, Wang Sining, Liu Weidong, Wang Yiyi, Gan Keqin, Xia Baobing, Li Jiamin, and Zhao Zhenxia. Yang Yi, Niu Nana, Hu Wei, Wei Lai, Du Yang, Lin Zhengping, Zhang Bingyan, Li Wenjun, Li Jing, Xu Xinsheng, Wang Ruoya, Zhang Hongwei, Shen Mingshuang, Huo Chuan Yang Yuexiang and Zhu Jian.

With the advancement of the digital, networked, and intelligent transformation of the economy and society, the digitalization of standards has become an inevitable trend. (Standard content language) Semantic representation is the foundation for building standard semantic knowledge bases and for the digital transformation of standards. Various organizations need to independently develop standard semantic knowledge... The construction of a standards library aims to meet the new era's demand for standards knowledge and better leverage the value of standards. However, at present, there is a lack of related activities. The activity requirements did not address how to identify the main aspects and key points of semantic expression of standard content, how to reasonably utilize key technologies, and how to construct a complete and accurate system. Effective standards are formed through standard semantic knowledge bases, etc. GB/T 46917, "Standard Semantic Knowledge Base," aims to propose general requirements for the semantic expression of standard content and establish cross-industry and cross-domain standards. The unified semantic units and expression rules transform standard content into knowledge and data with semantic relationships, solving the problem of scattered standard content. Addressing the issues of semantic ambiguity and inefficient application, this solution supports intelligent retrieval, dynamic integration, and scenario-based reuse of standard knowledge. It utilizes semantic representation based on standard content. The expression methods and application scenarios of GB/T 46917 are proposed to consist of the following three parts.

1.General Requirements for Semantic Expression of Standard Content. The purpose is to provide expressive units and construct processes for semantic expression of standard content. General requirements such as process, expression rules, and data storage provide a framework for the construction of standard semantic knowledge bases and the development of standard knowledge application tools for various industries. Provide evidence.

2.Data Interface Requirements. The purpose is to provide a unified standard semantic representation for the circulation of various standard content semantic representation units. Knowledge base data interface specifications enhance the interoperability of standards across various systems and related fields, providing a framework for building industry-specific standards. The semantic knowledge base data interface provides the basis.

3.Semantic Integration Technical Requirements. The aim is to ensure that standard semantic knowledge bases can be integrated into application scenarios. Computer system understanding and execution of objects (documents, software, hardware, models, databases, etc.), achieving standard semantic knowledge base and integration. Consistency in changes to the semantic representation unit of an object. This document is Part 1 of GB/T 46917 "Standard Semantic Knowledge Base", which outlines the structure and construction of semantic representation units for standard content. The process clarified the general requirements for semantic representation of standard content and data storage, providing a data structure for constructing a standard semantic knowledge base. In conjunction with organizational rules, other sections of this document set forth requirements for the data interface and semantic integration techniques of the standard semantic knowledge base. Through the standard... Semantic content representation units and rules transform massive amounts of complex standard content into standard knowledge and data with semantic relationships, accelerating... Standardized machine learning can identify, execute, and make decisions, improving the ability to discover and apply standard semantic knowledge and effectively meeting the needs of the digital age. The demand for standard data resources and standard knowledge analysis from economic activities and industrial development. Standard Semantic Knowledge Base Part

1 Scope

GB/T 46917.1-2026 is the Chinese national standard covering expressing the content of a standard semantically - turning requirements, terms, values and their conditions into structured assertions a machine can act on, instead of paragraphs a person must read and interpret. At 22,000 words, Part 1 of the series and a first edition. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this

recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document establishes the general principles for the semantic expression of standard content and specifies the composition and structure of semantic expression units for different types of standard content. Construction and expression rules, as well as general storage requirements. This document is applicable to the semantic and structured expression of different types of standard content, and serves as a data structure and language framework for standard semantic knowledge bases in various industries. It provides a basis for the expression of meaning.

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 1.1-2020 Standardization Work Guidelines Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Semantics The meaning or connotation expressed by language.

3.2 The process of transforming standard content into data or knowledge with specific semantics that is easy for computers to understand and process.

3.3 A collection of corpora that express standard content with specific semantics.

Note. Standard content semantic expression units include general semantic expression units (common to different types of standards) and standard content specific semantic expression units. Expression units (unique to different types of standards, but universal for the same type of standard). Universal semantic expression units for standard content are specific to the standard.

4 Test Method Standards

GB/T 20001.5 Standard Drafting Rules Part

5 Specifications and Standards

GB/T 20001.6 Standard Drafting Rules Part