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

GB/T 16702.8-2025

Replacing GB/T 16702-2019

**Design specification for mechanical components in nuclear
island of pressurized water reactor nuclear power plants - Part
8: Low pressure or atmospheric storage tanks**

压水堆核电站核岛机械设备设计规范 第8部分：低压或常压储罐

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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. This document is Part 8 of GB/T 16702 "Design Specifications for Mechanical Equipment of Nuclear Island in Pressurized Water Reactor Nuclear Power Plant". The following parts are published.

2. Class 1 equipment;

3. Level 2 equipment;

4. Level 3 equipment;

5. Small equipment;

6. Reactor internals;

7. Equipment support;

8. Low-pressure or atmospheric pressure storage tanks. This document replaces Chapter 11 of GB/T 16702-2019 "Design Specifications for Mechanical Equipment of Nuclear Island of Pressurized Water Reactor Nuclear Power Plants" Compared with Chapter 11 of GB/T 16702-2019, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Changed the chemical composition part, increased the S and P content requirements, changed from " $w(S) \leq 0.040\%$; $w(P) \leq 0.040\%$ " to " S content $\leq 0.015\%$; P content $\leq 0.025\%$ " (see 6.2.1.1, 11.2.2.1.1 of the 2019 edition). 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 Nuclear Energy Standardization Technical Committee (SAC/TC58). This document was drafted by: China Nuclear Power Research and Design Institute, China Nuclear Power Engineering Co., Ltd., Shanghai Nuclear Engineering Research and Design Institute Co., Ltd. Co., Ltd., China General Nuclear Power Engineering Co., Ltd., Nuclear and Radiation Safety Center of the Ministry of Ecology and Environment, China Machinery Productivity Promotion Center, Nuclear Industry Standardization Research Institute Research Institute. The main drafters of this document are: Li Donghui, Yuan Hong, Sun Yingxue, Weng Chenyang, Tian Jun, Meng Xianggai, Tang Chenhang, Fu Guanhua, Huang Zongren, Fu Xiaolong, He Jinsong, Yang Chuansheng, Huang Hai, He Gongning, Liu Wenjin, Zeng Zhongxiu, Wei Wei, Wang Zhonghui, Feng Zhipeng, Zuo Shuchun, Zheng Yue, Dong An, Tian Jinmei, Yu Shunli, Fan Zhang, Jin Wenjuan, Li Chuanyi, Shen Rui, Wu Chongzhi, Weng Zhimin, Zhang Xinghui, Ou Guoyong, Wen Jing, Li Hailong, Pan Jun, Li Yingke, Wu Feifei, Liang Yun. The previous versions of this document and the documents it replaces are as follows:

---First published in.1996 as GB/T 16702-1996, first revised in.2019;

GB/T 16702 "Design Specification for Mechanical Equipment of Nuclear Island of Pressurized Water Reactor Nuclear Power Plant" is a general technical specification for the design of mechanical equipment of nuclear island of pressurized water reactor nuclear power plant. The standard is to implement the spirit of my country's nuclear safety regulations, actively promote the unification of the standard technical route of mechanical equipment of the nuclear island of pressurized water reactor nuclear power plants, and promote the development of pressurized water reactors. GB/T 16702 is an important part of the relevant standards for the independent design and localization of nuclear island mechanical equipment. The basic and universal standards for design activities of mechanical equipment in the nuclear island of a pressurized water reactor nuclear power plant are planned to consist of eight parts.

1.General. The purpose is to specify the overall requirements and related requirements for the design of mechanical equipment in the nuclear island of a pressurized water reactor nuclear power plant. Appendix for his partial use.

2.Class 1 equipment. The purpose is to specify the materials, design, manufacture, inspection, pressure test and overpressure of Class 1 pressure equipment. Requirements that need to be followed in design such as protection.

1 Scope

GB/T 16702.8-2025 is the Chinese national standard on design specification for mechanical components in nuclear island of pressurized water reactor nuclear power plants - part 8: low pressure or atmospheric storage tanks, in the field of energy and heat transfer engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 28 February 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 28 February 2025. Classification: ICS 27.120.20, CCS F 69. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the requirements for materials, design, manufacturing, inspection, etc. of low-pressure or atmospheric pressure storage tanks in the nuclear island mechanical equipment of pressurized water reactor nuclear power plants. The relevant tests were carried out. This document applies to the design of low-pressure or atmospheric pressure storage tanks and their components as specified in Chapter 5 of GB/T 16702.1-2025.

2 Normative references

The contents of the following documents constitute 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 16702.1-2025 Specification for design of mechanical equipment of nuclear island of pressurized water reactor nuclear power plant Part

3 Terms and definitions

The terms and definitions defined in GB/T 16702.1-2025 and the following apply to this document.

3.1 Low pressure storage tank lowpressurestoragetank The interior is isolated from the external atmosphere and is at low pressure, and does not include equipment with pressure-limiting safety devices.

Note. A low-pressure storage tank is a storage tank with a top medium pressure lower than 0.05 MPa.

3.2 Atmospheric storage tank atmospheric storage tank Equipment whose interior is always connected to the external atmospheric environment.

4 Symbols

The following symbols apply to this document.

7 Equipment support

GB/T 17505-2016 General technical requirements for delivery of steel and steel products
NB/T.20001-2023 Specification for the manufacture of mechanical equipment for nuclear island of pressurized water reactor nuclear power plant
NB/T.20002.6 Specification for welding of mechanical equipment in nuclear island of pressurized water reactor nuclear power plant Part

6.Product welding NB/T.20003.2-2021 Nondestructive testing of mechanical equipment in nuclear island of nuclear power plant Part

2.Ultrasonic testing NB/T.20003.3 Nondestructive testing of mechanical equipment in nuclear island of nuclear power plant Part

3.Radiographic testing NB/T.20003.4 Nondestructive testing of mechanical equipment in