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

GB/T 46893-2025

**Spent fuel reprocessing - Operation and maintenance
requirements for high-level radioactive solid waste storage
facilities**

核燃料后处理 高水平放射性固体废物贮存设施运行维护要求

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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. 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 (SAT/TC58). This document was drafted by: China National Nuclear Corporation 404 Co., Ltd., Nuclear Industry Standardization Institute, Nuclear and Radiation Safety Center of the Ministry of Ecology and Environment, and China National Nuclear Corporation. Sichuan Environmental Protection Engineering Co., Ltd. The main drafters of this document are: Sun Yuankai, Guo Jianfeng, Li Hongwei, Liu Jianpeng, Liu Liping, Liu Xinhua, Qu Dingrong, Zhang Hong, Ou Bing, and Yan Huimin. Liu Fugui, Xu Jianhua, He Haijing, Chen Tao, Gan Yefu, Li Xiuqin, Bai Xin. High-level radioactive solids in nuclear fuel reprocessing Operation and maintenance requirements for waste storage facilities

1 Scope

GB/T 46893-2025 is the Chinese national standard covering the operation and maintenance of a store for high-level solid radioactive waste - the receipt and emplacement of the containers, the cooling and ventilation, the monitoring of radiation and integrity, the inspection and the records kept over a design life measured in decades. First edition. It was issued on 31 December 2025 and has been in force since 31 December 2025, 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 2025 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 specifies the basic requirements for the operation and maintenance of high-level radioactive solid waste storage facilities with nuclear fuel reprocessing facilities, and Specific requirements for waste reception and storage, facility maintenance, and record keeping. This document applies to the storage facilities for high-level radioactive solid waste (hereinafter referred to as "high-level solid waste") associated with nuclear fuel reprocessing facilities. The operation and maintenance of the equipment.

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 4960.8 Nuclear Science and Technology Terminology Part

3 Terms and Definitions

The terms and definitions defined in GB/T 4960.8 apply to this document.

4 Basic Requirements

4.1 The operator of the storage facility shall ensure waste safety and radiation safety during storage. High-level solid waste shall be kept within safe limits during storage. The package is intact and can be retrieved in its entirety.

4.2 The operating unit shall, based on the characteristics of the storage facility, formulate appropriate dose constraints and management objectives in accordance with the relevant requirements of GB 18871. In accordance with the relevant requirements of EJ/T 849, a radiation protection outline and procedures shall be formulated and implemented, and continuous optimization of operational radiation protection shall be carried out. manage.

4.3 During the storage of high-level radioactive solid waste, it should be ensured that the decay heat generated by the waste can be safely and effectively discharged and controlled, and that the waste packages, The surface temperature of structures and other objects is always below their design limits.

4.4 The handling, loading, unloading, stacking, retrieval, and monitoring of high-level radioactive waste packages shall employ appropriate and reliable equipment and tools, and shall be conducted as far as possible using [specific methods/technologies]. Remote operation ensures operational safety and quality.

4.5 Safety supervision and inspection of hazardous operations should be strengthened, including hoisting operations, work at heights, confined space operations, and temporary

power supply operations. Including the qualifications of workers and labor protection, to avoid work-related incidents or accidents.

4.6 Storage facility operators shall establish a well-defined safety management organization, and equip it with competent responsible persons and a sufficient number of qualified workers. Personnel. Relevant management systems and operating procedures should be established and regularly reviewed and revised. A comprehensive training system should be established to provide training for all employees. Provide training and authorization in areas such as safety, radiation protection, and job skills.

4.7 The amount and duration of waste stored in storage facilities shall not exceed the design specifications or the requirements of the regulatory authorities, and regular safety inspections shall be conducted.

8 Radioactive Waste Management

GB 18871 Basic Standards for Ionizing Radiation Protection and Radiation Source Safety
EJ/T 849 Radiation Safety Design Regulations for Nuclear Fuel Reprocessing Plants