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

GB/T 10257-2025

Replacing GB/T 10257-2001

**Quality inspection rule for nuclear instrumentation and
radiation detectors**

核仪器和核辐射探测器质量检验规则

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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 replaces GB/T 10257-2001 "Quality Inspection Rules for Nuclear Instruments and Nuclear Radiation Detectors" and is consistent with GB/T 10257-2001. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The terms and definitions have been changed (see Chapter 3, Chapter 3 of the.2001 edition);
- b) The inspection classification has been changed (see Chapter 4, Chapter 4 of the.2001 edition);
- c) The quality inspection regulations and inspection items for nuclear instruments and nuclear radiation detectors have been modified (see Chapter 5, Chapters 5 and 6 of the.2001 edition);
- d) The sampling characteristic curve (OC curve) and corresponding table (see Figure 1 and Table 1 of the.2001 edition) have been deleted;
- e) The content related to sampling inspection has been modified (see 7.2, 5.4 of the.2001 edition);
- f) The content related to type inspection has been changed (see Chapter 8, 6.3.1 of the.2001 edition);

g) The content related to periodic inspection has been modified (see Chapter 9, 6.3.3 of the 2001 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 is proposed and coordinated by the National Technical Committee for Standardization of Nuclear Instruments (SAC/TC30). This document was drafted by: China Institute of Radiation Protection, China Nuclear Power Engineering Co., Ltd., China Nuclear Control System Engineering Co., Ltd., Shanxi China Nuclear Instruments Co., Ltd. and the 719th Institute of China Shipbuilding Industry Corporation. The main drafters of this document are: Cao Qinjian, Zhang Zhilong, Li Jianwei, Yang Nan, Ma Tao, Li Jian, Yang Zhongjian, Yang Kang, Huang Qiubao, Su Jiahao, Deng Peng, Xie Xuetao, Ren Yi, Kong Haiyu, Dai Chuanbo, and Wang Yiyuan. The previous versions of this document and the documents it replaces are as follows:

--- First issued as GB/T 10257-1988 in 1988, first revised in 2001;

--- This is the second revision. Quality inspection rules for nuclear instruments and nuclear radiation detectors

1 Scope

GB/T 10257-2025 is the Chinese national standard on quality inspection rule for nuclear instrumentation and radiation detectors, in the field of metrology and measurement. 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 1 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2026. Classification: ICS 17.240, CCS F80. 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 classification, requirements, reference conditions and standard inspection conditions, factory inspection, Type inspection and periodic inspection. This document applies to factory inspection, type inspection and periodic inspection of nuclear instruments and nuclear radiation detectors. It shall be used as a reference for relevant quality inspection in product standards and order contracts.

2 Normative references

The contents of the following documents constitute the 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 2828.1-2012 Sampling procedures for inspection by attributes Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Instruments or equipment used to measure the amount of ionizing radiation and to control equipment or processes involving ionizing radiation. [Source: GB/T 4960.6-2008, 3.1.1]

3.2 A device or device used to convert the energy of incident (induced) ionizing radiation (hereinafter referred to as ionizing radiation) into a signal suitable for indication and (or) measurement Material. [Source: GB/T 4960.6-2008, 2.1.1]

3.3 Factory inspection Inspection of products after they are manufactured to determine whether they meet product standards or regulatory requirements.

3.4 lot A certain quantity of a certain product brought together according to certain rules. [Source: GB/T 2828.1-2012, 3.1.13, modified]

3.5 Lot-by-lot inspection Each submitted batch in the series is inspected.