

ICS 27.120.30

CCS F 09



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

GB 15146.1-2008

Replacing GB 15146.1-1994

**Nuclear criticality safety for fissile materials outside reactors -
Part 1: Administrative practices for nuclear criticality safety**

反应堆外易裂变材料的核临界安全 第1部分：核临界安全行政管理规定

Issued on: September 19, 2008

Implemented on: August 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Terms and definitions
- 3 General
- 4 Nuclear criticality safety responsibility
- 4.1 Units
- 5 Nuclear Criticality Safety Evaluation
- 6 Run rules

Foreword

All technical content in this section is mandatory. GB 15146 "Nuclear criticality safety for fissile materials outside reactor" has so far released the following 11 sections.

--- GB 15146.1 Part 1. Nuclear Criticality Safety Administration regulations (instead of GB 15146.1-1994)

--- GB 15146.2 - Part 2. Operation fissile material, processing and handling of basic technical rules and subcritical limits (instead of GB 15146.2-1994)

--- GB 15146.3 Part 3. storage of fissile material for nuclear criticality safety requirements (instead of GB 15146.3-1994)

--- Aqueous solutions of fissile material for nuclear criticality safety criteria for steel - pipe intersections containing GB 15146.4

--- GB 15146.5 plutonium - nuclear criticality safety control criteria of natural uranium mixtures and subcritical limits

--- GB/T 15146.6 borosilicate glass Raschig rings and its application criteria

--- GB 15146.7 subcritical neutron multiplication measurements in situ

--- GB 15146.8 Part 8. heap outside the handling, storage and transport of nuclear criticality safety criteria for LWR fuel (instead of GB 15146.8-1994)

--- GB 15146.9 performance and testing requirements for nuclear criticality detection and alarm systems

--- GB 15146.10 Safety requirements for fixed neutron absorber

--- GB/T 15146.11 based nuclear criticality safety limits and controls moderator GB 15146 fissile materials outside the reactor operation, processing, handling, storage and transport

of nuclear criticality safety requirements and recommendations made. This section GB Part of 115,146. This Part replaces GB 15146.1-1994 "for fissile materials outside reactor - Nuclear criticality safety for nuclear criticality safety administration regulations." The revision focuses on the introduction of quality assurance system, but the vast majority of editorial changes. In this edition, with the auxiliary verb "shall" indicates a mandatory requirement, "should" indicates recommendations; and the auxiliary verb "can" represented by the previous version of the same, Not requested nor suggested that only a license. This part of the National Standardization Technical Committee proposed nuclear energy. This part of the National Standardization Technical Committee centralized nuclear energy. This section drafted by: China Corporation, Ministry of Environmental Protection of Nuclear and Radiation Safety Center, China Institute of Physics Engineering. The main drafters of this section. Liu River, Wu Dejiang, Liukai Wu. This section was first released in 1994. Nuclear criticality safety for fissile materials outside reactors Part 1. Nuclear Criticality Safety Administration regulations

1 Scope

Part 1 of GB 15146 is the management side of criticality safety: who is responsible, how evaluations are made and approved, what operating procedures must contain, how operations are inspected, how staff are trained, how fissile material is accounted for and controlled, and what must be prepared in advance for a criticality accident. It applies wherever fissile material is handled outside a reactor - fuel fabrication, reprocessing, storage and transport - and it is the part that the rest of the series operates within. Issued on 19 September 2008, in force since 1 August 2009, replacing GB 15146.1-1994. 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 edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This section provides the basic requirements for fissile materials outside reactor processing, handling, operation, storage of nuclear criticality safety administration. This section applies to reactors for fissile materials outside the processing, handling, operation, storage of nuclear criticality safety administration. This section does not apply to the assembly under controlled conditions fissile material (such as sub-critical and critical experiments under controlled conditions) Nuclear criticality safety Administration.

2 Terms and definitions

The following terms and definitions apply to this standard.

2.1 Approved by national authorities and (or) nuclear safety supervision department, responsible for the operation, management and legal entities running nuclear facilities.

2.2 Contract or mission statement made by nuclear facility operators or national authorities units, nuclear safety supervision departments commissioned to undertake the business units Legal entities and certain aspects of nuclear facilities task.

3 General

3.1 Nuclear criticality safety administration should follow safety first, prevention-oriented approach, pipe production must adhere to strict requirements of safety and tubes in principle.

3.2 Nuclear Criticality Safety Administration should be incorporated into the overall security management system, follow the general safety regulations, standards and systems, and should When the adaptation of nuclear criticality safety expertise and highly technical features.

3.3 should establish and improve nuclear criticality safety responsibility, clearly defined the relevant departments, units and individuals nuclear criticality safety responsibilities. Should make Each staff member (regardless of rank) are aware that nuclear criticality safety for my work area is their own responsibility.

3.4 processing, handling, operation, storage of fissile material nuclear facilities operating units should be at least equipped with a full-time or part-time nuclear criticality safety Critical security professionals the whole work. These professionals should be equipped with general in the security management functions of the operating organization, they have the right to Comments and suggestions directly to the leadership.

3.5 units operate nuclear installations Nuclear Criticality Safety may establish technical advisory bodies.

4 Nuclear criticality safety responsibility

Responsibility for security of nuclear facilities

4.1 Units

4.1.1 The operating organization should their processing, handling, operation, easy to store critical security overall responsibility of fissile material for nuclear facilities. The operating organization has the right to refuse national authorities and harmful (or) mandatory decisions and directives made by the nuclear safety supervision departments other than nuclear Any critical security requirements.

4.1.2 The operating organization shall submit the following major technology involving nuclear criticality safety to the national authorities and (or) nuclear safety supervision department file.

a) new construction, expansion, renovation of processing, handling, operation, storage of

fissile material of nuclear facilities (or process) Safety Analysis Report, including Including nuclear criticality safety analysis;

b) processing, handling, operation, easy to store nuclear criticality safety regulations of fissile material (or a nuclear criticality safety program);

c) nuclear criticality accident contingency plans for nuclear criticality accident sites (or contingency plans) may occur;

d) ready to adopt but not yet included in the approved nuclear criticality safety and technical standards in the subcritical limits and (or) without the approval of the nuclear Pro Reports demonstrate the safe operation of industry operating limits. Although these major technical documents submitted to the competent authorities and (or) nuclear safety supervision department approval, but can not thus changing the operating organization for nuclear Criticality safety responsibilities.

4.1.3 The operating organization shall establish and improve the accountability of nuclear criticality safety of the unit. Managers at all levels of operation

4.1.4 operating organization should be familiar with all aspects of its nuclear facilities in charge of critical security and nuclear facilities under their control Shi running safety critical negative direct and primary responsibility for project control inspection, testing and maintenance responsible.

4.1.5 Nuclear criticality safety professionals operating organization shall bear the nuclear criticality safety technical work (such as nuclear criticality safety analysis, nuclear Criticality safety regulations preparation, operation evaluation procedures, operations nuclear criticality safety inspection, criticality safety training, etc.), and negative nuclear criticality safety Technical responsibility. Nuclear criticality safety professionals should be familiar with the operating units of the existing nuclear criticality safety regulations, standards, and should be familiar with the need for nuclear Process and run the operating criticality safety control, and strive to understand the contemporary nuclear criticality safety technology available.

4.1.6 operating organization running the operating positions shall comply with nuclear criticality safety rules and post operation procedures for illegal operation held directly responsibility. Fiduciary responsibility

4.2 units The Trustee shall be entrusted with the task of direct responsibility of the operating organization of nuclear facilities involved in nuclear criticality safety, not because the camp Transport unit has overall responsibility for the safety of nuclear facilities and critical fiduciary responsibility to change the units.

5 Nuclear Criticality Safety Evaluation

5.1 Before the start of a new operation involving fissile material or changes to existing