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National Standard of the People's Republic of China

GB 27742-2011

Active concentration for material not requiring radiological regulation

可免于辐射防护监管的物料中放射性核素活度浓度

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Standardization Administration Committee.

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Foreword

The contents of Chapter 4, Chapter 5, Chapter 6, 7.1, 7.4, 7.5, 7.7 of this Standard are mandatory, the rest are recommended.

This Standard is formulated by referring to IAEA safety guide “Application of the Concepts of Exclusion, Exemption and Clearance” (No. RS-G-1.7), and combining the actual situations in China.

The Appendix A of this Standard is informative, the Appendix B is nominative. This Standard was proposed by National Nuclear Corporation.

This Standard shall be administered by National Standardization Technical Committee of Nuclear Energy (SAC/TC 58).

Main drafting organization of this Standard: Institute of Nuclear Industry Standardization.

Main drafter of this Standard: Xia Yihua.

Active concentration for material not requiring radiological regulation

1 Scope

This Standard specifies the active concentration for material not requiring radiological regulation (hereinafter referred to as regulation-exempted concentration).

This Standard applies to activities such as production operation, trade, landfill or recycle of large amount (more than 1 ton) material. However, it does not apply to the following conditions:

- Food, water, animal feed and any substances used in food or animal feed;
- Radon in the air (optimized action level of radon concentration in the air is shown in Appendix H of GB 18871-2002);
- Material in transporting (managed according to transportation standard);
- Liquid and gas effluents generated by approved practice (they belong to the scope of approved emission);
- Radioactive residues in the environment (including field soil) .

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB 17567-2009 Clearance levels for recycle and reuse of steel, aluminum, nickel and copper from nuclear facilities

GB 18871-2002 Basic standards for protection against ionizing radiation and for the safety of radiation sources

3 Terms and definitions

The following terms and definitions apply to this Standard.

3.1

Material

The collective term of substances and materials, including large amount of solid raw materials, auxiliary materials or materials intend to be deposed involved in the activities such as production operation, trade, recycle and landfill disposal.

3.2

Natural radionuclides

The radionuclides that is naturally existed in the earth with significant amount. It mainly refers to the native radionuclides ^{235}U, ^{238}U, ^{232}Th and theirs decay daughter.

3.3

Exclusion

Outside the application scope of standard, it specifically refers to those irradiation situations that can not control the irradiation size and possibility through implementing the requirements of this Standard, such as the irradiation caused by ^{40}K in human body and the cosmic ray reaching to the earth's surface.

3.4

Exemption

The practice and the source in practice that comply with the specified exemption requirements and levels, and they are exempted from regulatory requirements after agreed by the regulatory authorities.

3.5

Clearance

The regulatory authorities lift the management control of radioactive materials or items that have been approved to practice according to regulations.

3.6

Recycle

The metal of which the pollution concentration is equal to or less than the clearance