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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 23728-2026

Replacing GB/T 23728-2009

Technical regulation for radiation environmental impact assessment in uranium mining and milling

铀矿冶辐射环境影响评价技术规定

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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. This document replaces GB/T 23728-2009 "Regulations for Environmental Impact Assessment of Uranium Mining and Metallurgy". Compared with GB/T 23728-2009, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The scope has been changed (see Chapter 1, Chapter 1 of the.2009 edition);

b) The definition of "environmental impact assessment for radiation in uranium mining and metallurgy" has been revised (see 3.1,

3.2 in the.2009 edition);

c) The definitions of "uranium mining and metallurgical facilities," "environmental quality status assessment during operation," and "environmental impact assessment of accidents" have been deleted (see.2009 edition). (3.1, 3.3, 3.4)

d) Added general requirements for laws, regulations, and standards regarding the environmental impact assessment of radiation from uranium mining and metallurgy (see 4.1);

e) The procedures and document formats and content requirements for environmental impact assessment of radiation in uranium mining and metallurgy have been revised (see 4.2, see the.2009 version). 4.4.7, 5.5, 6.2, 7.2);

f) The quality assurance requirements have been changed (see 4.3, Chapter 8 of the.2009 edition);

g) The requirement for management procedures of environmental impact assessment documents has been removed (see

7.1 in the.2009 edition);

h) The evaluation criteria have been changed (see 5.1,

4.2.1 of the.2009 version);

i) The evaluation scope has been changed (see 5.2, 5.4, and

1 Scope

GB/T 23728-2026 is the Chinese national standard covering assessing the radiological impact of a uranium mine and mill - the radon from the workings and the tailings, the dust, the water pathways and the dose to the public around the site, over an operating life and long after closure. It replaces GB/T 23728-2009 and has been in force since 1 July 2026. It was issued on 31 March 2026 and has been in force since 1 July 2026, replacing GB/T 23728-2009. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 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 general requirements for environmental impact assessment of uranium mining and metallurgy radiation, as well as the assessment standards, methods, environmental parameters, source terms, and agents. Technical requirements such as

quantity evaluation. This document applies to the radiation environmental impact assessment of the construction and decommissioning of uranium mining and metallurgical facilities, and the radiation environmental impact assessment of associated radioactive mineral development and utilization projects. Environmental impact assessment shall be conducted in accordance with this procedure.

4 General Requirements

4.1 The environmental impact assessment of uranium mining and metallurgy radiation shall comply with the national laws and regulations on ecological and environmental protection, as well as the requirements of GB 23727 and GB 14586.

4.2 The procedures, document formats, and contents of the environmental impact assessment for radiation in uranium mining and metallurgy shall comply with the requirements of HJ1015.1 and HJ1015.2.

4.3 Environmental impact assessments for uranium mining and metallurgy radiation should be subject to full-process quality management.

5.1 Evaluation Criteria

5.1.1 Dosage Limits The annual effective dose limit for the public should comply with the requirements of GB 18871.

5.1.2 Dosage constraints and control values

5.1.2.1 Public dose constraints shall comply with the requirements of GB 23727.Dose constraints may be determined based on the characteristics of the uranium mining and metallurgical project.

5.1.2.2 The effective dose control value for individuals in the event of a single incident/accident shall comply with the requirements of GB 23727.

5.2 Evaluation Scope

5.2.1 The scope of the radiation environmental impact assessment is usually centered on the emission point of the gaseous effluent that has the greatest impact on the surrounding residents, with a radius of 20 km. The area.

5.2.2 The groundwater environmental assessment area shall be determined based on the facility type and site hydrogeological conditions, with reference to the relevant requirements in HJ610.

5.3 Evaluation Factors

5.3.1 Evaluation factors for gaseous effluent during the construction phase include 238U,

234U, 230Th, 226Ra, 210Po, 210Pb, and 222Rn, etc., and for liquid effluent... Evaluation factors include 238U, 234U, 230Th, 226Ra, 210Po, and 210Pb.

5.3.2 The evaluation factor for gaseous effluent during the decommissioning phase is 222Rn, and the evaluation factor for liquid effluent is determined based on the decommissioning source items.

5.3.3 In the event/accident situation, the evaluation factors should be determined based on the accident source items.

5.4 Evaluation of Sub-region Division The evaluation sub-region is divided into concentric circles with radii of 1km, 2km, 3km, 5km, 10km, and 20km, centered on the evaluation center. The concentric circle is divided into 22.5° sector segments, with each sector starting at 11.25° to the left and right of due north, resulting in a total of 96 evaluation sub-regions.

5.5 Age Group Division They can be divided into four age groups. infants (1 year or younger); toddlers (1 year or older, 7 years or younger); and children (3 years or younger). 7 years old, less than or equal to 17 years old; Adult group. greater than 17 years old.

5.6 Evaluation Model

5.6.1 Atmospheric Dispersion Model An atmospheric dispersion model suitable for the local topography and meteorological characteristics should be used, and its applicability should be explained. Relevant dispersion models in HJ

2.2 can be used.

5.6.2 Surface Water Dispersion Model A surface water dispersion model suitable for the characteristics of the receiving water body should be used, and its applicability should be explained. Relevant dispersion models from HAD101/05 can be used. Model.

5.6.3 Groundwater Dispersion Model A groundwater dispersion model suitable for local hydrogeological conditions should be adopted, taking into account the project's characteristics, and its applicability should be explained. HJ610 can be used. Analytical or numerical solution dispersion models for groundwater.

5.6.4 Public Effective Dose Estimation Model Public effective dose estimation includes routes such as inhaled internal radiation, deposited external radiation, immersion external radiation, ingested internal radiation, and drinking water internal radiation. Effective individual and group doses for the general public. Appendix A provides recommended dose estimation models.

6.1.1 Meteorology

6.1.1.1 Select a surface meteorological station that is relatively similar to the terrain and meteorological characteristics of the project site, conduct a suitability assessment, and provide the name of the meteorological station. Name, number, distance, and orientation.