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

GB 36900.1-2018

**Ductile Cast Iron High Integrity Container for
Low-and-Intermediate Level Radioactive Solid Wastes**

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Foreword

To implement the "Environmental Protection Law of the People's Republic of China"

The Nuclear Safety Law of the Republic, do a good job in the safe disposal of low and medium level waste, prevent and control radioactive pollution, improve environmental quality, and protect

Human health, the development of this standard.

Low and medium level radioactive waste high integrity container series standard High integrity container standard made of three different materials

composition.

- "High-integrity container for low- and medium-level radioactive waste - ductile iron container" (GB 36900.1);

- "High-integrity container for low- and medium-level radioactive waste - concrete container" (GB 36900.2);

- "High-integrity container for low- and medium-level radioactive waste - cross-linked high-density polyethylene containers" (GB 36900.3).

This standard is the first part of the "low and medium level radioactive waste high integrity container - ductile iron container"

(GB 36900.1), stipulates the safety of high integrity containers made of nodular cast iron materials (hereinafter referred to as "spheroidal graphite cast iron containers")

Seeking, performance requirements, testing methods and inspection rules, etc., and the model and size of the ductile iron container.

Appendix A is a normative appendix. Appendix B is an informative annex.

This standard is the first release.

This standard is formulated by the Radiation Source Safety Supervision Department of the Ministry of Ecology and Environment, the Nuclear Facilities Safety Supervision Department, and the Science and Technology Standards Department.

This standard is mainly drafted by. China Nuclear Power Engineering Co., Ltd., Beijing University of Science and Technology.

This standard has been implemented since March 1, 2019.

This standard is explained by the Ministry of Ecology and Environment.

Low and medium level radioactive waste high integrity container--nodular cast iron container

1 Scope of application

This standard specifies the safety requirements for high integrity containers made of ductile iron materials (hereinafter referred to as "spheroidal graphite iron containers").

Performance requirements, testing methods and inspection rules, etc., and the model and size of the ductile iron container.

This standard applies to the design, manufacture, procurement, inspection and other activities of ductile iron containers.

Ductile iron containers can be used for waste preparation, storage, disposal and management of low and medium level radioactive solid waste management processes.

Transportation, does not apply to packaging containers containing high level waste or used as Type B and Type C packages.

2 Normative references

The contents of this standard refer to the following documents or their terms. For undated references, the valid version applies.

In this standard. For dated, date only versions apply to this standard.

Safety regulations for near-surface disposal of low- and medium-level radioactive solid wastes GB 9132

GB 11806 Safe Transport Procedure for Radioactive Material

GB 12711 Low and medium level radioactive solid waste packaging safety standards

GB/T 228.1 Tensile test for metallic materials - Part 1. Test method for room temperature (ISO 6892.1998, MOD)

GB/T 229 Metallic material Charpy pendulum impact test method (ISO 148-1.2006, MOD)

GB/T 231.1 Brinell hardness test for metallic materials - Part 1. Test methods (ISO 6506-1.2005, MOD)

GB/T 231.2 Brinell hardness test for metallic materials - Part 2. Examination and calibration of hardness testers (ISO 6506-2.1999, MOD)

GB/T 231.3 Metallic Brinell hardness test - Part 3. Calibration of standard hardness blocks (ISO 6506-3.1999, MOD)

GB/T 1348-2009 Ductile iron castings (ISO 1083.2004, MOD)

GB/T 2481.1 Determination and marking of abrasive grain size for bonded abrasives - Part 1

F220

GB/T 6060.1 Surface roughness comparison sample casting surface

GB/T 6414 casting dimensional tolerance and machining allowance

GB/T 9441 Ductile Iron Metallographic Examination

GB/T 15219 Quality assurance of transportation and packaging of radioactive materials

GB/T 16545 Corrosion of metals and alloys Corrosion of corrosion products on samples

Classification of Radioactive Waste (Ministry of Environmental Protection, Ministry of Industry and Information Technology, National Defense Science and Technology Industry Bureau,.2017)

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3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 high integrity container high integrity container

It means that it can effectively contain the low and medium level radioactive solids contained in it for more than 300 years.

a container for waste. High integrity containers can be made of different materials (eg concrete, ductile iron, high density polyethylene)

Or composite material).