

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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**The format and content of the nuclear and radiation safety
analysis report for the transportation of radioactive materials
(English Translation)**

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1 Scope of application

This standard specifies the standard format and main contents of the nuclear and radiation safety analysis report for the transport of radioactive materials.

This standard applies to the preparation of nuclear and radiation safety analysis reports for the transport of Class I radioactive materials.

2 Normative references

This standard refers to the following documents or clauses thereof. For dated references, only the dated version applies to this standard.

For undated references, the latest edition (including all amendments) applies to this standard.

GB 11806 Regulations for Safe Transport of Radioactive Materials GB 18871 Basic standard for ionizing radiation protection and radiation source safety

3 Terms and Definitions

The terms and definitions defined in GB 11806 and the following apply to this standard.

attachment point

An accessory to a package for securing a tether assembly or other securing device.

anchor point

An attachment to a conveyance that secures a tether assembly or other securing device.

wedge chock

Attachment fixed to the carrier to absorb horizontal forces from the package.

tie-down member

Attachment components for attachment points and anchorage points, including cables, ropes, hinges, etc.

tie-down system

A system of attachment points, anchor points, and tie-down components.

4.1.1 Overview

4.1.1.1

Briefly introduce the general situation of the project, including basic information such as transportation purpose, shipper, consignee, etc.

sex is explained.

4.1.1.2

Describe the name of the radioactive material to be transported, transport container, package type, single and annual maximum transport volume, transport mode, etc., and Indicate operating time limits related to shipping. If multiple transport containers are involved, the names of all transport containers should be listed; if multiple transport modes are involved, the all shipping methods should be described.

4.1.1.3

In principle, the transportation of Class I radioactive articles should be based on the actual transportation route to carry out safety analysis. Among them, the transport of radioactive sources can be Based on the type of shipping container used, a representative route was selected for envelope analysis.

4.1.2 Compilation basis

List the regulations, standards and documents on which the nuclear and radiation safety analysis report is based.

4.1.3 Preparation Team

Describe the professional knowledge and practical experience required by the preparation team to carry out nuclear and radiation safety analysis, and give the basic information of the preparation staff information, including name, position and title, major, work experience, working years, etc., and explain the team members' concerns about radiation protection, mechanics, transportation Coverage of related majors such as transportation.

4.1.4 Evaluation Scope and Limits

4.1.4.1

Describe the entire process of transport activities, including loading and unloading of packages on the means of transport, transfer between different modes of transport, and the entire transportation process (including stopovers and staging). For the transport of radioactive materials under special arrangements, the packaging of the contents should also be described load and uninstall process.

4.1.4.2

Describe the evaluation scope of nuclear and radiation safety analysis.

4.1.4.3

Give dose constraints for workers and the public.

4.1.5 Responsibilities and division of labor

4.1.5.1

Describe the division of labor and safety responsibilities of the shipper, carrier, consignee and other parties involved in the entire transportation activity.

4.1.5.2

Description The nuclear and radiation safety of the transport of radioactive materials shall be the responsibility of the shipper, and the responsibilities of other parties shall be specified through the contract.

4.1.5.3

For the transportation of nuclear materials, the implementation of the liability for nuclear damage during the transportation shall be explained.

4.1.6 Transport by special arrangement

For radioactive materials that need to be transported by special arrangements, the reasons and justification for applying for special arrangements shall be explained.

4.2.1 Overview

4.2.1.1

Describe the composition of all packages to be transported, including transport containers and contents. And respectively state the maximum radiation level on the outer surface of the package, Level of radioactive contamination on the outer surface of the package, type, transport index, package classification and criticality safety index (for fissile material).

4.2.1.2

If the proposed transport container contains special requirements for loading and unloading of contents and requirements for transportation time limit, supplementary explanations shall be made.

4.2.2 Content properties

Description of the radionuclide species, structural characteristics, physical characteristics, chemical characteristics of the contents to be transported, such as radioactive articles together with their packaging. If the whole is used as the content, its structure needs to be described in detail. And explain its main radiation hazards, chemical toxicity, spontaneous combustion, corrosiveness, etc.

harm.

4.2.3.1 Shipping Container Information

Give the name, design approval number or use approval number and manufacturing code of the shipping container to be used, as well as a schematic diagram of the container structure. Involving a variety of for transport containers, they should be described one by one.

4.2.3.2 Transport Container Safety Status

4.2.3.2.1

Describe whether the current condition of the proposed transport container is safe and usable, and provide the maintenance and maintenance of the proposed transport container in the next 5 years.

safety performance evaluation plan.

4.2.3.2.2

For renewal applications, the use history of the transport container for the past 5 years, the maintenance and regular safety performance of the transport container shall also be described. Evaluate the situation and the problems found and dealt with.

4.2.3.2.3

If a transport container owned by an overseas entity is used for domestic transportation, the latest approval document issued by the country where the container is located shall also be provided.