

HJ

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**Technical specifications for emergency monitoring of radiation
accidents**

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Foreword

To implement the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Radioactive Pollution, and the Nuclear Safety Law, which regulates emergency monitoring of radiation accidents, has formulated this standard.

This standard specifies the general principles, content, methods and technical requirements for emergency monitoring of radiation accidents.

This standard is issued for the first time.

The appendix of this standard is an informative appendix.

This standard was formulated by the Department of Nuclear Facilities Safety Supervision and the Department of Regulations and Standards of the Ministry of Ecology and

Environment.

Drafting organizations of this standard. Zhejiang Provincial Radiation Environment Monitoring Station (Radiation Environment Monitoring Technology Center of the Ministry of Ecology and Environment), the Ministry of Ecology and Environment Radiation Safety Center, Guangdong Environmental Radiation Monitoring Center, Guangxi Zhuang Autonomous Region Radiation Environmental Supervision and Management Station.

This standard was approved by the Ministry of Ecology and Environment on December 30, 2020.

This standard will be implemented on March 1, 2021.

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

Technical specifications for emergency monitoring of radiation accidents

1 Scope of application

This standard specifies the general principles of radiation accident emergency monitoring, on-site monitoring, sampling analysis, safety protection, quality assurance, data processing Technical requirements such as management and monitoring reports.

This standard applies to the use of nuclear technology, the transportation of radioactive materials, and radioactive waste treatment, storage and disposal facilities or activities.

Emergency monitoring of radiation accidents.

Involving environmental radioactive pollution incidents caused by the development and utilization of uranium (thorium) mines and associated radioactive minerals, domestic and foreign spacecraft crashed in my country Environmental radioactive pollution incidents caused by accidents, as well as emergency monitoring of overseas nuclear and radiation accidents and incidents that may have a radiation impact on the environment of our country.

Test work can be carried out by reference.

2 Normative references

The content of this standard refers to the clauses in the following documents. For undated reference documents, the effective version is applicable to this standard.

GB 18871 Basic standard for ionizing radiation protection and radiation source safety GB/T 8170 Numerical rounding rules and the expression and determination of limit values GB/T 10264 Personal Thermoluminescence Dose Measurement System for Personal and Environmental Monitoring GB/T 11743 Analytical Method of gamma Energy Spectrum for Radionuclides in Soil GB/T 14056.1 Determination of Surface Contamination Part 1. beta-emitter (E_{betamax} > 0.15 MeV) and alpha-emitter GB/T 14583 Specification for

determination of environmental surface gamma radiation dose rate HJ/T 61 Technical Specification for Radiation Environmental Monitoring HJ 1127 Environmental sample gamma nuclide measurement technical specification in emergency monitoring HJ 1129 Technical specification for measuring gamma nuclide in soil with in-situ high-purity germanium spectrometer GBZ/T 216 Specification for the treatment of radionuclide contamination on the human body surface

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Radiation accident

It mainly refers to the loss, theft, or loss of control of radioactive sources in the following facilities or activities, or the loss of control of radioactive materials and radiation devices that cause people to suffer - 2 -Unexpected abnormal exposure, or incidents that cause environmental radioactive pollution.

- (1) Utilization of nuclear technology;
- (2) Transport of radioactive materials;
- (3) Treatment, storage and disposal of radioactive waste.

3.2 (radiation) source all substances or entities that can cause radiation exposure by emitting ionizing radiation or releasing radioactive substances. For example, the gamma irradiation device is the source in the practice of food preservation by irradiation, X-ray machines can be the source in the practice of radiological diagnosis.

3.3 Radioactive sources

It refers to materials that are permanently sealed in a container or have a tight cladding and are solid, except for materials in the nuclear fuel cycle of research reactors and power reactors.

Radioactive material.

3.4 Radioactive contamination

Due to human activities, radioactive materials that exceed national standards or appear on the surface or inside of materials, human bodies, places, environmental media, or Rays. The pollution mentioned in this standard refers to radioactive pollution.

3.5 Radiation accident emergency monitoring radiation accident emergency monitoring

In the case of a radiation accident, it is necessary to find out the nuclide, location, state and radioactive contamination of the site or the environment of the radioactive material.

Monitoring of radiation levels. Referred to as emergency monitoring in this standard.

3.6 Emergency worker

Personnel directly or indirectly involved in the command, organization, sampling, monitoring, handling, support, and standby of radiation accident emergency monitoring.

3.7 Comparison point

Refers to the specific assessment of the degree of environmental radioactive pollution in a radiation accident area, which is located outside the radiation accident area and can provide this area the point of the environmental radiation background value.

3.8 Precautionary area

In the event of an accident, in order to control the radiation dose or prevent the spread of pollution, it is necessary to take special protective measures or safety measures to control the area where people and objects enter and exit. The guard zone is generally divided into an inner guard zone and an outer guard zone.

4 Purpose

The main purpose of implementing emergency monitoring is to protect public health and the safety of the radiation environment, to reduce the harm caused by accidents, and to make judgments and assessments of accidents.

Provide data for emergency decision-making; provide monitoring data needed to determine the implementation of emergency protective actions;

Quantitative assessment provides key data; searches for lost, stolen, and out-of-control radioactive materials; and provides the public with monitoring data on the radiation environment.

5.1 General principles

5.1.1

Quick response. Emergency monitoring should respond quickly and obtain monitoring results as soon as possible.