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

GB/T 12726.2-2013

Replacing GB/T 12726.2-1991; GB/T 12726.5-1997

**Nuclear power plants -- Instrumentation important to safety -- Radiation monitoring for
accident and post-accident conditions -- Part 2: Equipment for continuous off-line
monitoring of radioactivity in gaseous effluents and ventilation air**

核电厂安全重要仪表 事故及事故后辐射监测 第2部分：气态排出流及通风中放射性
离线连续监测设备

(English Translation)

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Foreword

GB/T 12726 "after the nuclear power plant safety is important instruments accident and radiation monitoring" is divided into four parts.

--- Part 1. General requirements;

--- Part 2. gaseous effluents and ventilation equipment for continuous monitoring of radioactivity in the offline;

--- Part 3. High range area gamma continuous monitoring equipment;

--- Part 4. Process flow tube or inner tube beside continuous radioactivity monitoring equipment.

This section GB/T Part of 212,726.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This Part replaces GB/T 12726.2-1991 "after the nuclear power plant accident and radiation monitoring equipment Part II. gaseous effluents Specific requirements for radioactive noble gas continuous monitoring equipment "and GB/T 12726.5-1997" after the nuclear power

plant accident and radiation monitoring provided Preparation Part V. air radioactivity monitoring equipment. " This portion of the GB/T 12726.2-1991 and GB/T 12726.5-1997 compared the main technical changes are as follows.

--- Added two normative references, respectively IEC 61226 "important nuclear power plant safety instrumentation and control systems and instrumentation Control classification ", ISO 2889:2010" Nuclear Facilities chimneys and ventilation duct sampling airborne radioactive material ";

--- Sampling device is designed taking into account the requirements of ISO 2889;

--- Sampling loop and material consideration of the requirements for gas-proof and anti-virus or corrosive gases;

--- Increasing the material requirements (for example, consider sampling lines and structural materials in aerosol particles and iodine sampling circuit loss as possible Low energy);

--- This section only lists the additional tests, a pilot project under standard test conditions and the amount of change impact test Test items are given in GB/T 12726.1-2013 in;

--- This part of the technical requirements and test methods were revised accordingly.

This section uses the translation method is equivalent to using IEC 60951-2. Radiation monitoring after 2009 "Instrumentation important to safety of nuclear power plants for accident and Part 2. gaseous effluents and ventilation equipment for continuous monitoring of radioactivity offline. " Consistency correspondence with international standards in this part of the country cited the following documents.

--- GB/T 15474-2010 nuclear power plant instrumentation and control functions important to safety classification (IEC 61226:2005, MOD).

This part made the following editorial changes.

--- Delete foreword international standards;

--- According to Chinese customs for some formatting has been modified (for example. Note plus behind ".", followed by a series Item Description will be. "" Replaced by ";");

--- Use the decimal symbol instead of the international standard decimal symbol ",". ";";

--- Will be in "2 Normative references" have been corresponding national standards with international standards to national standards, GB/T 12726.1-2013 "after the nuclear power plant safety is important instruments accident and radiation monitoring - Part 1. General requirements" instead of IEC 60951-1.

2009; ISO 2889 era is wrong to number 2009 2010;

--- Preserve the contents of the currently used only in voltage and frequency of the AC

power supply, remove the power supply frequency of 57Hz ~ 61Hz Claim;

--- Table 2 in the first row "5.4.1" in error, to "5.3." this part of the National Nuclear Instrument Standardization Technical Committee (SAC/TC30) and focal points.

This section drafted by. China Nuclear Power Engineering Co., Ltd.

1 Scope

This section GB/T 12726 specifies the gaseous discharge after the nuclear power plant accident and flow and ventilation equipment for continuous monitoring of radioactivity offline the general principles for design and performance requirements.

GB/T 12726.1-2013 specifies the technical characteristics of the equipment, test methods, radiation characteristics, electrical characteristics, mechanical characteristics and particular environmental Sex. Unless otherwise noted, these requirements apply to this section.

This section applies to.

--- Inert gas activity monitor, the gaseous emissions at the point for measuring the accident and the conditions of the apparatus of radioactive effluents Time change volume activity of inert gas, and with the volume of activity. The monitor can also be used to determine the timing of the idle period Total emissions of radioactive gases.

--- Inert gases, aerosols and monitor specific nuclide (usually refers to different forms of a particular radionuclide iodine include. inorganic iodine, organic iodine gas Sol iodine species), the device used to measure the air or gas ventilation systems (control room ventilation, reactor leak collection, Reactor Pit ventilation, exhaust fuel processing plant, reactor building ventilation exhaust purification) of radioactive volume of activity, and exploration any significant increase of radioactivity measured during and after the accident in the accident.

This section applies only to off-line continuous monitoring equipment that is suitable for those discharged from the total gaseous stream flow or ventilation ducts removed part of the Generation

Table of the sample sent to a remote location (through the sampling device) detector and then measuring their equipment. This section does not apply to those detectors straight

Then installed in ventilation ducts or gaseous effluents stream, or installed near the discharge flow or ventilation airflow monitor device, such monitors Belonging to GB/T 12726.4 of the scope of application.

Complete exhaust stream monitoring programs necessary samples for laboratory analysis is not within the scope of this section.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Instrumentation important to safety after the accident and radiation monitoring - Part 1
 GB/T 12726.1-2013 nuclear power plant. General requirements (IEC 60951-1:2009, IDT)
 ISO 2889:2010 Nuclear facilities chimneys and ventilation duct sampling airborne
 radioactive material (Sampling airborne radioactive
 materials from the stacks and ducts of nuclear facilities) IEC 61226 Nuclear power plant
 instrumentation and control systems important to safety instrumentation and control
 functions classification
 (Nuclear power plants-Instrumentation and control systems important to safety-Classification of in-
 strumentation and control functions)

3 Terms and Definitions

Terms and definitions GB/T 12726.1-2013 defined apply to this document.

4.1 Overview

This section applies to all types of equipment in addition to the need to meet the requirements of this part, it must also meet the GB/T 12726.1-2013 provisions in general Requirements, unless otherwise indicated.

4.2 Basic requirements and related functions

Gaseous effluents and ventilation equipment for continuous monitoring of radioactivity in the offline generally used to measure the radioactivity of nuclear engineering plant, such as the reactor building or Fuel processing plant chimney ventilation ducts and activity levels gases path. According to the functional requirements, the device can also be used to measure the discharge Radioactivity into the environment, to detect and identify security barrier (such as. containers, pipes) leaks, as well as provide any information or cause to live Useful information about the release of the plant status.

Radioactive emissions to the environment should theoretically be fully measured, but because of effluents released from halogen and particulate activity during an accident More complex measurements, monitoring is generally considered only an inert gas is sufficient. Thus, the monitor should have detected and measured inert gaseous effluents the ability of the gas activity, such inert gas comprises an inert gas to reach equilibrium just mixed fission products to decay 10d old mixture. can You can require multiple devices to cover the effective range of the measurement required.