



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

GB/T 13627.1-1992

**Criteria for accident monitoring instrumentation for nuclear
power plants
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents" drafted:

This document replaces GB/T 13627-2010 "Guidelines for Accident Monitoring Instruments in Nuclear Power Plants": Compared with GB/T 13627-2010, except for the structure in addition to adjustments and editorial changes, the main technical changes are as follows:

--- Modified the description about the scope (see Chapter 1, Chapter 1 of the:2010 edition);

--- Modified normative references (see Chapter 2, Chapter 2 of the:2010 edition);

---Added the terms "accident manager", "design basis accident", "design extension condition", "safe shutdown", "safety function", "safety system" "serious accident" (see 3.2, 3:8, 3:9, 3:13, 3:14, 3:15, 3:16);

--- Delete the terms "accidental operation", "important safety function", "current value", "display unit", "response time", "safety-related function", "check "Measurement unit" and its definition (see 3.6, 3:7, 3:8, 3:11, 3:14, 3:15, 3:16 of the:2010 edition);

--- Modified the terms "Accident Analysis License Benchmark", "Accuracy", "Auxiliary Support Facility", "Design Basis Event", "Permit Benchmark Document" Definition of (see 3.1, 3:3, 3:5, 3:7, 3:11, 3:1, 3:2, 3:4, 3:9, 3:12 of the:2010 edition);

--- Added design criteria for monitoring variables for severe accidents (see 4.7, 4:8, 5:1, 5:4,

6:3, 7:2, 8:2, 8:7, Chapter 9);

---Updated the example of monitoring channel display type (see Figure 2, Figure 2 of the:2010 edition):

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the selection of monitoring variables for NPPs for expected operational events, design basis accidents and severe accidents and the monitoring of accidents:

Guidelines for the design, performance, qualification and display of measuring instruments, as well as guidance on the use of portable instruments:

This document is applicable to the design of new nuclear power plants and the design and modification of in-service nuclear power plants: This document applies to all Function and design of accident monitoring instruments used:

--- planned operations for accident mitigation as required;

--- Assess power plant operating conditions and safety system performance, and make decisions for the power plant to respond to abnormal events;

--- Accidents to achieve and maintain safe shutdown operations:

This document does not apply to the following situations:

--- Incident monitoring instruments for historical recording or maintenance purposes only;

--- other instruments that may be used in accident conditions;

--- Other design extended working condition monitoring instruments that do not belong to serious accidents:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document:

GB/T 7163 Reliability Analysis Requirements for Nuclear Power Plant Safety Systems GB/T 9225 General principles for reliability analysis of safety systems in nuclear power plants GB/T 12727 Appraisal of safety-grade electrical equipment for nuclear power plants GB/T 12788 Nuclear Power Plant Safety Level Power System Guidelines GB/T 13284.1 Nuclear

Power Plant Safety System Part 1: Design Criteria GB/T 13286 Nuclear Power Plant Safety Level Electrical Equipment and Circuit Independence Guidelines GB/T 13625 Seismic Appraisal of Safety-Grade Electrical Equipment for Nuclear Power Plants GB/T 13626 Single Fault Criterion Applied to Nuclear Power Plant Safety System GB/T 13629 Guidelines for the Application of Digital Computers in Nuclear Power Plant Safety Systems NB/T:20054 Computer software for performing Class A functions in instrumentation and control systems important to safety in nuclear power plants NB/T:20061 Application of Human Factors Engineering in Nuclear Power Plant Systems, Equipment and Facilities NB/T:20072 Determination and maintenance of instrument trigger setting value of nuclear power plant safety system

3 Terms and Definitions

The following terms and definitions apply to this document:

accident analysis licensing basis Part of a license application document describing the thermal-hydraulic response of a nuclear power plant to anticipated operational events and design basis accidents, and