SLOVENSKI STANDARD
SIST EN 62808:2016

01-november-2016

Jedrske elektrarne - Instrumenti in nadzorni sistemi za zagotavljanje varnosti - Projektiranje in razvrščanje izolacijskih naprav (IEC 62808:2015)

Nuclear power plants - Instrumentation and control systems important to safety - Design and qualification of isolation devices (IEC 62808:2015)

Kernkraftwerke - Leittechnik mit sicherheitstechnischer Bedeutung - Auslegung und Qualifizierung von Isolationseinrichtungen (IEC 62808:2015)

Centrales nucléaires de puissance - Systèmes d'instrumentation et de contrôle-commande importants pour la sûreté - Conception et qualification des appareils d'isolement (IEC 62808:2015)

Ta slovenski standard je istoveten z: **EN 62808:2016**

ICS:

27.120.20	Jedrske elektrarne. Varnost	Nuclear power plants. Safety

SIST EN 62808:2016 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62808

September 2016

ICS 27.120.20

English Version

Nuclear power plants - Instrumentation and control systems important to safety - Design and qualification of isolation devices (IEC 62808:2015)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62808:2016 E

European foreword

This document (EN 62808:2016) consists of the text of IEC 62808:2015 prepared by SC 45A "Instrumentation, control and electrical systems of nuclear facilities" of IEC/TC 45 "Nuclear instrumentation".

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-07-18
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-07-18

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As stated in the nuclear safety directive 2009/71/EURATOM, Chapter 1, Article 2, item 2, Member States are not prevented from taking more stringent safety measures in the subject-matter covered by the Directive, in compliance with Community law. In a similar manner, this European standard does not prevent Member States from taking more stringent nuclear safety measures in the subject-matter covered by this standard.

Endorsement notice

The text of the International Standard IEC 62808:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60880	NOTE	Harmonized as EN 60880.
IEC 61226:2009	NOTE	Harmonized as EN 61226:2010 (not modified).
IEC 61508-1	NOTE	Harmonized as EN 61508-1.
IEC 61508-2	NOTE	Harmonized as EN 61508-2.
IEC 61508-3	NOTE	Harmonized as EN 61508-3.
IEC 61508-4	NOTE	Harmonized as EN 61508-4.
IEC 62138	NOTE	Harmonized as EN 62138.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60709	-	Nuclear power plants - Instrumentation and control systems important to safety - Separation	EN 60709	-
IEC/TS 61000-6-5	-	Electromagnetic compatibilty (EMC) - Part 6-5: Generic standards - Immunity for power station and substation environments	-	-
IEC 61513	-	Nuclear power plants - Instrumentation and control important to safety - General requirement for systems	EN 61513	-
IEC 62003	-	Nuclear power plants - Instrumentation and control important to safety - Requirements for electromagnetic compatibility testing	-	-

IEC 62808

Edition 1.0 2015-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Nuclear power plants – Instrumentation and control systems important to safety – Design and qualification of isolation devices

Centrales nucléaires de puissance – Systèmes d'instrumentation et de contrôle-commande importants pour la sûreté – Conception et qualification des appareils d'isolement

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONALE

ICS 27.120.20 ISBN 978-2-8322-2665-0

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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NUCLEAR POWER PLANTS – INSTRUMENTATION AND CONTROL SYSTEMS IMPORTANT TO SAFETY – DESIGN AND QUALIFICATION OF ISOLATION DEVICES

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62808 has been prepared by subcommittee 45A: Instrumentation, control and electrical systems of nuclear facilities, of IEC technical committee 45: Nuclear instrumentation.

The text of this standard is based on the following documents:

FDIS	Report on voting
45A/1004/FDIS	45A/1019/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

a) Technical background, main issues and organisation of the standard

I&C (instrumentation and control) systems important to safety in nuclear power plants need to tolerate the effects of plant / equipment faults as well as internal and external hazards. IEC 60709 provides requirements to establish independence between redundant portions of safety systems, and between safety systems and systems of a lower class. Among the techniques available to increase the level of tolerability of I&C systems to such effects is the provision of isolation devices where connections are made between redundant divisions of safety equipment, or between safety equipment and systems of a lower class. This standard provides technical requirements and recommendations for the design and qualification of isolation devices that are required by IEC 60709. This standard deals with the criteria and methods used to confirm that the design of isolation devices ensures that credible failures in the connected lower class system or redundant channels will not prevent the safety systems from meeting their required functions. Isolation devices may be required on power or signal interfaces within the system.

Guidance for other aspects of isolation device qualification (e.g. electromagnetic compatibility, environmental and seismic qualification) may be found in IEC 60780.

The object of this standard is:

– in Clause 5: to establish the basic criteria for acceptability of the design and application of isolation devices;
– in Clause 6: to establish design requirements on the selection and application of suitable isolation devices;
– in Clause 7: to establish requirements on qualification testing done to validate the adequacy of the isolation device design.

It is intended that the standard be used by operators of NPPs (utilities), designers of nuclear I&C system and equipment, systems evaluators and regulators.

b) Situation of the current standard in the structure of the IEC SC 45A standard series

IEC 62808 is the third level IEC SC 45A document tackling the issue of isolation devices.

IEC 60709 is directly referenced by IEC 61513 in regard to physical and electrical separation being required between subsystems of different safety trains of I&C systems important to safety, and between I&C systems important to safety and those that are not important to safety.

IEC 61226 establishes the principles of categorization of I&C functions, systems and equipment according to their level of importance to safety. It then requires that adequate separation be provided between functions of different categories. IEC 61226 refers to IEC 60709 as a normative standard regarding requirements of separation.

IEC 62808 is intended to provide requirements and recommendations relating to the design and qualification of isolation devices which are identified in IEC 60709 as a means of achieving independence between systems when signals are extracted from a system for use in lower class systems, or between independent subsystems of the same classes.

For more details on the structure of the IEC SC 45A standard series, see item d) of this introduction.