Irish Standard
I.S. EN 31010:2010

Risk management - Risk assessment techniques (IEC/ISO 31010:2009 (EQV))

I.S. EN 31010:2010

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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I.S. EN 31010:2010

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 31010

May 2010

ICS 03.100.01

English version

Risk management - Risk assessment techniques
(IEC/ISO 31010:2009)

Gestion des risques - Techniques d'évaluation des risques (CEI/ISO 31010:2009)

Risikomanagement - Verfahren zur Risikobeurteilung (IEC/ISO 31010:2009)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

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

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Foreword

The text of document 56/1329/FDIS, future edition 1 of IEC/ISO 31010, prepared by IEC TC 56, Dependability, together with the ISO TMB “Risk management” working group, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 31010 on 2010-05-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2011-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-05-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC/ISO 31010:2009 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 60300-3-11	NOTE	Harmonized as EN 60300-3-11.
IEC 61078	NOTE	Harmonized as EN 61078.
IEC 61165	NOTE	Harmonized as EN 61165.
IEC 61508 series	NOTE	Harmonized in EN 61508 series (not modified)
IEC 61511 series	NOTE	Harmonized in EN 61511 series (not modified)
IEC 61649	NOTE	Harmonized as EN 61649.
ISO 22000	NOTE	Harmonized as EN ISO 22000.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

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

Publication	Year	Title	EN/HD	Year
ISO/IEC Guide 73	-	Risk management - Vocabulary - Guidelines for use in standards	-	-
ISO 31000	-	Risk management - Principles and guidelines	-	-

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I.S. EN 31010:2010

IEC/ISO 31010

Edition 1.0 2009-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Risk management – Risk assessment techniques

Gestion des risques – Techniques d'évaluation des risques

IEC/ISO 31010:2009

I.S. EN 31010:2010

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Risk management – Risk assessment techniques

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CONTENTS

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RISK MANAGEMENT – RISK ASSESSMENT TECHNIQUES

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/ISO 31010 has been prepared by IEC technical committee 56: Dependability together with the ISO TMB "Risk management" working group.

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

FDIS	Rapport de vote
56/1329/FDIS	56/1346/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. In ISO, the standard has been approved by 17 member bodies out of 18 having cast a vote.

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 maintenance result 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;
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Organizations of all types and sizes face a range of risks that may affect the achievement of their objectives.

These objectives may relate to a range of the organization's activities, from strategic initiatives to its operations, processes and projects, and be reflected in terms of societal, environmental, technological, safety and security outcomes, commercial, financial and economic measures, as well as social, cultural, political and reputation impacts.

All activities of an organization involve risks that should be managed. The risk management process aids decision making by taking account of uncertainty and the possibility of future events or circumstances (intended or unintended) and their effects on agreed objectives.

Risk management includes the application of logical and systematic methods for

- communicating and consulting throughout this process;
- establishing the context for identifying, analysing, evaluating, treating risk associated with any activity, process, function or product;
- monitoring and reviewing risks;
- reporting and recording the results appropriately.

Risk assessment is that part of risk management which provides a structured process that identifies how objectives may be affected, and analyses the risk in term of consequences and their probabilities before deciding on whether further treatment is required.

Risk assessment attempts to answer the following fundamental questions:

- what can happen and why (by risk identification)?
- what are the consequences?
- what is the probability of their future occurrence?
- are there any factors that mitigate the consequence of the risk or that reduce the probability of the risk?

Is the level of risk tolerable or acceptable and does it require further treatment? This standard is intended to reflect current good practices in selection and utilization of risk assessment techniques, and does not refer to new or evolving concepts which have not reached a satisfactory level of professional consensus.

This standard is general in nature, so that it may give guidance across many industries and types of system. There may be more specific standards in existence within these industries that establish preferred methodologies and levels of assessment for particular applications. If these standards are in harmony with this standard, the specific standards will generally be sufficient.

RISK MANAGEMENT – RISK ASSESSMENT TECHNIQUES

1 Scope

This International Standard is a supporting standard for ISO 31000 and provides guidance on selection and application of systematic techniques for risk assessment.

Risk assessment carried out in accordance with this standard contributes to other risk management activities.

The application of a range of techniques is introduced, with specific references to other international standards where the concept and application of techniques are described in greater detail.

This standard is not intended for certification, regulatory or contractual use.

This standard does not provide specific criteria for identifying the need for risk analysis, nor does it specify the type of risk analysis method that is required for a particular application.

This standard does not refer to all techniques, and omission of a technique from this standard does not mean it is not valid. The fact that a method is applicable to a particular circumstance does not mean that the method should necessarily be applied.

NOTE This standard does not deal specifically with safety. It is a generic risk management standard and any references to safety are purely of an informative nature. Guidance on the introduction of safety aspects into IEC standards is laid down in ISO/IEC Guide 51.

2 Normative references

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

ISO/IEC Guide 73, *Risk management – Vocabulary – Guidelines for use in standards*

ISO 31000, *Risk management – Principles and guidelines*

3 Terms and definitions

For the purposes of this document, the terms and definitions of ISO/IEC Guide 73 apply.

4 Risk assessment concepts

4.1 Purpose and benefits

The purpose of risk assessment is to provide evidence-based information and analysis to make informed decisions on how to treat particular risks and how to select between options.

Some of the principal benefits of performing risk assessment include:

- understanding the risk and its potential impact upon objectives;