

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Risk management – Risk assessment techniques

Gestion des risques – Techniques d'évaluation des risques





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IEC/ISO 31010

Edition 1.0 2009-11

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE **XD**
CODE PRIX

ICS 03.100.01

ISBN 2-8318-1068-2

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**RISK MANAGEMENT –
RISK ASSESSMENT TECHNIQUES**

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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- withdrawn;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.

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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;