

INTERNATIONAL STANDARD

Managing risk in projects - Application guidelines

(<https://standards.iteh.ai>)
Document Preview

IEC 62198:2025

<https://standards.iteh.ai/catalog/standards/iec/33c668ca-f617-4f4a-b495-b8e27de65c58/iec-62198-2025>



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2025 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search -

webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC 62198:2025

<https://standards.iteh.ai/catalog/standards/iec/33c668ca-f617-4f4a-b495-b8e27de65c58/iec-62198-2025>

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Managing risks in projects	9
5 Principles	11
6 Project risk management framework	13
6.1 General	13
6.2 Mandate Leadership and commitment	14
6.3 Design of the framework for managing project risk	15
6.3.1 Understanding the project and its context	15
6.3.2 Establishing the project risk management policy	16
6.3.3 Accountability	16
6.3.4 Integration into project management processes	17
6.3.5 Resources	17
6.3.6 Establishing internal project communication and reporting mechanisms	18
6.3.7 Establishing external project communication and reporting mechanisms	18
6.4 Implementing project risk management	18
6.4.1 Implementing the framework for managing project risk	18
6.4.2 Implementing the project risk management process	19
6.5 Monitoring and review of the project risk management framework	19
6.6 Continual improvement of the project risk management framework	19
7 Project risk management process	20
7.1 General	20
7.2 The project risk management plan	22
7.3 Communication and consultation	22
7.4 Establishing the context Scope, context and criteria	23
7.4.1 General	23
7.4.2 Defining the scope	23
7.4.3 Establishing the external context	24
7.4.4 Establishing the internal context	24
7.4.5 Establishing the context of the project risk management process	25
7.4.6 Defining risk criteria	25
7.4.7 Key elements	26
7.5 Risk assessment	27
7.5.1 General	27
7.5.2 Risk identification	27
7.5.3 Risk analysis	28
7.5.4 Risk evaluation	29
7.6 Risk treatment	29
7.6.1 General	29
7.6.2 Selection of risk treatment options	29
7.6.3 Risk treatment plans	30
7.7 Monitoring and review	31
7.7.1 General	31

7.7.2	Management meetings.....	32
7.8	Recording and reporting the project risk management process	32
7.8.1	Reporting.....	32
7.8.2	Documentation Records and data storage	32
7.8.3	The project risk register	33
Annex A	(informative) Examples	35
A.1	General.....	35
A.2	Project risk management process	35
A.2.1	Stakeholder analysis (see 7.3).....	35
A.2.2	External and internal context (see 7.4.3 and 7.4.4)	36
A.2.3	Risk management context (see 7.4.5).....	38
A.2.4	Risk management context for a power enhancement project.....	
A.2.4	Risk criteria (see 7.4.6)	39
A.2.5	Key elements (see 7.4.7).....	40
A.2.6	Risk analysis (see 7.5.3)	42
A.2.7	Risk evaluation (see 7.5.4)	46
A.2.8	Risk treatment (see 7.6)	47
A.2.9	Risk register (see 7.5.2 and 7.8.3).....	47
Bibliography	49

Figure 1	Principal stakeholders in a project.....	
Figure 1	Relationship between the components of the framework for managing risk, adapted from ISO 31000	14
Figure 2	Project risk management process, adapted from ISO 31000.....	21
Figure A.1	Risk management scope for an open pit mine project	39
Figure A.2	Distribution of costs cost estimate using simulation (example only).....	46

Table 1	Typical phases in a project.....	10
Table A.1	Stakeholders for a government project.....	35
Table A.2	Stakeholders and objectives for a ship upgrade	36
Table A.3	Stakeholders and communication needs for a civil engineering project.....	36
Table A.4	External context for an energy project.....	37
Table A.5	Internal context for a private sector infrastructure project.....	38
Table A.6	Example risk management context for a power enhancement project	38
Table A.7	Criteria for a high-technology project	40
Table A.8	Key elements and workshop planning guide for a defence project.....	
Table A.8	Key elements for a communications system project	41
Table A.9	Key elements for establishing a new health service organization.....	42
Table A.10	Example consequence scale	43
Table A.11	Example likelihood scale	44
Table A.12	Example of a matrix for determining the level of risk	44
Table A.13	Example of priorities for attention.....	47
Table A.14	Example of a treatment options worksheet	47
Table A.15	Simple risk register structure.....	47
Table A.16	Example scale for control effectiveness (CE)	48

INTERNATIONAL ELECTROTECHNICAL COMMISSION

Managing risk in projects - Application guidelines

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 62198:2013. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 62198 has been prepared by IEC technical committee 56: Dependability. It is an International Standard.

This third edition cancels and replaces the second edition, published in 2013, and constitutes a technical revision.

This edition includes the following technical changes with respect to the previous edition:

- a) now aligned with ISO 31000, *Risk management – Guidelines* and ISO 21502, *Project, programme and portfolio management – Guidance on project management* [1]¹.
- b) the principles and generic guidelines on managing risk in projects have been updated to take into account developments in risk management and leadership, with particular reference to implementing risk management within the broad scope of project management envisaged by ISO 21502, including project-related oversight and direction by the sponsoring organization.

The text of this International Standard is based on the following documents:

Draft	Report on voting
56/2058/FDIS	56/2081/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

¹ Numbers in square brackets refer to the Bibliography.

INTRODUCTION

Every project involves ~~uncertainty and~~ risk. Project risks can be related to the objectives of the project itself or to the objectives of the assets, products or services the project creates. This document provides guidelines for managing risks in a project in a systematic, effective, efficient and consistent way.

Risk management includes the coordinated activities to direct and control an organization with regard to risk. ISO 31000, *Risk management — ~~Principles and~~ Guidelines*, describes:

- a) the principles for effective risk management,
- b) the framework that provides the foundations and organizational arrangements for designing, implementing, monitoring, reviewing and continually improving risk management throughout an organization, and
- c) a process for managing risk that can be applied to all types of risk in any organization.

This document shows how those general principles and guidelines apply to managing uncertainty, threats and opportunities in projects. It applies to all kinds of projects and project management processes. When applying this document in conjunction with flexible or agile project management processes, the project's objectives, requirements and specifications are expected to evolve as the project progresses. The application of this document can be adjusted in these circumstances.

This document is relevant to individuals and organizations concerned with any or all phases in the life cycle of projects. It can also be applied to sub-projects and to sets of inter-related projects and programmes.

The application of this document ~~needs to~~ can be tailored to each specific project by taking into consideration factors such as context, objectives and requirements. Therefore, it is ~~considered inappropriate~~ not in the scope of this document to impose a certification system for risk management practitioners.

The guidance provided in this document is not intended to override existing industry-specific standards, although the guidance can be helpful in such instances.