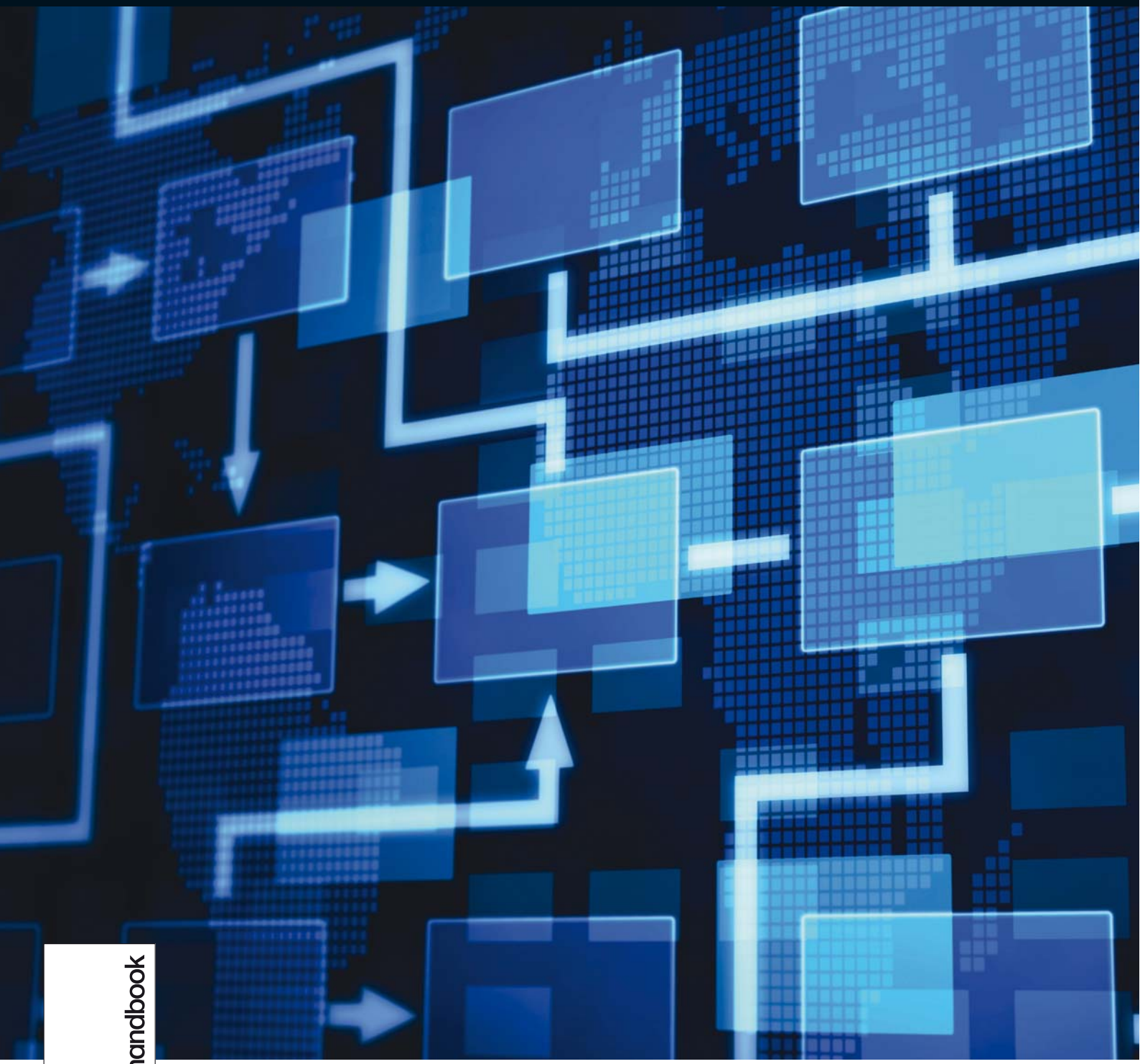
This is a free page sample. Access the full version online.

STANDARDS Australia

SA/SNZ HB 89:2013

# Risk management – Guidelines on risk assessment techniques



handbook

HB

STANDARDS® NEW ZEALAND
PAEREWA AOTEAROA

This is a free page sample. Access the full version online.



This Handbook was prepared by a working group under the direction of Joint Standards Australia/Standards New Zealand Committee QR-005, Dependability, with representatives from Joint Standards Australia/Standards New Zealand Committee OB-007, Risk Management. It was approved on behalf of the Council of Standards Australia on 5 December 2013 and on behalf of the Council of Standards New Zealand on 5 December 2013.
This Handbook was published on 18 December 2013.

The following are represented on Committee QR-005:

Asset Management Council
Australian Industry Group
Australian Organisation for Quality
Department of Defence (Australia)
Engineers Australia
Independent Transport Safety & Reliability Regulator
Institution of Professional Engineers New Zealand
New Zealand Institute of Safety Management
New Zealand Society for Risk Management
Risk Management Institution of Australasia
University of New South Wales
University of Wollongong

The following are represented on Committee OB-007:

Attorney General's Department
Australian Chamber of Commerce and Industry
Australian Computer Society
Australian Logistics Council
Dairy Companies Association of New Zealand
Department of Finance
Financial Services Institute of Australasia
Governance Institute of Australia
Minerals Council of Australia
Ministry of Business, Innovation and Employment, New Zealand
New Zealand Institute of Safety Management
New Zealand Society of Risk Management
Risk Management Institution of Australasia
Royal Australian Chemical Institute
Society for Risk Analysis, Australia and New Zealand Regional
The Institute of Internal Auditors, Australia
United Independent Pools

Standards Australia and Standards New Zealand wish to acknowledge the participation of the expert individuals that contributed to the development of this Handbook through their representation on the Committee.

## Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This is a free page sample. Access the full version online.

SA/SNZ HB 89:2013

Handbook

# Risk management—Guidelines on risk assessment techniques

Originated as HB 89—2012.
Jointly revised and designated as SA/SNZ HB 89:2013.

**COPYRIGHT**

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 1 74342 644 9

This is a free page sample. Access the full version online.



# PREFACE

This Handbook was prepared by a working group under the direction of the Joint Standards Australia/Standards New Zealand Committee QR-005, Dependability, with representatives from the Joint Standards Australia/Standards New Zealand Committee OB-007, Risk Management. It supersedes HB 89—2012.

The purpose of this revision is to correct the referenced documents and introduce minor text changes to facilitate use of the Handbook. The Handbook is now a Joint Standards Australia/Standards New Zealand publication.

This Handbook is based on International Standard ISO/IEC 31010:2009, *Risk management—Risk assessment techniques*, and incorporates material from AS/NZS 3931:1998, *Risk analysis of technological systems—Application guide* [which is an identical adoption of IEC 60300-3-9:1995 (withdrawn)]. The objective of the Handbook is to provide guidance on good practice for assessing risk, as part of a risk management process in accordance with AS/NZS ISO 31000:2009, *Risk management—Principles and guidelines*, and to assist in making decisions under conditions of uncertainty. It provides an overview of a range of risk assessment techniques, and guidance on their selection and implementation.

AS/NZS ISO 31000 describes the fundamental principles of risk management, provides a framework for integrating risk management into an organization and describes a process for managing risk effectively. The Standard post-dates the development of many of the techniques described in this Handbook, so there may be some discrepancy between terminology traditionally used and that of AS/NZS ISO 31000 and ISO Guide 73, *Risk management—Vocabulary*. However, the techniques remain valid and, over time, it is expected that terminology will become fully compatible with the new standards.

Many of the techniques described in this Handbook were originally developed to consider risk in technological applications but increasingly they are being applied much more widely. However, techniques specifically developed for and used in the assessment of financial risks are not included here.

This Handbook strives to aid the process of ongoing development in the use of the techniques and a consistent terminology, aligned with the definitions in ISO Guide 73:2009 and AS/NZS ISO 31000:2009. Many of the techniques described have not traditionally included a requirement to explicitly link ‘risk’ to an organization’s objectives or to consider the organizational context. However, that is not to suggest that such a link was not assumed or inferred, or is not valuable; a clearly stated link is essential to ensure the effective use of these techniques.

This is a free page sample. Access the full version online.



# CONTENTS

*Page*

FOREWORD ..... 4

SECTION 1 SCOPE AND GENERAL
1.1 SCOPE ..... 5
1.2 REFERENCED DOCUMENTS ..... 6
1.3 TERMS AND DEFINITIONS ..... 7

SECTION 2 RISK ASSESSMENT CONCEPTS
2.1 PURPOSE ..... 10
2.2 RISK ASSESSMENT AND RISK MANAGEMENT ..... 10

SECTION 3 RISK ASSESSMENT PROCESS
3.1 OVERVIEW ..... 13
3.2 PREPARATION FOR RISK ASSESSMENT ..... 13
3.3 RISK IDENTIFICATION ..... 16
3.4 RISK ANALYSIS ..... 17
3.5 QUALITATIVE AND QUANTITATIVE TECHNIQUES ..... 17
3.6 RISK EVALUATION ..... 23
3.7 RECORDING AND REPORTING ..... 24
3.8 MONITORING AND REVIEWING RISK ASSESSMENT ..... 25
3.9 APPLICATION OF RISK ASSESSMENT DURING LIFE CYCLE PHASES ..... 25

SECTION 4 SELECTION OF RISK ASSESSMENT TECHNIQUES
4.1 GENERAL ..... 27
4.2 SELECTION OF TECHNIQUES ..... 27

APPENDICES
A COMPARISON OF RISK ASSESSMENT TECHNIQUES ..... 29
B RISK ASSESSMENT TECHNIQUES ..... 32

SAI GLOBAL

This is a free preview.  Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation