IEC TS 62775

Edition 1.0 2016-05

TECHNICAL SPECIFICATION

This document is a preview generated by EVS

colour inside

Application guidelines – Technical and financial processes for implementing asset management systems



IEC TS 62775:2016-05(en)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2016 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 Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
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 corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue
The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub
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 It also gives information on projects, replaced and withdrawn publications.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 also once a month by email.

Electropedia - www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

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: csc@iec.ch.

This document is a preview generated by EVS

IEC TS 62775

Edition 1.0 2016-05

TECHNICAL SPECIFICATION

This document is a preview generated by EVS

colour inside

Application guidelines – Technical and financial processes for implementing asset management systems

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 03.120.01; 03.120.10

ISBN 978-2-8322-3391-7

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

® Registered trademark of the International Electrotechnical Commission

CONTENTS

FOREWORD....4
INTRODUCTION....6
1 Scope....7
2 Normative references....7
3 Terms and definitions....7
4 Management systems environment....10
4.1 Overview....10
4.2 Benefits to asset management from integrating financial and technical processes....10
4.3 ISO 5500x suite – Asset management....11
4.4 Systems engineering....11
4.4.1 Overview....11
4.4.2 Characteristics of a system....11
4.4.3 Application of ISO/IEC/IEEE 15288....12
4.4.4 System life cycle processes....12
4.5 IFRS and IAS standards....15
4.5.1 Overview....15
4.5.2 Conceptual framework....15
4.6 IEC dependability suite....16
4.6.1 Overview....16
4.6.2 Dependability principles....16
4.6.3 Dependability management....16
5 Technical and financial standards for an AMS....17
5.1 Integration of technical and financial standards for asset management....17
5.2 Relating AMS to systems engineering....17
5.3 Mapping system life cycle processes to dependability standards and IFRS and IAS standards....18
6 Intended use of the information provided in this Technical Specification....20
Annex A (informative) International IFRS and IAS information....21
Annex B (informative) Mapping ISO 55001 AMS requirements to ISO/IEC/IEEE 15288 system life cycle processes....23
Annex C (informative) Mapping ISO/IEC/IEEE 15288 processes to IEC dependability and IFRS and IAS standards....24
Bibliography....31

Figure 1 – System life cycle processes – ISO/IEC/IEEE 15288:2015....14
Figure 2 – Elements of an AMS....18
Figure 3 – Set of technical processes used for managing assets....19

Table A.1 – International IFRS and IAS information....21
Table B.1 – Mapping ISO 55001 AMS requirements to ISO/IEC/IEEE 15288 system life cycle processes....23
Table C.1 – Agreement processes....24
Table C.2 – Organizational project enabling processes....25

This document is a preview generated by EVS

Table C.3 – Technical management processes 26
Table C.4 – Technical processes (continued) 28

This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

APPLICATION GUIDELINES – TECHNICAL AND FINANCIAL PROCESSES FOR IMPLEMENTING ASSET MANAGEMENT SYSTEMS

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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

The main task of IEC technical committees is to prepare International Standards. In exceptional circumstances, a technical committee may propose the publication of a Technical Specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62775, which is a Technical Specification, has been prepared by IEC technical committee 56: Dependability.

This document is a preview generated by EVS

The text of this Technical Specification is based on the following documents:

Enquiry draft	Report on voting
56/1644/DTS	56/1675/RVC

Full information on the voting for the approval of this Technical Specification 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 website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International Standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date

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.

This document is a preview generated by EVS

INTRODUCTION

Asset management is a multi-disciplinary business activity comprising financial, technical and risk components. Effective control and governance of assets by organizations is essential to realizing value from their use through the management of risk. The value derived through the use of assets is determined by the organization.

The organization's decision-making processes are effective when they address technical and financial risks together and when those processes achieve a ‘desired balance of cost, risk and performance’- as required by the ISO 5500x asset management suite. Thus, the processes developed within the asset management system (AMS) need to integrate financial and accounting procedures with technical and management activities, using risk based decision making.

The ISO 5500x asset management suite of standards defines the principles of asset management and documents the requirements for an AMS that implements those principles. However, ISO 55001 explicitly excludes information necessary to implement the technical and financial processes in support of the management of assets.

The IEC dependability suite of standards provide guidance on technical processes and techniques that achieve desired availability, reliability, maintainability and supportability of assets, products and systems. Systems engineering standards describe the life cycle of systems and define the processes needed for the engineering management of a system while the International Financial Reporting Standards (IFRS) provides a suite of globally accepted international financial reporting standards and a suite of supporting accounting standards in the form of the International Accounting Standards (IAS).

This Technical Specification demonstrates the relationship between the ISO AMS standards, the ISO/IEC/IEEE systems engineering standards, the IEC dependability standards and the IFRS and IAS financial standards.

This document is a preview generated by EVS

APPLICATION GUIDELINES – TECHNICAL AND FINANCIAL PROCESSES FOR IMPLEMENTING ASSET MANAGEMENT SYSTEMS

This document is a preview generated by EVS

1 Scope

IEC 62775, which is a Technical Specification, shows how the IEC dependability suite of standards, systems engineering and the IFRS and IAS standards can support the requirements of asset management, as described by the ISO 5500x suite of standards.

This Technical Specification therefore provides

- a brief introduction to asset management and the requirements for an AMS,
- a description of the benefits from the use of an established and common set of AMS processes and procedures, tools and techniques to manage assets, and
- a description of the relationships between the AMS and the tools and techniques, processes and procedures of
  - ISO/IEC/IEEE 15288:2015, Systems and software engineering – System lifecycle processes,
  - IEC dependability standards in particular IEC 60300-3-15, and
  - relevant IFRS and supporting IAS standards.

This Technical Specification is intended for

- asset managers who wish to identify and implement technical and financial processes within an AMS, using dependability techniques and IFRS and IAS standards respectively, and
- systems and dependability engineers who need to apply their technical processes and techniques within an AMS.

2 Normative references

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.

ISO 55001:2014, *Asset management – Management systems – Requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
accrual accounting
accounting which depicts the effects of transactions and other events and circumstances on a reporting entity's economic resources and claims in the periods in which those effects occur, even if the resulting cash receipts and payments occur in a different period

Note 1 to entry: In order to meet their objectives, financial statements are prepared on the accrual basis of accounting.

[SOURCE: IFRS – IASB Conceptual Framework for Financial Reporting 2010]