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Australian Standard®

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**Software quality management  
system**

**Part 2: Implementation guide**

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**STANDARDS AUSTRALIA** 

This Australian Standard was prepared by Committee QR/3, Software Quality Assurance. It was approved on behalf of the Council of Standards Australia on 20 September 1991 and published on 4 November 1991.

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The following interests are represented on Committee QR/3:

Australian Computer Society  
Australian Electrical and Electronic Manufacturers Association  
Australian Information Industry Association  
Australian Organization for Quality  
Bureau of Steel Manufacturers of Australia  
Civil Aviation Authority (Commonwealth)  
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**Australian Standard®**

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## PREFACE

This Standard was prepared by the Standards Australia Committee on Software Quality Assurance. It has been prepared as guidance for implementing a software quality management system in accordance with the requirements of AS 3563.1, *Software quality management system, Part 1: Requirements*, and has been aligned with the clauses of that Standard.

This Part of the Standard should be read in conjunction with Part 1, which describes the requirements for a software quality management system for software development. Included in this Part of the Standard are a number of suggestions for developers to implement parts of the quality management system; it is not a template for such a system as the levels and types of controls should be selected to conform to the size and practices of the developer's organization.

This implementation guide complements that prepared by ISO: ISO 9000-3, Part 3: *Guidelines for the application of ISO 9001 to the development, supply and maintenance of software*.

It should also be made clear that this is not an auditor's guide. Guidance for auditing and assessment of quality management systems is given in the parts of AS 3911(Int)—1990, *Guidance for auditing quality systems*.

## CONTENTS

	<i>Page</i>
FOREWORD .....	3
1 SCOPE AND FIELD OF APPLICATION .....	4
2 REFERENCED AND RELATED DOCUMENTS .....	4
3 DEFINITIONS .....	4
4 QUALITY SYSTEM REQUIREMENTS .....	4
<b>APPENDICES</b>	
A LIST OF REFERENCED AND RELATED DOCUMENTS .....	19
B EXAMPLES OF A SUPPLIER'S POLICY STATEMENT ON QUALITY .....	21
C EXAMPLE OF A JOB DESCRIPTION .....	22
D EXAMPLE OF AN ORGANIZATION CHART .....	23
E EXAMPLE OF A QUALITY ASSURANCE PLANNING PROCEDURE .....	24
F EXAMPLE OF A PROJECT SUMMARY FORM .....	26
G EXAMPLE OF QUALITY PLAN GUIDELINES .....	28
H EXAMPLES OF PROBLEM REPORTS .....	30
I EXAMPLE OF A CHANGE CONTROL FLOW DIAGRAM .....	34
J EXAMPLE OF A SOFTWARE CHANGE PROPOSAL .....	35
K EXAMPLE OF A SOFTWARE CHANGE AUTHORITY .....	36
L EXAMPLE OF QUALITY AUDIT AND REVIEW PROCEDURE .....	37
M EXAMPLE OF AN AUDIT REPORT .....	38
N EXAMPLE OF A TRAINING SCHEME COURSE ASSESSMENT .....	39
O EXAMPLE OF A LIBRARY CONTROL REGISTER .....	40

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## FOREWORD

The development and acquisition of computerized systems may be characterized by a recognized combination of two major components: hardware and software. The successful integration of these two major components is essential for compliance with overall user requirements. Essential to this successful integration is the application of a disciplined approach to management provided by a quality system.

Part 1 of this Standard presents a statement of requirements which may be nominated by individual customers, as a condition of contract or agreement, when seeking to obtain software for which they have need for assurance of quality prior to acceptance. This Part of the Standard gives practical guidance to software developers who are implementing these requirements either in response to a customer's demand or as a proactive step in improvement of quality.

As stated in Part 1, the requirements of the Standard only define the essential elements or features of the quality management system and Part 1 does not seek to prescribe how this system should be implemented. This Part of the Standard is a distillation of practical experience for this task of implementation. It is neither prescriptive nor exclusive and so nothing contained herein should be construed as being the best or only way to effectively implement a quality management system. It is for developers to establish the procedures appropriate to their scale, methodologies and organization to achieve the system outlined by the requirements of Part 1.

The examples given in the appendices which have been drawn from a number of sources are illustrative only and should not be assumed to be applicable to all situations.

# STANDARDS AUSTRALIA

## Australian Standard

### Software quality management system

#### Part 2: Implementation guide

#### 1 SCOPE AND FIELD OF APPLICATION

**1.1 Scope** This Standard provides guidance for implementing a software quality management system in accordance with the requirements of AS 3563.1. It may also be used for reviewing existing software quality assurance functions.

By necessity, the coverage is general as the needs of a particular organization must be tailored to suit the nature of the developer/client/customer relationship, and their understanding of their freedom to change requirements. Specific requirements, procedures and practices may thus vary from the implementation guidelines. Alignment has been made with each of the clauses of AS 3563.1, coverage being provided where required in the following format:

- (a) Explanation of the intention of the clause and any special terminology.
- (b) Details on how to implement the clause including, where necessary, relationships and interfaces.
- (c) Any forms or charts which may assist.

**1.2 Application** The clauses in this Standard apply equally to all computer software used throughout an organization, whether that software be—

- (a) developed for an external customer;
- (b) developed for internal users;
- (c) developed by a subcontractor (whether for internal use or as part of development of a larger system for an external customer); or
- (d) procured as already-developed software (whether for internal use or for use as part of a larger system for an external customer).

The term 'customer' may be equated to 'user' in an 'in-house' situation and the term 'contract' may be taken to include all those arrangements taken to initiate development action where the development is for an 'in-house' situation.

This Part of the Standard should be read in conjunction with Part 1 as the clauses of Part 1 are not repeated in this Part and therefore it does not stand alone.

**2 REFERENCED AND RELATED DOCUMENTS** A list of referenced and related documents is given in Appendix A.

NOTE: Throughout this Standard reference to AS 3901 is to be taken as reference to AS 3901/NZS 9001/ISO 9001 and reference to AS 3904.1 is to be taken as reference to AS 3904.1/NZS 9004.1/ISO 9004.

**3 DEFINITIONS** For the purpose of this Standard, the definitions given in AS 1057 and AS 3563.1 apply.

#### 4 QUALITY SYSTEM REQUIREMENTS

##### 4.1 Management responsibility

**4.1.1 Quality policy** Authority and direction for the implementation of a software quality assurance system are provided by documented company policy. Additional information may be obtained from the related documents in Appendix A.

NOTE: Examples of policy statements on quality are provided in Appendix B of this Standard.

**4.1.2 Organization** The clause and its guidance require a developer to appoint a management representative. In a large organization, this person may be called the quality manager (or equivalent). It is recommended that an appointment to this position be made in writing, with a duty statement. It is a sound practice to include the duty statement and an organization chart in the manual of procedures.

NOTE: An example of a duty statement for the quality manager is provided in Appendix C.

Determining the person that this quality manager reports to can be difficult. However, the responsibility to provide assurance of the production processes and of the products themselves represents a delegation of authority from the general manager of the organization or business. Ideally the quality manager should be independent of the functions for developing the product and be equivalent in authority to the managers of those functions that also report to the general manager. The quality manager is responsible for the establishment and maintenance of a documented quality management system, for the compliance of supplies and internal functions to quality system requirements, and for the