

AS/NZS 4258:1994

Australian/New Zealand Standard

Software user documentation process

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AS/NZS 4258:1994

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Australian Computer Society
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Australian Society of Technical Communication (N.S.W.)
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PREFACE

This Standard was prepared by the Joint Australia/New Zealand Standards Committee IT/9 on Information Systems Vocabulary And Software.

This Standard is issued as a Joint Standard under the terms of the Active Cooperation Agreement between Standards Australia and Standards New Zealand.

There are two major types of Standards as follows:

- (a) Product Standards.
- (b) Process Standards, which specify the way in which products are to be developed.

This Standard is basically a process Standard. It does not mandate any particular document layout, document content or any other aspect of the completed documentation; rather, it mandates the way in which the documentation process is to be planned and carried out.

The ever-increasing application and complexity of computer software makes necessary the availability of complete, accurate and understandable documentation to those who use the software. This Standard provides a tool for achieving these aims by specifying those activities (what is to be done, and who is to do it) that can affect the quality of software user documentation.

Documentation is often regarded as something done after the software has been implemented. However, for quality software documentation production, it should be regarded as an integral part of the software production process. If done properly, it is a big enough job to require process planning in its own right. The purpose of this Standard is to encourage software developers to give this documentation process its due place. The Standard also gives users and clients a tool to ensure that this process takes place.

This Standard's main activity is the creation of a comprehensive plan for developing the documentation. This is necessary because things are more likely to happen if they are planned. To comply with the Standard, the plan must include a style specification. The Standard does not specify the content of this style specification (i.e. it does not specify a particular layout or typeface), but it specifies what a style specification must cover. The Standard also specifies what kinds of information the customer is to make available to the documenter, and who is to review and reproduce the documentation.

Further information on this topic may be obtained by contacting relevant organizations (see Appendix G) or from other literature (see Appendix H).

This Standard may be used to comply with the relevant sections of the following Standards:

- (a) AS 3563.1, *Software quality management systems, Part 1: Requirements*.
- (b) AS 4071, *Software project management plans*.

The relevant guidance from AS 3897, *Information processing—Guidelines for the management of software documentation*, has been accepted and incorporated into the Standard.

The term 'informative' has been used in this Standard to define the application of the appendices. An 'informative' appendix is only for information and guidance.

Guidance: Appendix B describes a number of methods of estimating the time required for the overall documentation process.

Guidance: Appendix E provides further information on assessing a documentation plan.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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Software user documentation process

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies the minimum process for creating all forms of user documentation for software which has a user interface. Such forms of documentation include printed documentation (e.g. user manuals and quick-reference cards), on-line documentation, help text and on-line documentation systems. Although parts of the Standard may be suitable for other products (e.g. embedded systems, training materials, policy or procedures manuals, or even hardware documentation), the Standard as a whole is not intended for such use.

1.2 APPLICATION This Standard is intended for use by anyone who produces or buys user documentation.

This Standard may be applied to the development of documentation whether the contract is for documentation alone or for documentation as a portion of a system.

This Standard covers not only printed documentation, but also help screens, the help delivery system, and the on-line text and delivery system.

This Standard may also be applied to 'in-house' documentation development where the 'customer' can be taken to be that part of the organization requesting the documentation development.

Guidance: Appendix A provides further guidance on the use of this Standard in a contract between customer and documenter.

1.3 DEFINITIONS For the purposes of this Standard, the definitions below apply.

1.3.1 Audience—a category of users sharing the same or similar characteristics and needs (e.g. purpose in using the documentation, tasks, education level, abilities, training, experience) that determine the content, structure and use of the intended documentation. There may be a number of different audiences for a software product's documentation (e.g. management, data entry, maintenance).

1.3.2 Audience research—a planned process of interview, and of the analysis of interview records and personnel records. The purpose of audience research is to determine the abilities, training, experience, limitations, prejudices and preferences of the intended readers of a document.

1.3.3 Back matter—material that appears at the end of a book or manual, such as an index.

1.3.4 Camera-ready originals—a set of images on paper, photographic film or another suitable medium from which a printing plate can be made by direct photographic transfer. Each image must contain all of the necessary text and graphic elements for one complete page of paper documentation, and each element must be in the correct position.

1.3.5 Customer—the party who requests the documentation. The customer is not necessarily part of the audience for the documentation. The customer may belong to the same organization as the documenter.

1.3.6 Cut-off date—a date after which changes to the software are reflected in the next, rather than the current, issue of the documentation.

1.3.7 Deliverables—those items whose delivery to the customer is a requirement of the contract.

1.3.8 Documentation—printed user manuals, on-line documentation and help text which describe how to use a software product.

1.3.9 Documentation development staff—all staff involved in any phase of the planning, writing, editing and production of documentation.

1.3.10 Documentation plan—a document which sets out the essential elements of the documentation project.

1.3.11 Documenter—the party preparing the documentation.

1.3.12 Electronic copy—a computer disk or other computer-readable medium containing a file or files from which the document can be printed.

1.3.13 Endnotes—notes collected at the end of a chapter or document.

1.3.14 Foldout—a single page wider than the rest, normally folded in so that it does not protrude, which can be unfolded by the reader.

1.3.15 Footer—a footer is material repeated at the bottom of each page (e.g. page number).

1.3.16 Footnote—text at the bottom of a page, usually in smaller type, which is referenced by means of a number or other device to the text on the same page.

1.3.17 Front matter—material that comes at the front of a book or manual, such as the title page and table of contents.

1.3.18 Header—a header is material repeated at the top of each page.

1.3.19 Heading—a heading is text that identifies the topic that will be covered in the following text.

1.3.20 Help system—*see* On-line documentation system.

1.3.21 Help text—text which is accessed by the user through the use of software, and which is automatically selected according to the context in which it is called up; i.e. help text is context-sensitive.

1.3.22 Informative—material giving additional information, which does not form an integral part of the Standard.

1.3.23 Item of documentation—information designed for a specific audience for a specific purpose, and using a specific medium (e.g. book, disk, quick-reference card, video) of a particular format.

1.3.24 Location reference—an indicator following a heading or subheading in an index, showing to which part of the document the heading or subheading refers.

1.3.25 Mark-up—a document with comments written on it indicating changes that need to be made; also describes the process of producing such a document.

1.3.26 May—indicates the existence of an option.

1.3.27 Mechanicals—the printing, binding, production and layout details for paper-based documentation.

1.3.28 Navigation—the means by which a user moves from one part of a software application to another.

1.3.29 On-line documentation—information which is accessed by the user through the use of software, but which is not sensitive to context. *See also* Help text.

1.3.30 On-line documentation system or help system—an ancillary part of a program, or sometimes a separate program, which allows the user to view parts of the on-line documentation or help text on request. *See also* On-line documentation *and* Help text.

1.3.31 Paper documentation—that part of the documentation which is in printed form.

1.3.32 Point—measure of vertical distance; there are approximately 2.8 points to the millimetre (approximately 72 points to the inch).

1.3.33 Product—the software, which the documentation is intended to describe.

1.3.34 Production—the steps involved in taking draft text and turning it into camera-ready originals, completed help text or on-line documentation.

1.3.35 Proof—a final copy of a paper document presented to the customer for review prior to publication. Unless alterations are requested, the finished document will be identical to the proof copy in all respects other than paper stock, binding and colours. Proofs are generally photocopies of the camera-ready originals.

1.3.36 Prototype—a model or preliminary implementation of a piece of software suitable for the evaluation of system design, performance or production potential, or for the better understanding of the software requirements.

1.3.37 Reports—reports are output from a software application which are usually printed or displayed on the screen, as distinct from interactive responses by the software.

1.3.38 Screen dump—a representation of what the user will see while using the software.

1.3.39 Shall—indicates that a statement is mandatory.

1.3.40 Should—indicates a recommendation.

1.3.41 System—a combination of hardware and software.

1.3.42 Table of contents—a list of the headings in a document in page number order, with page numbers shown against each heading.

1.3.43 Table of effective pages—a list showing the latest version number of each page in a loose-leaf paper document. Where individual pages are replaced, the table of effective pages shows the old version number for the unaltered pages, and the new version number for the replaced pages.

1.3.44 Team selection plan—a document specifying the qualifications, experience and training needs of documentation development staff.

1.3.45 Throwclear—a foldout whose print area is such that all of the material on the page can be viewed with the book shut. This means that a throwclear can be viewed at all times while looking at any of the preceding pages of the book.

1.3.46 Useability laboratory—typically, a suite of evaluation and observation rooms which may be fitted with video and audio equipment for recording user responses.

1.3.47 Useability testing—a formal process for evaluating the suitability of documentation.

1.3.48 User interface—an interface that enables information to be passed between a human user and hardware or software components of a computer system.

1.3.49 User—a person who performs or will perform one or more tasks with the software to be documented. Each user belongs to one or more audiences.

1.3.50 White space, active—active white space is any area around textual or graphical elements, not including margins. It breaks up text, separates topic and sub-topic groupings, indicates hierarchical and topical relationships, highlights information and makes text easier to read.

1.3.51 White space, passive—passive white space is the top, bottom, left and right margins which surround text.

1.4 QUALITY MANAGEMENT If the development of the software being documented is subject to a quality management Standard, the provisions of that Standard apply equally to the development of software and to its documentation.

Guidance: Even where a quality management Standard is not referenced in a contract, documenters are encouraged to use a quality management system that complies with appropriate quality management Standards.

1.5 SHALL AND SHOULD The reader's attention is drawn to the definitions of the words 'shall' and 'should' contained in the Definitions Clause of this Standard.

SECTION 2 THE DOCUMENTATION
PROCESS

2.1 GENERAL The activities of the documentation process shall be performed in the sequence shown in Figure 1, which has three shaded boxes. All of the activities within a shaded box shall be completed before beginning on the activities in the next shaded box. Within a shaded box, activities may be undertaken in parallel. Broken lines indicate possible iterations.

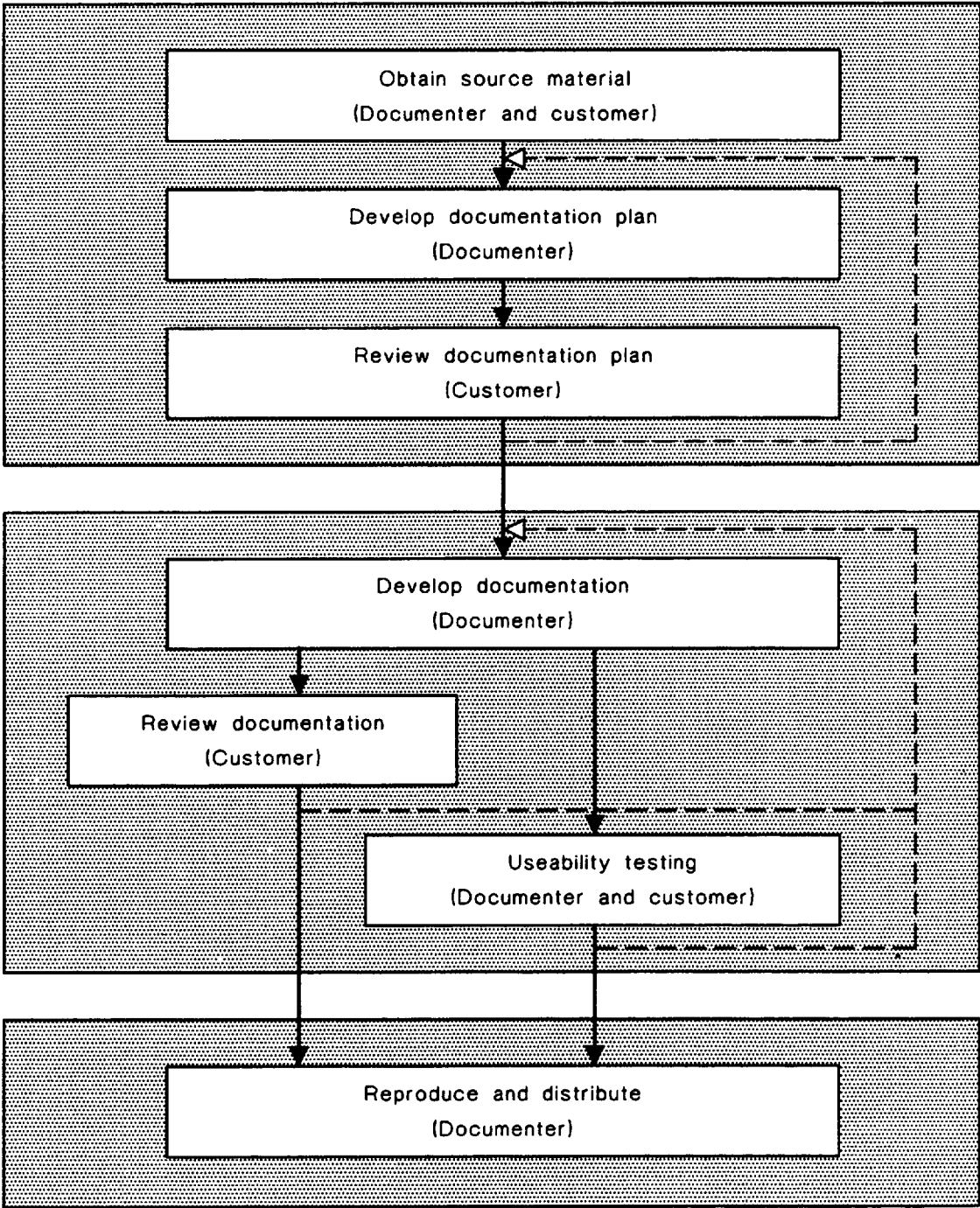


FIGURE 1 DOCUMENTATION PROCESS OVERVIEW

2.2 PROVISION OF SOURCE MATERIAL The customer shall provide to the documenter access to—

- (a) all relevant specifications, record formats, screen and report layouts, and any other information necessary for the preparation of the documentation;
- (b) an operating copy of the software, if available;
- (c) the analysts and programmers of the software, including the timely and accurate resolution of questions raised by documentation development staff; and
- (d) where possible, typical users for audience analysis and useability testing.

It shall be the documenter's responsibility to ensure that access to the customer's software development staff is kept to the minimum required to gain an understanding of the product and its audiences.

Guidance: The documenter is not responsible for developing, checking or correcting source information, only for communicating it.

Whether or not the documenter is also the developer of the software, the customer shall supply copies of all applicable standards, style and format guidelines, and other related materials (unless generally available). The documenter shall distribute this material to those documentation development staff that require it.

It shall be the responsibility of the customer to ensure that all of the material delivered by the customer to the documenter is complete and correct when delivered, and that it is kept up to date after delivery.

The customer warrants that none of the material provided infringes the intellectual property rights of any other party.

The documenter shall take all reasonable steps to ensure that the material provided by the customer is kept in good order, shall secure the information to the requirements of the customer, and shall return all material to the customer at the completion of the documentation project.

Guidance: In some cases, the material passed by the customer to the documenter needs to be kept confidential and secured. The contract should specify the level of confidentiality or security the customer requires from the documenter for material passed to the documenter.

2.3 DOCUMENTATION PLAN

2.3.1 General The documenter shall draw up a documentation plan which specifies the work to be carried out in creating the documentation. The documentation plan shall be signed off by the customer to signify that it fully covers the customer's requirements.

Guidance: The documentation plan will generally cover the whole documentation suite, including, for example, user manuals, on-line documentation, help text and quick-reference cards. See Appendix C for a sample plan.

The documentation plan shall formally describe the scope and limitations of the planned documentation, as well as important documentation analysis and design decisions. It shall also set out the processes and controls to be implemented during documentation development.

The documentation plan shall include (but not be limited to) the following:

- (a) The working title, purpose, scope and limitations of the planned documentation.
- (b) A style specification, as set out in Section 3 of this Standard.
- (c) An audience definition.
- (d) Reasons why the documentation would be used by the intended audience, and for what purpose.

- (e) Draft tables of contents for the documentation, with estimated page counts, and equivalent detail for other media.
- (f) The deliverables: how many printed copies, whether disk copies are to be provided, disk and file formats (including software versions), and where they will be delivered.

- (g) Ownership of copyright, and any other proprietary rights.

Guidance: The issue of proprietary rights is complex. Basically, the author of a commissioned document is the first owner of the copyright unless there is an agreement otherwise. This situation may put the customer in a difficult position with regard to copying and making changes.

All contracts for commissioned documentation should include references to the ownership of rights. This may involve assignment of the future copyright in the documentation from the documenter to the customer. The assignment of copyright is then effective when and as the documentation is produced.

- (h) Provision for translation into other languages.

Guidance: See Appendix D for further information about writing for translation into other languages.

- (i) Where appropriate, the level of security or confidentiality of each document.
- (j) The procedures and controls that will govern the documentation development process, including storage, retrieval, backup, disposal and quality assurance if required.
- (k) The production methods, tools and tool versions to be used.
- (l) The structure of the team in which the documentation development staff will work; optionally, a team selection plan.

Guidance: People involved in different phases of the writing and production of documentation need different skills. It may be that a writer requires a good knowledge of the system being documented, plus experience in writing documentation; an editor may require only editing experience and no systems knowledge; a layout artist may require no knowledge other than of the layout tools in use.

- (m) Project dependencies.
- (n) Person hours required, and costs.
- (o) Project resource requirements, including the information and other resources that the customer will have to provide, and when.
- (p) A method for passing information on software changes to the documenter during software development.
- (q) Plans for the change control and maintenance of the documentation (optional).
- (r) Plans for post-implementation review (optional).
- (s) A schedule showing appropriate milestones, including where appropriate:
 - (i) documentation plan approval;
 - (ii) preparation, review and correction of each draft;
 - (iii) useability testing;
 - (iv) camera-ready artwork preparation; and
 - (v) printing, binding and distribution.

Where appropriate, each of these elements shall be repeated for each item of documentation.

Guidance: It may also be useful to include in the documentation plan samples of similar documentation produced by the documenter, or even samples of documentation produced by others, to indicate the intended style or layout, or both.

A documentation plan should be prepared and approved before the development of the documentation begins, to ensure that all parties agree on the objectives and methods to be used. After approval, the plan should be distributed as widely as possible; this distribution should include all documentation development staff, and may include customer staff and subcontractors (e.g. printers, typesetters, translators).

2.3.2 Audience definition The documentation plan shall include a definition of the intended audience(s), defining the users in those audiences in terms of education level, abilities, training, experience and any other characteristics relevant to the content, structure and use of the documentation.

There are frequently a number of different groups of users, each with different characteristics, and each with a different purpose in using the documentation. Each type of user, including their characteristics and the tasks they are trying to perform with help from the documentation, shall be defined separately.

Guidance: Data for the audience definition can be obtained from—

- (a) audience research conducted by the customer or documenter;*
- (b) definition supplied by the customer; or*
- (c) audience definition from another source.*

Wherever possible, documentation development staff should try to meet typical users in their work environments, and observe them at work.

2.3.3 Control of documentation plan

After sign-off, the documenter shall be responsible for the control and distribution of the documentation plan. This will require that a list be kept of the distribution of accountable copies.

If subsequent changes are made to the documentation plan (and agreed to by the documenter and customer), the documenter shall ensure that all accountable copies of the documentation plan are updated.

Guidance: Because of the problems that may arise from the existence of outdated copies of the plan, the documenter should prohibit the uncontrolled copying of the plan, and institute procedures for auditing that all copies of the plan have been updated.

2.4 REVIEW

2.4.1 General Review shall be carried out by the customer, including discussions with the documenter as necessary.

Guidance: The purpose of review is to ensure that submitted material is complete and correct, and that it meets the needs of the customer as defined in the contract and documentation plan.

Reviews should be performed by suitably qualified customer personnel, who shall be given the authority to request changes and to approve the content of the documentation.

Guidance: The customer should limit the number of reviewers to those necessary for the review function.

The customer shall ensure that the safety and legal aspects of the documentation are correct before approving each draft of the documentation.

Documentation submitted for review shall include a covering letter from the documenter stating the purpose of the review and the responsibilities of the reviewer.

Guidance: The quality of the documentation and the success of reviews will be enhanced by maintaining good communication between customer and documenter throughout the development. This should include informal discussions and the provision of sample or preliminary material to the customer as early as is feasible.

Where the changes requested are outside the scope of the contract and documentation plan, a contract change may be necessary.

Note that the review process does not absolve the documenters from their responsibility of trying to ensure that the documentation is as accurate and complete as possible.

Immediately prior to issuing a publication for approval, all screen dumps should be regenerated to ensure that these illustrations are current. This is best achieved by using the product after the code is frozen, and producing a dump of all screen representations contained in the publication.

Customer comments resulting from a review should be in the form of either a mark-up of a draft, or written comments with appropriate references. The customer should keep a copy of the changes for comparison with the next draft. The comments should be such that the documentation development staff can implement the requested changes without further explanation by the reviewer.

Revision bars are an aid to efficient and effective inspection of drafts. The purpose of revision bars is to highlight those parts of the publication that require inspection. This avoids situations where reviewers repeatedly re-visit parts of the publication for no purpose. The use of document comparison tools for the generation of revision bars is strongly recommended, where such tools are available.

Guidelines for the use of revision bars are as follows:

- (a) No revision bars should be printed in the first draft of a new publication.*
- (b) Revision bars should be used to show the changes from the original in a revised publication.*
- (c) In the second draft, use a revision bar with a number '1' to indicate places where changes occurred as a result of first draft review.*
- (d) In the final draft, use a number '2' to indicate changes.*
- (e) After the approval draft is accepted, all revision bars should be removed before the publication is submitted for final sign-off.*

In large, complex systems, or systems under development while documentation is being written, it may be necessary to have more than two drafts and a proof. In these cases, the maximum number of drafts should be agreed between the customer and the documenter, and set out in the documentation plan.

2.4.2 Documentation plan review The purpose of this review shall be to ensure that the documentation defined by the documentation plan will, when completed, satisfy the documentation objectives of the customer. In approving the documentation plan, the customer is approving all characteristics of the deliverables defined in the plan.

Guidance: Customers should pay particular attention to the structure, completeness, and useability of the documentation as set out in the draft table of contents. Where practicable, the documentation plan should be reviewed and approved prior to the start of work on the first draft. See Appendix E for information on assessing a documentation plan.

2.4.3 First draft review The first draft shall contain the body of the documentation as described in the documentation plan, plus table(s) of contents, appendices and glossary. Where automated indexing tools are used, the index generated shall contain location references. The spelling, punctuation and layout shall be as described in the documentation plan.

The first draft of the documentation shall be reviewed by the customer. The purpose of this review is to check the technical accuracy and completeness of the documentation, to ensure that the draft meets the objectives of the documentation plan, and that the spelling, punctuation, style, and layout are as defined in the documentation plan.

In approving the first draft, the customer approves the technical accuracy, structure, clarity, and completeness of the documentation except for the changes requested.