

# Australian Telecommunications Alliance

## Guidelines for Developing Standards and related Publications



Provides guidance on Standards development processes and Standards writing for the Australian Telecommunications Alliance (ATA) Working Committees developing Standards and related publications for customer equipment or customer cabling. This guidance may also be of use to other ATA Advisory Groups and Working Groups with activities related to customer equipment or customer cabling.

This guidance information is available on the ATA website at <https://www.austelco.org.au/our-work/#policies-and-procedures>

## 1 GENERAL

### 1.1 Introduction

#### Objective

To provide guidance on the following:

- the regulatory environment that customer equipment Standards are legislated under, including what requirements in a Standard can be made by the ACMA;
- relationship to relevant ATA documentation;
- identification of appropriate mandatory requirements/provisions for customer equipment/cabling Standards to be called up under telecommunications legislation; and
- identification of appropriate voluntary/guidance information for customer equipment or cabling Standards or Guidelines.

#### Who are these Guidelines intended for

- members of ATA Working Committees developing Standards, Codes or Guidelines related to customer equipment or cabling.

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### 1.2 Types of publications

ATA, as an accredited Standards Development Organisation, develops and maintains Standards that are referenced under telecommunications legislation. ATA also develops customer equipment-related Codes and Guidelines.

#### Standards

The Standards in the four categories below, as referred to in the *Telecommunications Act 1997* (the Act), are located at [Customer Equipment Standards](#).

The legislative instruments, referred to as technical Standards under section 376 of the *Telecommunications Act 1997* (Act), are located at [Telecommunications Standards](#)

[list](#) available from the Australian Communications and Media Authority (ACMA). These legislative instruments call up, in whole or in part, the ATA Standards<sup>1</sup> referred to above. The technical Standards may be given regulatory effect by citing in the *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2025* and the *Telecommunications (Cabling Provider) Rules 2025*.

These Standards are not to be confused with Industry Standards registered by ACMA. Further information on Industry Standards is located at the [Register of telco industry codes and Standards](#) available from ACMA.

ATA can also develop Standards that are not destined to be called up under the *Telecommunications Act 1997*.

#### **a) Technical Standards about customer equipment and customer cabling**

Customer equipment and customer cabling product Standards form the majority of Standards developed by the ATA. These Standards are *made* by ACMA under Part 21 of the Telecommunications Act. Section 376 provisions are commonly referred to as the ACMA's 'Heads of Power' in making technical Standards. Standards made under this section of the Act are to consist of such mandatory requirements as are necessary or convenient under these Heads of Power.

The definitions for *customer equipment and customer cabling* can be found in sections 21 and 20 of the *Telecommunications Act 1997* (the Act) respectively.

#### **b) Disability Standards**

Disability Standards are made under section 380 of the Act.

Currently there is only one Disability Standard, the *Requirements for Customer Equipment for use with the Standard Telephone Service — Features for special needs of persons with disabilities* ([S040](#)).

#### **c) Standards for cabling work**

There are two Standards for cabling work that are called up under the Act: the *Installation requirements for customer cabling (Wiring rules) Standard* ([S009](#)), under section 421, and the *Requirements for installation of temporary field telecommunications customer cabling for defence purposes*, Standard ([S035](#)) under section 419.

#### **d) Technical Standards about Interconnection of facilities**

Standards about the interconnection of facilities, under section 384 of the Act, have never been developed.

### **Standards Australia Standards**

In addition to the Standards developed by the ATA as outlined above, Standards Australia also develops Standards for the communications industry. These Standards include equipment safety, structured cabling Standards, radiocommunications, EMC and EMR Standards.

### **Codes**

The only Industry Codes that relate to customer equipment is the *Information on Accessibility Features for Telephone Equipment Industry Code* ([C625](#)) and the *Emergency Calling – Network and Mobile Phone Testing Code* ([C674](#)). C625 specifies obligations on equipment suppliers to provide information to carriage service providers on features of their equipment that will meet people's communications needs. C674 specifies requirements for Nominated Mobile Network

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<sup>1</sup> References to AS/ATA Standards include AS/ACIF and AS/CA Standards.

Operators (MNOs) to support testing to demonstrate and document selected Mobile Phones have the ability to make Emergency Calls on an alternate network.

### Guidelines and other publications

The following publications have been developed to support the Standards and Codes related to customer equipment and cable. These [publications](#) are not directly referred to under telecommunications Standard and Code legislation but are referenced by the Standards and Codes.

When guidance or supporting information is required but not considered appropriate for inclusion in a Standard or Code, a separate Guideline can be developed. For example, if the information is to be frequently updated then it may be better located in a Guideline.

There are two customer equipment/cable-related Guidelines:

- *Acoustic safety for telephone equipment* Guideline ([G616](#)) which supports the *Voice frequency performance requirements for Customer Equipment* Standard ([S004](#))
- *Installation of Broadcast Cabling and connection of Digital Broadcast Equipment to a Telecommunications Network* Guideline ([G642](#)) which is called up by the *ACMA Cabling Work Declaration*<sup>2</sup> to provide an exemption for broadcast cabling work from the *ACMA Cabling Provider Rules*<sup>3</sup>.

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## 1.3 Revision of Guidelines

Changes to the *ATA Guidelines for Developing Standards* will be managed as required by the Customer Equipment and Cable Reference Panel with ATA signoff. A scheduled seven-year review of the Guidelines is to be carried out by the Customer Equipment and Cable Reference Panel.

These Guidelines replaced the following four Working Committee Guidelines:

- *Assessment of Network Integrity items for Standards* (G533:1999)
- *Assessment of Emergency Service Access and Network Interoperability Items for the Standard Telephone Service for Standards* (G534:2003)
- *Compliance levels in ACA Technical Standards development* (G535:1999)
- *Revision and amendment of Standards* (G539:1999)

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<sup>2</sup> Information on the *Telecommunications (Types of Cabling Work) Declaration 2024* can be found at <https://www.acma.gov.au/telecommunications-types-cabling-work-declaration-2024>.

<sup>3</sup> Information on the *ACMA Cabling Provider Rules* can be found at <https://www.acma.gov.au/cabling-provider-rules>.

## 2 STANDARDS DEVELOPMENT PROCESSES

### 2.1 ATA Standards development and maintenance

#### Operating procedures

The operating procedures for the development of Standards, Codes and Guidelines by ATA are provided in the ATA [Operating Manual](#).

In summary, the objectives of the Operating Manual are to:

- adopt disciplines of project management for the control and monitoring of the development process.
- be consistent with the requirements of the Constitution.
- be flexible, open and transparent.
- enable timely outcomes.
- encourage and facilitate wide consultation with all stakeholders.
- have the objective of achieving a Consensus outcome.
- to meet the requirements under Part 21 of the *Telecommunications Act 1997* and to meet the requirements for accreditation by the *Standards Development and Accreditation Committee (SDAC)*<sup>4</sup>.

#### Standards called up under telecommunications legislation

Under the *Telecommunications Act 1997* (the Act), the Australian Communications and Media Authority (ACMA) has the power to make Standards. A Memorandum of Understanding between the ACMA (previously the Australian Communications Authority (ACA)) and the Communications Alliance (then the Australian Communications Industry Forum (ACIF)) gives ATA responsibility for the development and maintenance of Standards that are called up under the Act. This co-regulatory approach allows the telecommunications industry to play a major role in determining what Standards are required for the manufacture, importation and use of Customer Equipment in connection with a telecommunication network in Australia.

The objectives of the Act are designed to provide a safety-net to promote the long-term interest of end users as well as promoting the development of an Australian telecommunications industry that is efficient, competitive and responsive to the needs of the Australian community.

#### Accredited Standards Development Organisation

ATA is an accredited Standards Development Organisation (SDO) by the Standards Development and Accreditation Committee (SDAC). This accreditation demonstrates that ATA has the standing, resources, processes, neutrality and independence to develop Australian Standards.

Further information on Standards Australia's policy and processes for the development of Standards and other technical document can be found at

<https://www.Standards.org.au/Standardisation-guides>.

#### Project identification

The Customer Equipment and Cable Reference Panel identifies the need for a project to develop a new document or to revise an existing document. This Panel generally establishes a Working

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<sup>4</sup> Further information on SDAC and Standards development accreditation can be found at <https://www.Standards.org.au/Standards-development/accreditation>.

Group whose task is typically to develop an Activity Proposal defining the work to be carried out, including the scope of work, timeframe, resourcing and deliverables.

### Revising publications

If the activity is a revision of an existing publication (document maintenance) then the procedures in the [ATA Document Maintenance Policy and Process](#) are followed. All publications under the Customer Equipment and Cable Reference Panel undergo a periodic review every five years. The outcome of the review of a document will be a decision to revise, amend (in the case of Standards), reconfirm, to list as available superseded or to withdraw the published document.

The following lists a number of issues for consideration when prioritising a review:

- the objectives of the *Telecommunications Act 1997*.
- identification of key drivers, needs and gaps (both industry and consumer).
- the relative importance and usage of the Standard.
- addressing any known problems with the Standard or within the scope of the Standard.
- if there are other more appropriate mechanisms available.
- any unintended consequences arising from the review.
- any impact on existing Standards development.
- the consequence of not carrying out a review of the Standard.
- available resources of industry participants for the Working Committees for the duration of the project.
- resources of the ATA project management.
- the priority and/or urgency of review request from an external party.
- the current workload of the Reference Panel.
- the industry commitment to carry out the project.
- any other related external factors.

### Working Committee Operations

On CEO approval, a Working Committee is established to carry out the project. The Working Committee processes are documented in the [ATA Operating Manual](#), including:

- representation, including voting and non-voting members.
- Working Committee responsibilities.
- the consensus approach.
- project phases, including public comment (a minimum of 60 days), process approval and balloting.
- recommendations to ACMA for Standard making.

Guidance is provided under Sections 2.2 and 2.3 for Chairpersons and committee members who are on Working Committees developing Standards.

### Publication

On completion the Working Committee's work, the new (or revised) document is submitted for approval to publish by the ATA Board. If the publication is to be submitted to ACMA (for making

in the case of a Standard or for registration in the case of a Code), then a recommendation is developed and sent to ACMA. Further information can be found in the [ATA Operating Manual](#).

### Queries on published Standards

As the developer and publisher of Standards, the ATA provides an Expression of Intent service to address queries on the intent of existing wording of these Standards. Further information can be found in the [Expressions of intent Procedure](#).

With respect to handling queries on Standards which have been made by ACMA, it is important to understand that the rationale and meaning of the technical requirements is handled by the ATA and the application of the Standard, including compliance issues, is handled by ACMA.

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## 2.2 Guidelines for Working Committee Chairpersons

Chairpersons of Standards Working Committees should wherever possible:

- be impartial and essentially unbiased concerning issues being discussed.

NOTE: It is recognised that the Chairperson is likely to have valuable input to WC discussions and wish to be able to voice their nominating organisation's point of view so while it is ideal for the Chairperson to remain impartial and unbiased the Chairperson may participate in discussion however should avoid dominating Working Committee discussions and views.

- encourage active participation by each and every Working Committee member.
- ensure in-committee discussion remains relevant and pertinent to the scope of work and subject matter of the Working Committee.
- ensure all members have the opportunity to express their views/opinions.
- while encouraging discussion on relevant topics and ensuring all views have the opportunity for expression, assist the Project Manager to ensure wherever possible Working Committee milestones are adhered to ensure all consensus of opinions, committee resolutions/decisions are clearly understood and that what is actually recorded is agreed upon.
- strive for consensus at all times however, where diverging views cannot be reconciled or any Working Committee member maintains a dissenting view or objection to a decision agreed by a majority of the Working Committee members, assist the Project Manager to ensure the issue and differing points of view are well documented.

NOTE: This is the role of the PM; however the Chair should check it has been recorded.

In addition, in relation to the scope of work, a Chairperson should:

- while not influencing discussion, facilitate, mediate and guide Working Committee discussion to ensure it addresses all pertinent and related issues but at the same time remains on-topic and on-track in terms of milestones.
- ensure Working Committee members are familiar with the Terms of Reference and deliverables.
- ensure members understand the purpose of the output document(s) of the Working Committee and if they are likely to be mandated by legislation, how they will be mandated and the ramifications of that on the output document(s).

- confirm that all the items of the Working Committee’s Terms of Reference have been addressed.
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## 2.3 Guidelines for Working Committee members

Members of Standards Working Committees are expected to:

- attend Working Committee meetings on a regular basis. Meetings are conducted in person and are often supported by audio and video conferencing.
- where it is not possible for a member to attend a Working Committee meeting, ensure an apology is submitted or preferably, nominate and arrange for an alternate to attend the Working Committee meeting in their place. The Working Committee member is responsible for ensuring their alternate is fully briefed on Working Committee issues.
- actively participate in the development of the Working Committee deliverables in accordance with the Working Committee’s Terms of Reference.
- where a member is representing a nominating organisation (including an individual company), it is expected the member represents the view of their nominating organisation only and that the member would preface any personal views that those views are indeed personal views and not necessarily those of the nominating organisation.

Further guidance can be found in the Standards Australia [Standardisation Guides](#) SG-002 on ‘Structure and Operation of Standardisation Committees’ and SG-004 on ‘Roles and Responsibilities of Standardisation’.

## 3 STANDARDS WRITING

### 3.1 Telecommunications environment

When developing a Standard or revising an existing Standard, consideration needs to be given to any potential impact from current or anticipated industry developments. Examples of areas that a Working Committee may need to take into account include:

- addressing requirements for customer equipment that use analogue/TDM technologies (sometimes referred to as ‘legacy’) and those that use packet/cell technologies (either as discrete or hybrid equipment).
- consideration of the impact of emerging services on the scope and relevance of the Standard.
- recognition of the impact of carrier network transformations and the evolution of networks on customer equipment, for example the National Broadband Network (NBN).
- consideration of specific characteristics of access technologies for wireless (e.g. cellular, BWA) and wireline (e.g. PSTN, DSL, fibre, BPL).
- network intelligence moving out into the customer equipment.
- evaluate requirements in a Standard that relate to network services provided by a C/CSP that may have or are to be withdrawn.

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### 3.2 International

#### International alignment

The World Trade Organisation’s Technical Barriers to Trade Agreement (TBT) contains a [Code of Good Practice](#) (Annex 3) which includes a number of provisions on the Standardising body, including that Standards ‘are not prepared, adopted or applied with a view to, or with the effect of, creating unnecessary obstacles to international trade’.

National variations are to be kept to a minimum recognising a country’s right to adopt Standards which are considered appropriate, for example, for the protection of the environment or to meet other consumer interests.

#### INTERNATIONAL ACTIVITIES

The ATA recognises that Standards Australia is the Australian member of the International Organization for Standardisation (ISO) and the International Electrotechnical Commission (IEC). Participation in the Standardisation activities of these two bodies shall be through Standards Australia.

Participation by the ATA in other international Standardisation activities is the responsibility of the ATA. Where the ATA participates in IEC or ISO activities, we comply with the appropriate Standards Development and Accreditation Committee (SDAC) procedures and any necessary directions from Standards Australia’s International Development Manager.

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### 3.3 Telecommunications regimes in other countries

When considering Standards (international, regional or national) that have been developed by overseas Standardisation organisations, the following factors need to be taken into account to determine the relevancy of the Standard to Australian conditions and regulatory framework:

- the regulatory framework that the Standard has been developed to be applied under. See also Section 3.8 *Referencing Standards*.
  - the reason for the development of the Standard. The history of the Standard may help explain the rationale of the existence of the Standard.
  - how the Standard is called up under regulations.
  - the compliance processes that would apply in Australia (including testing, certification, labelling) to equipment required to comply with the Standard.
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### 3.4 Costs and benefits

Potential impacts to both the industry and to consumers (intentional and unintentional) arising from new or modified requirements need to be identified and examined. Examples include:

- imposts or delays for manufacturers and importers.
  - additional compliance costs and testing.
  - delays or barriers to market entry.
  - risks to telecommunication networks (e.g. safety, quality of service (QoS), reliability, bushfires, earthquakes).
  - increased prices for consumers (it may be necessary to adopt requirements that provided increased benefits for consumers but may add to industry's burden and/or increase prices for consumers).
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### 3.5 Future proofing Standards

Requirements in Standards are to be drafted in a manner to minimise technology-dependency without limiting innovation. Best practice in Standards writing favour performance-based outcomes rather than design or descriptive characteristics of the device.

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### 3.6 Mandatory versus voluntary provisions

When considering mandatory requirements for Standards to be called up under the *Telecommunications Act 1997*, Working Committees need to consider implications on suppliers (e.g. manufacturing imposts, restrictions of trade, international alignment), test laboratories (e.g. testability, costs of testing) and users (e.g. increase in costs of products).

Within the Terms of Reference, mandatory provisions in Standards, whether newly introduced requirements or existing requirements (in the case of a revision), are to be assessed against the relevant section of the Act.

NOTE: Many of the current Standards have their origins in earlier documents that were developed for the PSTN and at a time when mandatory requirements were seen to be wider than the present 'Heads of Power' requirements. Existing requirements should also be examined as to their ongoing suitability against these Principles.

The relevant sections of the Act are referenced in Section 4 *Regulatory*. Specifically for:

- Customer Equipment Standards - assessed against the 'Heads of Power' of section 376(2) of the Act.
- Disability Standards - assessed against section 380(1) of the Act.

- Standards for cabling work – which are legislated under the *Telecommunications Cabling Provider Rules 2000* and *Telecommunications (Types of Cabling Work) Declaration 1997* which are in turn legislated under section 421 and 419 of the Act.

In addition to the provisions of the Act, which always take precedence, the requirements in Standards (both mandatory and voluntary requirements) need to be assessed by the Working Committees and Working Groups against the features listed below.

Information that is non-mandatory (e.g. recommendations, Guidelines or voluntary clauses) can be included in Standards. In providing this type of information in a Standard that is to be mandated, information along the following can be considered:

- recommendations that are above the minimum requirements of the Standard.
- guidance that is best practice.
- design guidance.
- providing context for existing mandatory requirements.

Consideration should also be given to developing a separate Guideline or a voluntary Standard instead of incorporating the text in the Standard itself.

## **FEATURE LIST**

The following list of features provides guidance for Working Groups and Working Committees when considering the features or characteristics that may be included in a Standard.

This is not a definitive list, as there will be entries that are not applicable to all devices or all Standards and there may be additional items not listed which need to be considered.

### **a) Acoustic interface parameters**

For pluggable devices such as headsets and earbuds, the distinction needs to be made whether the test is applied at the socket of the device where it is plugged in or incorporates the transducer(s).

- Send Loudness Ratings (SLR)
- Receive Loudness Ratings (RLR)
- Maximum Sound Pressure Level (SPL)
- acoustic shock
- frequency response

### **b) Emergency call access parameters**

- key entry characteristics
- dialling under lock conditions
- a one-touch emergency call button
- screen display messages, including when roaming (camp on)

### **c) Network interface parameters (network integrity)**

When considering requirements for a network interface, the need to have a Customer Equipment Standard has to be determined, taking into account the current Australian regulatory framework, Australian telecommunications carriers/operators and overseas Standardisation developments.

Current network interfaces include:

- Public Switched Telephone Network (PSTN) (being superseded by the NBN)
- Integrated Services Digital Network (ISDN) (being superseded by the NBN)
- Large Megabit Bearer (LMB)
- Public Mobile Telecommunications Network (PMTS) (e.g., 3G, LTE(4G), 5G)
- Wireless (e.g. satellite, Broadband Wireless Access (BWA), WiFi)
- National Broadband Network (NBN)

#### **d) Safety Parameters**

When considering how safety requirements are to be addressed, the most appropriate safety Standards need to be identified. Generally, the national equipment safety Standard AS/NZS 62368.1 contains all necessary requirements but it is also necessary to ensure that all the safety requirements are covered by this Standard. Additional safety requirements may need to be considered.

Safety requirements are to address personal safety. They do not intentionally address equipment protection.

AS/NZS 62368.1. addresses the following equipment hazards:

- electric shock
- energy related hazards
- fire
- heat related
- mechanical
- radiation (includes sonic (acoustic), RF, infra-red, ultraviolet, ionizing and high intensity visible and coherent light (lasers))
- chemical (e.g. contact or inhalation of vapours/fumes)

AS/NZS 62368.1 does not currently address the follow hazard:

- acoustic telephony (i.e. safety in relation to the levels of audio signals delivered through an earpiece or headset)

#### **e) Tactile interface parameters**

Examples for consideration may include:

- tactile indicators on keypads (also referred to as the 'pip')
- button pressure
- button size
- colour
- response (tactile or audible)

#### **f) Visual interface parameters**

Examples for consideration may include:

- screen brightness
- font type and size

- resolution
- flicker
- colour

### **g) Cabling installation Standards**

Examples for consideration may include:

- separation of services (ES1, ES2, ES3 and HV).
- earthing integrity (cable sizes, equipotential bonding, type of earthing system e.g. CES or TRC).
- cable product appropriateness and integrity (e.g. indoor/outdoor use, conduits).
- sectors of industry to which the Standard applies (any cabling that is used, installed ready for use or intended for use on the customer side of the boundary of a telecommunications network) includes, for example, all ‘smart wiring’ in residential premises.
- special provisions for some sectors of industry that may need to be included into the Standard (e.g. LV telecommunications definition for public address systems, BMS, mining SWA cables).
- explosive areas (e.g. such as paint manufacturing buildings).
- Earth Potential Rise (EPR) zones (where there are HV transformers on or near the premises).
- Low Frequency Induction (LFI) effects on customer cabling.
- interference from other services sharing the same cable sheath with telecommunications circuits (e.g. such as nurse call, bells, buzzers, fire circuits, passive infra-red circuits).
- sharing of infrastructure (e.g. power poles, ducts, cable trays)
- co-locating with non-communications infrastructure (sub ducting or using electrical conduits).
- carrier requirements (network boundary locations, clearances around network boundary devices, cabling interfaces).
- prohibited locations of Main Distribution Frames or outlets (e.g. EPR zones, toilets, boiler rooms, fire escapes, damp areas).
- Over-voltage protection of customer cabling and customer equipment (cables installed SPDs and equipment SPDs).

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## **3.7 Device configuration**

In developing requirements for customer equipment that may be user-configured or user-installed (including software configuration), consideration needs to be given to ensure that the requirements address those features that the user can alter from the state when it was tested.

For example, are warning notices/labels required when users are downloading software updates or when users are modifying settings?

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## 3.8 Referencing Standards

### INTRODUCTION

The *Interpretative Guidelines* in Section 1 of ATA Standards provides guidance on how Standards are referenced within these Standards. All mandatory referenced Standards are listed in Section 3 *References* in each Standard. Mandatory referenced Standards are identified by version, typically by year of publication.

Voluntary referenced Standards and other voluntary documents (e.g. Guidelines) are generally listed in Section 3 *References* to provide a complete listing of all referenced documents in the Standard but it is optional for these voluntary documents to be listed. Voluntary references do not need to be identified by version but often are where a specific edition needs to be cited. Further guidance on dating references is provided in the subsection *Dated or Undated References* below.

When considering how requirements are to be included in an ATA Standard and whether the Standard is to reference other publications, the following decision process is to be followed:

1. Whether there is a need to reference a publication.
2. What publications are to be referenced.
3. How to reference a publication (including style, mandating and dating).

### DECIDING WHETHER TO REFERENCE A PUBLICATION IN AN ATA STANDARD

Working Committees need to take into account the objectives of the *World Trade Organisation's Technical Barriers to Trade Agreement* (see Section 3.2) when considering whether to reference international (and internationally recognised) Standards or to develop nationally based requirements.

When referencing an international Standard (or other publication under consideration), consideration should be given as to whether or not there are sufficient resources and expertise available to the Working Committee in order to satisfactorily and accurately determine and identify that the requirements of the Standard are applicable and suitable for mandating under regulation in Australia.

At the end of the project, Working Committees are required to provide a report that includes a justification of any deviations from international/overseas Standards or Australian Standards (AS and AS/NZS) when a Standard is to be recommended for adoption under regulation by ACMA.

### DECIDING ON WHAT PUBLICATIONS TO REFERENCE IN ATA STANDARD

In reviewing a publication for referencing in an ATA Standard, the following factors to be taken in account to determine the relevancy of the publication to Australian conditions and within the Australian regulatory framework:

- the nature of the regulatory framework the publication has been developed to be applied under and how the publication has been called up under those regulations.
- the reason for the publication's development. The history of the publication may help explain the rationale for its existence.
- the compliance processes that would apply in Australia (including testing, certification and labelling) to equipment if the referenced publication has been mandated in the ATA Standard.

- any impact to the industry and consumers (e.g. costs, delays, barriers to entry, risks to networks).
- Differences in the nature of regulatory environments should be taken into account. For example, it should be noted that European regulation is ‘principles’ based whereas in Australia, the regulatory framework is ‘requirements’ based.

In many cases Standards developed for application under European regulations would be acceptable for application as mandated requirements via Australian regulations calling up ATA Standards. There will however be cases where the mandating in Australia of requirements of publications developed for application in the European ‘principles’ based regulatory environment would not be appropriate.

NOTE 1: The European ‘principles’ based regulations direct that an item must comply with the principles set out in the legislation (e.g. EU Directive), not necessarily with the specific or relevant requirements in applicable Standards. Furthermore, in some cases the item may quite legitimately comply with the principles of the regulation when, in fact, the item may fail to comply with a specific section/clause of relevant Standards.

NOTE 2: The Australian ‘requirements’ based regulations specify that the only way to comply with the regulations is to comply with the applicable Standards, or other applicable arrangements, prescribed in the legislation.

## HOW TO REFERENCE STANDARDS AND OTHER PUBLICATIONS

### a) Referencing style

When considering how to reference Standards and other publications in an ATA Standard, the following approach is to be adopted:

- as the first option, reference the entire publication.
- as the second option, reference a specific requirement (or requirements) of the publication.
- as the last option, reproduce the relevant requirement (or requirements) in the ATA Standard.

Further guidance can be found in the Standards Australia [Standardisation Guide SG-001](#) on ‘Preparing Standards’ and in the [IEC/ISO Directives – Part 2](#), on Referencing (9<sup>th</sup> edition).

### REFERENCING ENTIRE PUBLICATIONS

When referencing another publication, it is recommended that the publication in its entirety be referenced. This is in recognition that the scope of the publication and often other parts of the publication need to be taken into account when considering a specific requirement or provision in that publication.

Care must be taken to avoid prescribing a mandatory reference to an entire publication that has voluntary or recommendatory clauses and thereby inadvertently mandating clauses that may be untestable.

### REFERENCING SPECIFIC REQUIREMENTS OF PUBLICATIONS

It is recognised that in certain situations referencing the entire publication (e.g. an ETSI Standard or ITU-T Recommendation) may not be the most appropriate method. For example where the referenced publication is large and the specific requirement of interest forms only a small part of the referenced publication.

In this case, the reference can be to a specific requirement of the publication, for example, a clause, a section, a table, a figure or an appendix. When referencing specific parts, the following needs to be taken into account:

- to avoid taking the referenced requirement out of context where it may be dependent on other parts within the referenced publication.
- to review the terminology used, specifically the defined terms, to avoid any confusion or ambiguity with unfamiliar or foreign terms.
- to avoid referencing clause numbers as they may be subject to change in subsequent editions of referenced documents. Ideally the title of the referenced clause is to be cited.

Alternatively, referencing the ‘applicable requirements’ of a Standard places the onus of identifying the relevant applicable requirements on the user of the Standard and their professional judgment. Although this is a typical technique used to avoid undue referencing of multiple requirements, by reducing the specificity of the reference, the potential for the misapplication of requirements, either intentionally or unintentionally, increases. It is recommended that the technique of referencing ‘applicable requirements’ is to be only used in cases where the risk of introducing ambiguity in the requirements is not increased.

### **REPRODUCING REQUIREMENTS IN PUBLICATIONS**

It is recognised that in certain situations referencing a publication or part of a publication may not be the most appropriate mechanism for including a specific requirement in an ATA Standard and that reproducing the requirement may have more utility.

Although reproducing parts of publications in ATA Standards is not recommended as the preferred approach, if the Working Committee is considering this approach, the following needs to be taken into account:

- the trade-offs in reproducing the information from the source publication rather than referencing it (e.g. the benefits in readability and utility of the Standard versus increasing the length and the risk of introducing errors and inconsistencies in the Standard).
- the likelihood that the information may change in the sourced publication. This may potentially lead to misalignment of requirements and add to Standards development costs down the track.
- copyright considerations of the sourced publication.

#### **b) Mandatory versus voluntary references**

When prescribing mandatory requirements via a reference to another publication, typically a Standard, the requirements in that Standard need to be assessed against the regulatory and compliance framework where that Standard is applied.

Requirements specified via mandatory references must be prescriptive and testable. The requirements should not be ambiguous and should be enforceable. This is in recognition that the compliance of customer equipment under current legislation is based upon meeting all the mandatory requirements of the relevant Standards called up under the Telecommunications Labelling Notice.

The publication being considered to be referenced may not be appropriate to mandate in Australia because it may be that the publication was developed as a voluntary or guidance type publication without any intention for it to be mandated under regulation.

### **c) Dated or undated references**

Standards Australia, the IEC and the ISO all allow the use of ‘undated’ and ‘dated’ references for both normative and informative references. It is recognised that because of the nature of ATA Standards and the fact that they are usually mandated by regulation it is most likely that ‘dated’ references will be the most appropriate however, it should also be recognised that in some instances it will be appropriate to use ‘undated’ references. Both ‘undated’ and ‘dated’ references can be to either the whole document or a specific requirement of that document.

Where the reference is to a Standard listed in the *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2025* (the TLN) and the reference is not to a specific clause number in that Standard, then the reference should be undated. This approach takes into account that the version of the Standard listed in the TLN would take precedence. A statement in the ‘Interpretative Guidelines’ section at the front of the Standard is to be inserted to reflect this approach.

As this approach was introduced in 2011, future reviews of Standards should take into consideration these types of references, in particular references to the AS/NZS 62368.1 safety Standard.

The use of undated references needs to be assessed for the benefits (i.e. not having to update references as the referenced publications are revised) against the possible risks (future revisions of the referenced publication introducing unwanted changes). The Working Committee also needs to recognise that the applicability of subsequent editions or amendments of referenced Standards is a matter for determination by the users of the Standard, employing their professional judgement. Users of ATA Standards should be encouraged to investigate the possibility of applying the most recent editions of the undated reference document(s).

Consideration also needs to be given to the frequency that a referenced document is revised and any implications for references in the ATA Standard that would prematurely become out-of-date.

Finally, consideration needs to be given to referenced publications in the publications referenced by an ATA Standard, also referred to as ‘sub-referenced’ publications, to ensure that these sub-referenced publications are appropriate.

In summary, references are to be dated unless it is for:

- informative references;
- references to Standards listed in the TLN where the reference is not to a specific clause number; or
- it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document.

### **d) Sourcing referenced publications**

When referencing a Standard or other publication in an ATA Standard, consideration needs to be given to its access and availability. Publications from internationally recognised bodies such as the ITU, ETSI and the IEC/ISO are readily sourced and only the publication designation is required to be cited in an ATA Standard.

If the source of a referenced publication is likely to be not obvious to the user of the ATA Standard, then the Working Committee should consider providing further information in the References section of the Standard to assist in identifying the source of the referenced publication.

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## 3.9 Network integrity

### INTRODUCTION

The *Telecommunications Act 1997* at s376 empowers ACMA to make Technical Standards for Customer Equipment (CE) and Customer Cabling (CC) in relation to a restricted list of matters. In particular, it provides for Standards that contain ‘...such requirements as are necessary or convenient for ... protecting the integrity of a telecommunications network or facility’. There is no definition provided in the Act, however an interpretation of the expression is given in the Explanatory Memorandum where it is explained that the basic underlying intention is to protect the networks and facilities from harm from CE or CC.

That is, so the CE or CC does not adversely affect:

- the switching, signalling, transmission, metering, charging and billing systems and equipment; or
- the reliability of telecommunications networks or facilities.

While this sets a limit on ACMA’s Standards making powers, ACMA is expected to also to consider matters that arise from the COAG Guidelines on regulatory Standards and the need to prepare regulatory impact statements which may lead it to decide to exercise its powers to a lesser extent. As a result, Working Committees should not consider technical requirements in isolation and must consider the costs and benefits arising from the requirements they propose.

Because the actual clauses in the Standards are so varied and have a range of impacts, examples of the matters that could be relevant are used. The examples provided may be relevant for a particular Standard and should be evaluated in the context of the Standard to assess whether related requirements are required to protect network integrity.

On this basis, network integrity should be considered in relation to any matter which has the potential to cause harm to a telecommunications network or facility operated by a Carrier or Carriage Service Provider (C/CSP), and in particular adversely affect the:

- operation of the switches, softswitches, routers, gateways, firewalls, proxy servers and any other associated network equipment.
- operation of the application servers and any other associated network equipment.
- operation of the content servers and any other associated network equipment.
- operation of the metering, charging and billing systems.
- operation of the service activation, provisioning and assurance systems.
- operation of any other IT systems and network equipment used in the telecommunications network or facility.
- operation of the access and transmission network equipment including RF based elements, e.g. base stations, microwave links, satellites.
- reliability of network cabling, equipment and systems.

From these principles the following examples may be relevant to a particular Standard.

### SWITCHING AND SIGNALLING ASPECTS

Switching and signalling aspects which relate to network integrity could include CE signals affecting call charging, network loading, support of complex protocols, such as ISDN, GSM MAP and IP, shared access networks and control of network equipment.

### **a) Call Charging**

Incorrect answer/busy/no charge signals can be incorrectly sent by CE in some circumstances, resulting in incorrect C/CSP charging, directly compromising the C/CSP's ability to collect revenue and meet Standards for accurate call charging and billing.

### **b) Network Traffic Loading**

Excessive bids by CE to establish connections or utilise other network resources have the potential to overload the IT systems and network equipment used in the telecommunications network or facility, resulting in delays for other callers or failure of the telecommunications network or facility affecting all customers connected to that telecommunications network or facility.

### **c) Keypad Signalling**

The layout and alphanumeric designation of keys on a keypad dial may impact on the operation of the telecommunications network or facility. A uniform approach to alphanumeric keypad layout is desirable, however, the key designation for all keypads must be unambiguous.

### **d) Complex Protocols**

Complex protocols such as GSM MAP, IP, ISDN and CCS7, if offered as a customer interface, have the potential to tie up or disrupt switch processor resources if incorrect messages or messages out of expected sequences are received by the telecommunications network or facility. Further, CE may be required to respond to network originated messages and failure to respond appropriately, or to respond within a set period, may also cause difficulties to occur.

### **e) Shared Access Networks**

In mobile networks, hybrid fibre coaxial cable and DSL networks, the customer access network is based on a shared medium. Incorrect operation by CE could potentially adversely affect other users, for example, by disrupting channel allocation or tying up access network resources.

### **f) Control of Network Equipment**

Remote control and monitoring of network equipment is an essential feature of Carrier operations, for example, for fault detection, configuration control and alarm collection. Uncontrolled loop backs of network equipment could disable common equipment and disrupt Carrier initiated loop backs and testing. CE therefore must not be able to send any such control signals into the Carrier's telecommunications network or facility automatically or under operator control.

## **TRANSMISSION PERFORMANCE ASPECTS**

Transmission aspects which relate to network integrity include cross talk, overload, electrical damage, interfering signals, impedance matching, interference with network systems and ability to perform to specifications.

### **a) Crosstalk**

Signals of excessive magnitude can be coupled into both adjacent cables and also adjacent pairs within the same cable sheath and affect the services of other users. These signals can be speech, data or signalling tones either continuous or intermittent. Therefore signals must be constrained to be within a power level frequency spectrum mask.

### **b) Overload**

Some analogue circuits are sensitive to the magnitude of customer signals. High level signal powers on one channel may cause excessive noise in other channels on the same bearer. Limits may be required until fully digital networks are established. Also, excessive acoustic or

electrical coupling between transmit and receive paths may cause a circuit to oscillate. Therefore signals must be constrained to be within a power level frequency spectrum mask.

### **c) Electrical Damage**

Excessive voltages could cause electrical damage to network equipment and must not be sent by CE.

### **d) Impedance Matching**

Impedance mismatches cause reflections of transmitted signals. The reflected signal may cause errors or be detected as echo if the round trip delay on the call is significant. Impedance balance about earth may influence the noise performance of a connection and reduce the reliability of the call set up.

### **e) Interference with Network Systems**

Active transmission systems require electrical or optical signals to be delivered in a defined manner, otherwise transmission failure occurs and alarms are raised and circuits may be automatically busied out, leading to congestion in the telecommunications network or facility and affecting other users.

## **CUSTOMER CABLING AND CABLING COMPONENTS**

Impedance, impedance unbalance and crosstalk performance potentially affect network integrity. Characteristics of the cable should be suitable for the purpose of the circuit for example high speed digital signals may be coupled into other circuits in a cable with poor crosstalk performance. Cabling products should not be liable to water entry or corrosion which could affect other services or the reliability of network equipment, for example underground cable should be impervious to water entry and water migration along the core, while connectors, sockets, terminal strips, frames and battery supplies must be adequately plated or protected.

Installed cable and equipment should be suitably located or protected to avoid foreseeable damage that may affect network integrity, for example underground cabling should be installed at a suitable depth or clearly identified to prevent damage during minor excavation or digging such as for cultivation, gardening or laying paths.

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## **3.10 Interoperability**

### **INTRODUCTION**

Section 376 of the *Telecommunications Act 1997* empowers ACMA to make Technical Standards for Customer Equipment (CE) and Customer Cabling (CC) in relation to a restricted list of matters. In particular, it provides for Standards that contain requirements necessary or convenient for:

- ensuring that CE can be used to give access to an emergency call service; or
- ensuring, for the supply of the Standard Telephone Service (STS), the interoperability of CE with a telecommunications network to which the CE is, or is proposed to be, connected.

Section 18 of the *Telecommunications Act 1997* provides some guidance on access to emergency call service, in which a person should be able to establish and maintain a call to the emergency service number.

ACMA is expected to also consider matters that arise from the Council of Australian Governments (COAG) Guidelines on regulatory Standards and the need to prepare regulatory

impact statements which may lead it to decide to exercise its powers to a lesser extent. As a result, Working Committees should not consider technical requirements in isolation and must consider the costs and benefits arising from the requirements they propose.

The following Guidelines are intended to assist ATA Working Committees in determining what matters should be addressed in new or revised Standards the ATA is to propose to ACMA.

This guidance should be read in conjunction with the guidance on assessing Network Integrity Items (Section 3.9). Note that the guidance on network integrity and on interoperability is neither exhaustive nor exclusive and Working Committees are advised to use them as a reference guide in testing each clause for interoperability or access to emergency service numbers.

Because the actual clauses in the Standards are so varied and have a range of impacts, the use of examples of the matters that could be relevant is the best approach. The examples provided may be relevant for a particular Standard and should be evaluated in the context of the Standard to assess whether related requirements are required to ensure the interoperability of CE for the STS with a telecommunications network or facility operated by a C/CSP or to ensure access to an emergency call service.

A key point to consider is that a simplistic interpretation and application of the expression interoperability with the telecommunications network or facility could be that it only refers to the CE operating with the C/CSP's network alone. That is, it does not recognise CE at the far end and the need to establish a connection between the two. From the practical viewpoint, it requires end users supplied with the same service being ordinarily able to communicate between each other whether or not the end users are connected to the same network.

Interoperability, for the purpose of the supply of an STS, can be considered to relate to the three phases of:

- Call set-up;
- Information transfer; and
- Call clear-down.

The first and third are aligned with the signalling functions of the CE while the information transfer is primarily dependent on the transmission performance of the CE.

## **SIGNALLING**

### **a) Line Polarity**

Where CE is required to recognise the polarity of the line to identify the condition of the line prior to initiating a call then the response to these conditions may need to be specified e.g. reversal on idle.

### **b) Looping the line (breaking dial tone)**

CE resistance characteristics as a function of time determine the ability of the CE to loop the line. Therefore the network line port voltage-current characteristics may need to be specified for looping the line and throughout the duration of the connection.

### **c) Dialling**

To establish a connection using the STS to a C/CSP's telecommunications network or facility will require a destination number to be dialled after the line is looped. The characteristics of the dialling process affect the reliability and accuracy of the telecommunications network or facility in recognising the dialled digits and hence setting up the connection. Therefore the decadic, DTMF and MFC signalling characteristics would need to be specified. Similarly to ensure end-to-

end interoperability it would seem that the correct reception of dialled digits on an indial circuit would also need to be considered. Possible misoperation by the end-user may also need to be considered, for example poor identification, layout or design of end-user accessible parts or end-user programmable software.

#### **d) Incoming Call Recognition**

To establish a connection using the STS to a C/CSP's telecommunications network or facility, requires the destination CE to be able to recognise that an incoming call is being offered and is available to be answered. For indial circuits, the correct reception of dialled digits may need to be considered. Therefore the CE must be able to:

- recognise the incoming call state (e.g. ringing on a ring-in loop-out service).
- indicate to the called party that a call is being offered for answering.
- apply the correct answering conditions to the line.

#### **e) Clear Down**

Although clear down directly relates to network integrity there is also a close link to interoperability as the CE should be able to clear down a connection and establish another connection as required. Therefore, requirements defining the clear down process signalling and the actual loop disconnect process (if used) would need to be considered.

### **TRANSMISSION**

#### **a) Send and Receive Loudness ratings**

For the user to recognise network tones e.g. dial tone, the receive loudness rating would need to be adequate. To distinguish a specific tone within a range of network tones both the receive loudness rating and the distortion performance would need to be satisfactory. To enable the reliable transfer of information to the other party in a connection, e.g. an emergency service operator, the send loudness rating and the distortion performance of the sending CE must be specified to be within certain limits. To understand the emergency service operator, the receive performance must be satisfactory.

This then suggests that both the send and receive loudness ratings plus at least the send distortion performance should be considered.

#### **b) Distortion**

As noted above, distortion limits should apply to the send performance. Distortion limits could also apply to the receive performance however this is more difficult compared with the send performance and is probably not warranted in practice.

#### **c) Noise**

The overall information transfer on a connection will be dependent, inter alia, on the loudness loss between the two items of CE and the noise level on the circuit. Therefore consistent with specifying the loudness ratings and distortion, the noise performance on both send and receive would need to be considered.

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## **3.11 Definition of the Standard Telephone Service**

### **INTRODUCTION**

The following guidance is to assist Working Committees in making decisions as to the application of the Standard Telephone Service (STS) definition to Customer Equipment (CE) Standards. It should be noted that there is an inherent difficulty in doing this:

- the STS is defined in Section 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999* and is paraphrased in Clause 6.2; but
- there is no corresponding definition of a Standard Telephone Instrument.

Many types of CE and interfaces may in fact deliver a voice carriage service. Therefore while this Guideline can point to key considerations it cannot stand in place of the need for the Working Committee to make some assessment or seek external guidance from the CECRP as to whether a given CE is a means of connecting to an STS.

### **APPLICATION OF THE STS DEFINITION TO REQUIREMENTS IN CE STANDARDS**

The STS may be defined as a carriage service for the purpose of voice telephony communication (or an equivalent form of communication for an end user with a disability) between end-users supplied with the same service, whether or not the end users are connected to the same telecommunications network.

NOTE 1: The common equivalent forms of communication are to use data to provide text communication via CE, e.g. TTY, Text Telephone, Modem, TeleBraille. These devices may interface to a carrier's network using, for example, Baudot, V.21, V.18, EDT, V.23 and CTM. These CE are used by people who may be deaf, hearing impaired, speech impaired, deaf/blind and deaf/visually impaired and may have single or multiple disabilities.

NOTE 2: It is the purpose of the technology, not the technology itself, that is the key point of the application of the STS in providing equivalent service. For example, TTY is used to provide an equivalent service to the STS.

The above definition paraphrases the Standard telephone service definition in Section 6 of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*. Important points to note:

- the definition covers carriage services which terminate at a Carrier's network boundary and which are available for interfacing to CE. It does not cover CE interfaced to that service.
- 'voice telephony between end users' implies call set-up and real-time two-way communication.
- the definition of STS is independent of the technology used by the carrier for the transmission and delivery of the voice signal.
- the definition of STS in the *Telecommunications (Consumer Protection and Service Standards) Act 1999* also covers other forms of communication equivalent to voice telephony for end users with a disability, e.g. to allow people to communicate via methods other than speaking and/or hearing.

Some examples of technologies which may be used to deliver an STS include:

- analogue transmission within the voice frequency band, e.g. on a twisted pair copper line, 4-wire leased line.
- digital transmission, e.g. basic access and primary rate ISDN or PCM channels on an E1 link.
- transmission to/from remote network interface units over various media, e.g. remote switches, remote multiplexers, analogue or digital pair gain, HFC, FTTP, WLL, satellite.

The network interface units will present digital or analogue interfaces as referred to above, at the network boundary.

In Note 2 of Schedule 1 of the *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2025* there is an exception to network interoperability for packet-based technologies, e.g. ATM. for earlier revisions of some Standards.

### INDICATING MANDATORY REQUIREMENTS FOR CE INTERFACED WITH AN STS

In each ATA Standard, in the Interpretative Guidelines Section under the Categories of Requirements clause, the following wording shall be incorporated stating the applicability of requirements to STS:

‘Clauses qualified as applying to ‘STS CE’ or to ‘CE used for the supply of the Standard Telephone Service’, identify requirements that are mandatory only for CE interfaced to an STS as defined by the *Telecommunications (Consumer Protection and Service Standards) Act 1999*.’

Equivalent CE used to provide an equivalent service to voice telephony to the STS shall be required to meet the above qualification regardless of the technology used.

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## 3.12 Emergency call access

Ensuring that CE can be used to give access to an emergency call is one of the ACMA’s Heads of Power under s376 of the *Telecommunications Act 1997*.

Requirements for emergency call access for customer equipment are specified in the following three Standards:

- [AS/CA S002](#) *Analogue interworking and non-interference requirements for Customer Equipment for connection to the Public Switched Telephone Network.*
- [AS/CA S003.1](#) *Customer Access Equipment for connection to a Telecommunications Network.*
- [AS/CA S042.1](#) *Requirements for connection to an air interface of a Telecommunications Network – Part 1: General.*
- [AS/CA S043.1](#) *Requirements for Customer Equipment for connection to a metallic local loop interface of a Telecommunications Network - Part 1: General.*

In addition, ACMA regulates and monitors the provision of the Emergency Call Services. The ACMA has made the [Telecommunications \(Emergency Call Service\) Determination 2019](#) placing requirements on C/CSPs and emergency call persons with respect to the Emergency Call Service.

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## 3.13 Health and safety

Protecting the health or safety of persons who operate, work on, use services supplied by, or are otherwise reasonably likely to be affected by the operation of a telecommunications network or a facility, is one of ACMA’s Heads of Power under s376 of the *Telecommunications Act 1997*.

Requirements for health and safety as applied under these Heads of Power to CE and customer cabling are specified in the following Standards:

- [AS/NZS 62368.1](#) *Audio/video, information and communication technology equipment Safety requirements*
- [AS/CA S004](#) *Voice frequency performance requirements for Customer Equipment (specifically for acoustic safety)*

- [AS/CA S008](#) Requirements for customer cabling products (products within this category are not subject to AS/NZS 62368.1 except for those parts of AS/NZS 62368.1 referenced by AS/CA S008)
- [AS/CA S009](#) Installation requirements for customer cabling (Wiring rules)
- [AS/CA S042.1](#) Requirements for connection to an air interface of a Telecommunications Network — Part 1: General (specifically for acoustic safety)

### Customer Equipment Safety

The IEC 62368-1 *Audio/video, information and communication technology equipment – Part 1: Safety requirements* Standard was originally published in 2010. The scope of this Standard covers the scopes of the two IEC Standards that it replaced in 2015, IEC 60065 *Audio, Video and Similar Electronic Apparatus – Safety Requirements* and IEC 60950-1. IEC 62368-1 is technology-neutral and performance-based, rather than based on prescribed constructions like the two Standards it is replacing. It follows a Hazard Based Safety Engineering (HBSE) approach, which evaluates hazards that can be transferred to end users and how technology products safeguard against these potential dangers.

The Australian Standard AS/NZS 62368.1 is based on IEC 62368-1, with national deviations, and is called up under ACMA’s *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2025*.

Optical fibre safety is currently addressed by the above Standards under Australian telecommunications legislation.

### Cabling Products/Installation and Emergency Services

The ability to communicate, by a person or device, with emergency services by speech or other methods is a health and safety consideration.

Any communication that accesses a carriage service (such as NBN FTTx, HFC, DSL, PSTN, cellular, wireless or satellite) can be utilised for communication in a time of emergency. ACMA has powers under section 376 of the *Telecommunications Act 1997* to make Standards to ensure that customer equipment can be used to give access to an emergency call service. These requirements are addressed in AS/ATA customer equipment and cabling Standards.

The connection to a telecommunications network may include communications technologies such as 4G and 5G mobile, wireless, optical fibre, coaxial and POTS, and is likely to utilise IP communications for communication between people and people, devices to people, devices to devices and people to devices.

The cabling associated with sensors and actuators that are associated with customer equipment used in health and safety systems forms part of Work Health and Safety (WHS).

In addition, Carriers and Carriage Service Providers (C/CSP) obligations to provide emergency call services are provided in the ACMA *Telecommunications (Emergency Call Persons) Determination 2019*<sup>5</sup> and the *Emergency Call Service Requirements Code (C536)*.

These arrangements indicate that access to emergency services is an essential component of the telecommunications regulatory environment and a user’s expectation to be able to access to emergency services is generally independent of the access technology. If these expectations remain unchanged, the requirements to achieve the same level of service reliability should be met by all means when accessing emergency services.

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<sup>5</sup> The ECP Determination is available from the Federal Register of Legislation (FRLI) at <https://www.legislation.gov.au/F2019N00083>

## Direct harm, consequential harm and functional safety

The obligation to provide access to an emergency call service was originally in the context when access was being provided via the traditional PSTN. This service has largely become superseded with the advent of access technologies such as the National Broadband Network (NBN). With the advent of ubiquitous broadband, it is essential that health and safety systems maintain the ability to contact emergency services and enable actions to address the emergency.

As telecommunications services become more ubiquitous, there are an increasing number of services that support the health and safety of persons in customer premises. These services are provided by systems referred to as *customer safety-related systems*.

A person who operates, works on, uses services supplied by means of, or is otherwise reasonably likely to be affected by the operation of a telecommunications network or facility, may be exposed to harm from hazards introduced via customer cabling. This is relevant to ACMA's heads of power for health and safety under s376 of the *Telecommunications Act 1997*.

For the purposes of these Guidelines, harm is classified as either *direct harm* or *consequential harm*.

### (a) Direct harm

Direct harm is when customer cabling or the customer cabling system causes immediate harm to a person.

The [AS/CA S008 Requirements for Customer Cabling Products Standard](#) and the [AS/CA S009 Installation requirements for Customer Cabling \(Wiring Rules\) Standard](#) are designed to mitigate the risk and provide installers a single point of reference to help ensure the protection of users of information technology.

These risks would include but not limited to:

- electric shock hazard under single fault conditions;
- laser dangers;
- the energising of optical fibre cabling that does not contain conductive elements by the ingress of water into the cabling;
- mechanical or trip hazards;
- accidental contact by young children to network voltages (RJ45 finger test);
- failure of pit system to support loads;
- mounting of equipment, pit, cable joints and access points in EPR Zone;
- induction of HV onto customer cabling;
- cabling installed in hazardous locations including damp locations; and
- surge or lightning hazards.

### (b) Consequential harm

Consequential harm is when a foreseeable failure of the installed customer cabling system contributes to harm to a person as a consequence of loss or impairment of communications supporting a *customer safety-related system*. Consequential harm is intended to be limited to failures attributable to matters within the scope of customer cabling products selection and installation practices addressed by Standards such as AS/CA S008 and AS/CA S009.

Consequential harm is not intended to create an open-ended obligation for cabling to prevent all possible downstream harms. In particular, consequential harm considerations are limited to

failures caused by cabling product selection, installation practices, and characteristics of the customer cabling system that are within scope of the Standards; and exclude unrelated external factors (for example, factors not reasonably controlled or addressed by the Standards).

Note that this approach is consistent with the need for requirements, when mandated under regulation, to be prescriptive, testable and enforceable.

### (c) Functional safety

The term ‘functional safety’ is widely used in other sectors to describe safety that depends on correct functioning of systems that detect hazards and take action to prevent or mitigate harm. These Guidelines recognise the usefulness of that concept as context when discussing cabling that supports *customer-safety related systems*.

However, for ATA customer cabling Standards called up under telecommunications regulation, Working Committees should treat *functional safety* as an informative concept only, and avoid importing sector specific functional safety compliance regimes. Instead, requirements should remain within the scope of customer cabling products and installation practices, and be drafted as objective, auditable requirements appropriate to the regulatory framework.

### Customer safety-related Systems

For the purposes of ATA customer cabling Standards, a *customer safety-related system* is a system at customer premises that relies on communications via customer cabling to initiate, transmit, or receive information that is necessary to prevent, mitigate, or respond to events that could cause harm to persons.

Examples of *customer safety-related systems* may include, but not limited to, the following:

- Assisted living
  - fall detection monitors and personal safety alarms
  - home care monitoring systems, including remote patient monitoring
  - Access control (for assisted living, persons with disabilities and emergency access to and from buildings)
  - security and intruder detection, including CCTV, intercoms, lighting, motion detectors, door reed switches, infrared beams, locks, card and fingerprint readers, and facial recognition cameras
- Fire evacuation systems
  - fire notification and alarms
  - access control for emergency access
  - access control for emergency egress/evacuation
  - fire warning systems
  - fire suppression systems
- Emergency access systems
  - access to emergency services via fixed or mobile communication
  - access to emergency information in time of emergencies via fixed or mobile network
  - emergency access to facilities by emergency personnel

These examples are informative and are not intended to expand the scope of Standards beyond customer cabling and cabling products.

### Guidance for Working Committee Members

ATA Working Committees drafting requirements for AS/ATA Standards need to take into consideration the application of those requirements in protecting the health and safety of persons.

Specifically, ATA Working Committees should maintain a clear distinction between:

- AS/CA S008 for customer cabling products, addressing product safety hazards and product suitability characteristics (direct harm controls and product-level safety characteristics). AS/CA S008 is applied through supplier compliance and labelling arrangements under telecommunications regulation.
- AS/CA S009 for installation requirements, addressing installation and maintenance practices for the installed customer cabling system, applied through cabling provider obligations under the *Cabling Provider Rules*.

Consequential harm considerations should be addressed, where necessary, through installed-system requirements in AS/CA S009, rather than through product compliance requirements in AS/CA S008, because consequential harm depends on the installed system context and installation practices.

ATA Working Committees need to consider specific aspects relating to the choice and installation of cabling products and installation systems and the installation practices. It is a combination of the cabling products selection and the associated installation that determines the ability of the system to support *customer safety-related systems* and mitigate the risk associated with the deployment. In particular, the following areas need to be taken into account:

(a) *Installation*

Cabling shall be selected and installed in a manner to safeguard persons from electrical, optical and mechanical hazards. Refer to Clause 2.6 of AS/CA S009.

Any cabling that is connected to or is intended to be connected to equipment related to systems supporting health and safety shall be selected and installed to reliably and safely support the systems. This requirement is not intended to provide redundancy nor operation under single fault conditions, however, helps mitigate the risk of cable system failure to meet expected performance levels over the life of the cabling.

(b) *Cable performance*

The performance level of cabling relates to the type of signalling carried by the cabling and cabling associated with IP networks have a higher performance criterion.

(c) *Components*

The cabling connector, sensors, actuators, and customer equipment used in health and safety systems, all have an impact on the health and safety of the installed system and a failure of any part of the system will impact the health and safety of the user.

(d) *Fire propagation*

A cable that propagates fire after it ignites suitable for the installation within a building as long as the cable pathway is adequately fire blocked. Fire blocking protects the health and safety of the user.

(e) *Damp areas / EPR zones*

A cabling system constructed utilising approved products would typically be safe unless you install it in a damp area or EPR Zone. Access to termination within a damp area or EPR could provide an electrical risk outside of electrical Standards.

(f) *Earthing systems*

The earth system associated to protect electrical surges utilize both appropriate product selection and installation practices to protect users from surge currents.

(g) *Pits*

The installation of a telecommunication pit requires that correct selection and installation to avoid failure of the pit causing either a trip hazard or damaging cabling supporting Health and safety systems.

(h) *Laser*

The installation of optical fibre cabling systems requires that the correct safeguards are put in place to address laser safety for all laser types that may be utilised on the installation over the life of the system.

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### 3.14 Telecommunications Network Boundary

The Telecommunications Network Boundary is defined in the *Telecommunications Act 1997* and:

- is a nominal demarcation point between carrier-owned and customer owned cabling and equipment;
- determines whether cabling or equipment is subject to ACMA technical regulation; and
- is a physical boundary and not a service boundary.

Further information and examples of network boundaries can be found in Appendix J of [AS/CA S009](#).

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### 3.15 Compliance statements

Compliance statements are located after Section 5 requirement clauses in the AS/ATA Standard. They provide a mechanism by which methodologies are suggested for demonstrating Customer Equipment's compliance with a particular requirement. The Interpretative Guidelines in Section 1 of every AS/ATA Standard provides guidance on compliance statements.

Compliance statements only suggest methodologies but cannot mandate them. The guidance in Clause 6.1 notes that 'alternative methods of demonstrating compliance to those described may be used if the risk of passing non-compliant CE is not increased because of increased measurement uncertainty.'

There is no defined format for a compliance statement but typically it will follow the lines of 'Compliance with Clause 5.x should be checked by using the method described in Clause 6.y and may also refer to an associated Figure if relevant. Alternatively, a compliance statement may be self-contained and detail the method in the statement itself, for example, if it refers to a simple measurement procedure. Where a requirement only requires inspection of the CE in operation, the compliance statement can also be worded to indicate that this is the proposed methodology.

Compliance statements should not refer to record keeping as a methodology for demonstrating compliance, e.g. to test reports, Notified Body (NB) Expert Opinions or a manufacturer's Declaration of Conformity. Section 408 of the *Telecommunications Act 1997* sets out ancillary matters to the requirement to apply a label to CE, including the record keeping requirements to demonstrate compliance with a particular applicable Standard. If a Working Committee wishes for particular record keeping requirement to be adopted, this can be included as a recommendation for inclusion in the Telecommunications Labelling Notice (TLN) as a part of the submission sent to ACMA for the making of the Standard.

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### 3.16 Conformance assessment

Conformity assessment (or compliance assessment) is an area of AS/ATA Standards development that covers activities used to ensure customer equipment and customer cabling products meet the specified requirements in those Standards. These activities can include testing, inspection, evaluation, examination, declaration, certification, accreditation, peer assessment, verification and validation.

Requirements in AS/ATA Standards for customer equipment and customer cabling products are written in accordance with the 'neutrality principle', such that conformity can be assessed by a manufacturer or supplier or a test laboratory. AS/ATA Standards do not include requirements related to conformity assessment other than requirements which are necessary to provide repeatable and reproducible conformity assessment results.

AS/ATA Standards comply with the principles in ISO/IEC 17007, Conformity assessment - Guidance for drafting normative documents.

## 4 REGULATORY

### 4.1 Primary legislation

The [Telecommunications Act 1997](#), the primary legislation administered by the ACMA for telecommunications regulation related to Standards, compliance and labelling, is available from ComLaw. The relevant Parts/Sections are:

- objectives/intentions.
- Industry codes and industry Standards (Part 6).
- technical Standards (Part 21 section 376).
- disability Standards (Part 21 section 380).
- Cabling Provider Rules (Part 21 section 421).
- Types of cabling work (Part 21 section 419).

The [Telecommunications \(Consumer Protection and Service Standards\) Act 1999](#) is the primary legislation and deals in part with Standard telephone service (section 6) and is administered by the ACMA.

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### 4.2 Subordinate legislation

The following subordinate legislation and related documentation for telecommunications regulation related to Standards, compliance and labelling administered by ACMA is available from the ACMA and ComLaw:

- [Technical Standards](#)
  - the [Telecommunications \(Labelling Notice for Customer Equipment and Customer Cabling\) Instrument 2025](#), including individual Notices, Amendments, Explanatory Statements and the consolidated Notice.
  - the [Telecommunications \(Emergency Call Service\) Determination 2019](#).
  - details of [Emergency Call Service](#).
  - details of [Cabling regulation](#).
  - the [Telecommunications \(Cabling Provider\) Rules 2025](#).
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### 4.3 Regulation

ACMA provides [information for suppliers](#) for manufacturing or importing of electrical products into Australia. Specific information on the rules and associated Labelling Notices for Telecommunications equipment, Radiocommunications equipment, Electromagnetic compatibility and Electromagnetic energy can be found under the [first step](#) of the Five step guide.

Information on how ACMA regulates the cabling industry is available at ACMA's [How we regulate the cabling industry](#).

ACMA also works closely with many regulators [internationally](#) to build co-operative relationships and partnerships, promote and protect Australian interests and to support broader government policies and activities.