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Australian Communications and Media Authority

Cabling review

Review of regulation of telecommunications customer cabling

Consultation paper

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communicating | facilitating | regulating

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Contents

Contents (Continued)

Introduction

The Australian Communications and Media Authority (ACMA) regulates customer cabling to provide minimum cabling requirements to promote safety and maintain network integrity. While the policy and legislative basis for customer cabling regulation has not changed since its inception, the technical and commercial environment around it has seen significant changes in recent years.

Driven by developments in technology, consumer demand for cabling has evolved from the basic 'plain old telephone service' (POTS) connection to increasingly sophisticated configurations required by increasingly ubiquitous superfast broadband services and 'smart-wired' homes.[1]

In 2016–17, in response to some concerns about alleged poor and unsafe cabling practices that could potentially put at risk the Australian Government's National Broadband Network (NBN) migration objectives, the ACMA made customer cabling compliance a priority compliance area (PCA). The aim of the PCA was to:

- determine whether there was sufficient empirical evidence to substantiate the concerns expressed by the cabling industry
- refresh the ACMA's evidence base with current data on the industry's performance and practices to allow the shaping of future cabling regulation.

The main components of the customer cabling PCA were an online survey of registered cabling providers, field inspections to gauge the level of compliance, and investigations of customer cabling complaints.

Our research indicated that the industry had a good overall knowledge of cabling requirements. However, participants reported that there were high levels of non-compliance within the industry, with 67 per cent of survey respondents indicating that they had observed non-compliant cabling. ACMA field inspectors observed non-compliant cabling at 35 per cent of the 178 sites that they inspected. The majority of non-compliance was able to be resolved through administrative action without a need for higher level intervention or sanctions. The PCA report is on the ACMA website.

The ACMA is now reviewing the overall effectiveness of the existing cabling regulatory arrangements. The outcomes of the review will enable the ACMA to:

- ascertain whether the existing arrangements will continue to provide the most effective approach for managing the risks associated with customer cabling
- identify whether there are any issues or concerns with the existing arrangements
- assess whether there are better regulatory, co-regulatory, or non-regulatory options available in light of current and emerging developments within the communications environment.

[1] Smart-wiring is a method of distributing multiple services such as telephone, television, internet, security and other services throughout a home. These services are cabled to and distributed from a central hub where they can be controlled by the end-user.

This review will focus on the regulation of the cabling work as performed by cabling providers. It does not examine the supply of telecommunications customer equipment and cabling products. Supply arrangements will be addressed separately following the development of the Equipment Rules, which are anticipated to be required under the proposed new Radiocommunications Bill, to align radiocommunications and telecommunications supplier obligations to the greatest extent practicable.

Stakeholder views will assist the ACMA to assess whether the existing regulatory framework for customer cabling is still the most effective method for managing the risks that regulation is intended to address. This is particularly relevant in light of the current NBN migration, as there have been media reports of some network performance concerns being attributed to customer cabling issues.

Existing arrangements

The *Telecommunications Act 1997* (the Act) establishes a legislative framework for telecommunications that promotes:

1. the long-term interests of end users of telecommunications services
2. the efficiency and competitiveness of the telecommunications industry
3. the availability of accessible and affordable telecommunications services to Australians.

Section 4 of the Act generally provides that Parliament intends that to the extent that it is consistent with meeting the objectives of the Act, telecommunications be regulated in a manner that:

- promotes the greatest practicable use of industry self-regulation
- does not impose undue financial and administrative burdens on participants in the telecommunications industry.

Under Part 21 of the Act, the ACMA has powers to:

- make technical standards
- require compliance labelling
- grant cabling licences
- make cabling provider rules.

The regulation of customer cabling can be separated into two distinct areas:

1. the supply of customer cabling equipment and products
2. the performance of customer cabling work, which must be undertaken by appropriately registered cablers.

Further information on how the existing arrangements operates including the historical progression of cabling regulation can be found at Attachment A.

Electrical safety regulation

There are common elements and synergies between the telecommunications and electrical industries, with many workers often qualified in both (the results of the cabling PCA indicated that 71 per cent of registered cablers were also qualified electricians). However, the regulation of these industries is quite separate.

Telecommunications regulation is implemented at the Federal level in accordance with section 51(v) of the Australian Constitution, which provides the Parliament with powers to make laws for the Commonwealth in relation to telegraphic, telephonic and other like services. Electrical safety matters, on the other hand, are regulated separately by each Australian state and territory, with each jurisdiction having its own set of laws, regulations and regulators. The Electrical Regulatory Authorities Council (ERAC) facilitates the coordination of regulatory strategies, policies and reform between Australian states and territories and New Zealand. ERAC and ACMA have collaborated to establish a national suppliers' database in support of the Electrical Equipment Safety System (EESS). The purpose of the EESS is to create national harmonised electrical equipment safety requirements.

Like the telecommunications industry, the electrical industry has also witnessed significant changes in technologies and its operating environment in the last twenty years. The mandatory use of earth leakage circuit breakers (ELCBs) and residual current devices (RCDs) since the 1990s has significantly changed the electrical safety environment.

ELCBs and RCDs are electrical safety devices that are designed to protect end-users from electric shock and injury. Often called safety switches, these devices monitor the flow of electricity through electrical installations (devices) and when a leakage occurs, such as due to insulation failure, these safety devices disconnect the power supply in fractions of a second to prevent harmful electric shocks to the end-user. State and territory electrical safety regulators began mandating their use from the early 1990s. In conjunction with improvements to electrical safety standards, ELCBs and RCDs have significantly reduced the number of electrocution deaths in Australia, falling from 39 in 2000 to 10 in 2017.[2]

These improvements to the electrical safety environment may have affected the extent to which safety and network integrity needs to be regulated in the telecommunications environment. For example, the risk of electrocution when insulation damage or degradation allows a telecommunications cable to come into direct contact with a live electrical cable is significantly diminished if the customer premises has ELCBs or RCDs installed.[3]

[2] http://www.erac.gov.au/index.php?option=com_content&view=article&id=94:accident-statistics&catid=82&Itemid=546

[3] An electrocution via the telecommunications cabling typically occurs when the copper conductors of the telecommunications and electrical cable come in contact with each other due to a compromise in the insulation of both cables. An example of how this might occur includes when a metal nail inadvertently pierces both cables simultaneously.

Time for change?

The existing regulatory arrangements for customer cabling are centred on the primary goals of promoting safety and maintaining network integrity. These goals were established around 30 years ago and remain essentially unchanged. However, in 2014, the introduction of mandatory competencies for specialised cabling work acknowledged that:

- poor customer cabling installation can have a detrimental effect on the delivery of a service, regardless of how well the carrier's network may be performing
- modern data cables (such as Ethernet Cat 6 and above) require specialised knowledge to install correctly.

The introduction of the 2014 competencies recognized that a third goal of cabling regulation had emerged, in addition to safety and network integrity. That goal was to ensure cablers were adequately skilled to meet the fast changing telecommunications landscape.

As set out in its Compliance and Enforcement Policy, the ACMA has adopted a strategic, risk-based approach to compliance and enforcement.[4] The ACMA seeks to:

- foster industry compliance with, and contribution to, the regulatory framework without imposing undue financial or administrative burdens
- encourage a compliance culture within the communications and media sector and adherence to regulatory obligations
- promote a communications and media sector that is respectful of community standards and diligent in responding to community complaints.

Where a regulatory breach has occurred, the ACMA will take regulatory action commensurate with the seriousness of the breach and the level of harm. It will generally use the minimum power or intervention necessary to achieve the desired result, which, in many cases, is achieving compliance with the relevant obligation rather than imposing administrative penalties or other sanctions.

In the context of this policy, it is appropriate to examine whether the original drivers for cabling regulation are still relevant and commensurate with the risks now faced by the industry and the community.

Industry compliance—results of cabling PCA

Customer cabling was made an ACMA PCA in 2016–17 and provided a snapshot of compliance with cabling arrangements. It consisted of three components—an online survey of registered cabling providers to gain a direct understanding of industry's perceptions, field inspections to gauge the level of compliance, and investigations of customer cabling complaints:

- **Field inspections**—focused on non-compliance with the Wiring Rules and cabling provider registrations including whether the relevant competencies had been obtained. ACMA inspectors performed 178 field inspections of construction sites including residential houses, commercial buildings, low-rise and high-rise buildings.

[4] https://www.acma.gov.au/theACMA/About/Corporate/Responsibilities/compliance-enforcement-policy.

- **Cabling complaints and investigations**—we received 47 complaints regarding cabling issues during the implementation of the PCA. Of these, 12 complaints were escalated for further investigation for possible breaches of the Cabling Rules.
- **Online survey**—completed by 4,637 registered cablers or approximately 6 per cent of the 72,000 cablers registered in 2016–17.

Key findings of PCA

- Registered cabling providers are likely to also be licensed electricians (71 per cent).
- Of the cabling providers who completed the ACMA's online survey, 67 per cent reported having observed non-compliant cabling on at least one occasion.
- Of the 178 sites ACMA inspectors visited, 35 per cent had non-compliant cabling.
    - In accordance with its Compliance and Enforcement Policy, the ACMA took a graduated response to non-compliance, with the majority of non-compliance resolved through administrative action without a need for higher-level intervention or sanctions.
- Breakdown of non-compliance:
    - observed by ACMA inspectors:
        - Wiring Rules breaches: 63 per cent
        - unregistered cabling work: 37 per cent
    - observed by survey respondents:
        - Wiring Rule breaches: 81 per cent
        - registration breaches: 56 per cent.
- Wiring Rule breaches observed by inspectors consisted mainly of separation issues between customer cabling and low voltage (LV) electrical cable.[5]
    - Without adequate separation, any subsequent degradation or damage to the insulation of the customer cabling and electrical cable would have safety implications because of the increased risk of electrocution and fire.[6]
    - However, inadequate separation alone does not present an immediate safety risk. The safety risk only arises if there is degradation or damage to the insulation of both cables.
    - Additionally, mandatory requirements for earth leakage circuit breakers (ELCB) or residual current devices (RCD) in all jurisdictions since the 1990s have significantly reduced the risk of electrocution from any cause including insulation failure.
- The majority of non-compliance was found in low-rise building sites.
- There were a small number of instances where the cabler held insufficient competencies (formal qualifications) for the types of cabling work being undertaken.

[5] Low voltage (LV) is defined as 50–1000V AC or 120–1500V DC.

[6] Electrical cable insulation failure alone would also be hazardous, however, is outside the scope of this paper as it is not within the regulatory remit of the ACMA.

International experience

While Australia has a comprehensive regulatory regime for customer cabling, other countries take quite different approaches.

In New Zealand and the United Kingdom, there are no requirements for customer cablers to meet minimum registration requirements. In Canada and the United States (US), any registration requirements in place are administered at the province or state level and require the cabler to meet minimum competencies where registration is required. However, based on the available information, very few US states or Canadian provinces require cablers to be registered before performing cabling work.

In Germany, most employers require cablers working for them to register with the Registry of Craftsmen/Tradesman (Handwerkskammer). The Handwerkskammer is the master registry for all trades in Germany and has separate divisions managing each trade. Registration under this system requires the cabler to complete suitable training, but registration (unless specified by the employer) is voluntary.

In addition, while there are similar technical standards in the countries examined, compliance with the standards is voluntary. In New Zealand, the United Kingdom (UK), Canada and the US, there are, however, mandatory obligations under general occupational health and safety legislation to exercise an appropriate duty of care to minimise harm to others.

Issues

The cabling environment has changed profoundly since licensing requirements for cablers were first introduced in 1989. Given the extent of developments within the telecommunications industry, it is timely to ask:

> are the risks that regulation was originally intended to mitigate still present?

> if the risks still remain, do they still require regulation, and if so, of what type and to what extent?

The existing regulatory arrangements for customer cabling are based on addressing the two risks that were identified around three decades ago—maintaining the integrity of the telecommunications network and ensuring safety. Since that time, the regulatory arrangements have consistently focussed on addressing these risks by establishing training requirements for cablers, intended to:

> ensure that cablers are able to install telecommunications customer cabling that maintains network integrity

> protect the safety of personnel working on the network and the safety of people using the network.

Network integrity

The network integrity objective is to protect telecommunications networks from potential harm caused by customer cabling so that the reliability and functionality of the network is not adversely affected. When the Cabling Rules were being established, telephone and internet access points were wired sequentially from an external connection point. This external connection was via copper cabling to the local exchange and the wider telecommunications network. In this electrically-conductive copper cabling environment, the Cabling Rules recognised and addressed the potential for the legacy network to be harmed by cabling and equipment in the customer premises.

In the contemporary environment, telephone and internet access can be provided to the customer's premises by a number of technologies including copper cabling (such as for legacy telephone and ADSL services), hybrid fibre-coaxial (otherwise known as 'cable'), Fibre To The Premises (FTTP), Fibre To The Node (FTTN) and satellite, as well as fixed and mobile wireless networks.

Copper wiring now plays a much diminished role in the reticulation of the telephone and internet within the customer's premises. Additional networking methods include wireless (such as Wi-Fi and mobile broadband) and alternative wired technologies (such as broadband-over-powerline, co-axial, Ethernet and fibre).

Modern wired technologies such as Ethernet, coaxial and fibre are regulated under the existing telecommunications cabling arrangements. Broadband-over-powerline, which uses low voltage electrical cabling to carry telecommunications data, is not covered by telecommunications customer cabling requirements. Similarly, wireless technologies such as Wi-Fi are not subject to customer cabling requirements.

In terms of network integrity, with the telecommunications network moving increasingly towards fibre-based connectivity and away from copper-based connectivity, the relevance of maintaining requirements associated with network integrity in the customer cabling regulations would appear to have diminished. The risk of electrical damage to a fibre-based network as a consequence of poor customer cabling is

extremely low. This is because the move to non-conductive fibre networks substantially diminishes the risk of electrical damage to the telecommunications network.

Safety

The safety objective of customer cabling is to prevent or minimize the risk of electrocution, fire or explosion. These risks may occur due to inadequate separation of electrical and telecommunications cabling, the installation of telecommunications cabling in hazardous or corrosive environments that lead to its accelerated degradation or the use of non-compliant cabling products.

Homes and businesses are increasingly connected and internally cabled for the distribution of data using a range of technologies. Depending on householder choice, the sources of this data may include the NBN, other broadband networks, and free-to-air or subscription television.

In these circumstances, the potential for any increase in electrical safety risks will be determined by two factors:

1. the nature of the customer cabling—copper cabling is electrically conductive while alternative technologies, such as fibre and wireless distribution, are not
2. other safety measures in the customer premises environment, such as the use of earth leakage circuit breakers or residual current detectors.

National statistics about electrical safety incidents maintained by ERAC, the Electrical Regulatory Authorities Council, show that the number of fatal electrical accidents from all causes has progressively decreased over the years, from 39 deaths in 2000 to 10 deaths in 2017.[7] The ACMA is not aware of any increase in the number of electrical safety incidents involving telecommunications customer cabling, despite regular contact with the cabling registrars and other cabling industry participants.

Contemporary skills

Continued developments in the communications environment, including telecommunications customer cabling, require a workforce with contemporary expertise and skills. Modern data cables (such as Ethernet Cat 6 and above) require specialised knowledge to install correctly to ensure that optimum performance is achieved. A poor customer cabling installation can have a detrimental effect on the delivery of the service, regardless of how well the carrier's network may be performing. Recognising the emerging need for cablers to keep their skills up-to-date, the ACMA introduced mandatory competencies for specialised cabling work in 2014.

To implement mandatory competencies for specialised cabling, the ACMA amended the Cabling Rules to require cablers who undertake broadband, structured, optical-fibre or co-axial cabling work to have mandatory training competencies relevant to the specific specialised cabling work being undertaken.

Convergence

Since the introduction of the specialised competencies in 2014, power-over-Ethernet (PoE) technology has emerged, which allows electrical power and telecommunications data to be carried on the same Ethernet cable.

[7] http://www.erac.gov.au/index.php?option=com_content&view=article&id=94:accident-statistics&catid=82&Itemid=546

Devices such as IP cameras and VoIP phones that previously required a separate powerpoint are now able to operate while only connected to an Ethernet cable. The incorrect installation of PoE, including the use of low quality or incorrect grade of Ethernet cables, increases the risk of heat build-up within the cable, which may degrade performance. When installed in bundles, cables heat up more with greater wattage and as the heat increases, the performance of the cable decreases. The correct installation of PoE, including the use of compliant cables and connectors that are fit-for-purpose, is vital in ensuring its correct operation.[8]

The ACMA's customer cabling arrangements apply to PoE but only for the telecommunications aspects. This is because the electrical power aspects of PoE are outside the scope of the ACMA's regulatory arrangements, which are limited by section 51(v) of the Australian Constitution to communications (rather than electrical safety) matters.

It is also relevant that the operation of PoE occurs within the extra-low voltage range, which is outside the remit of electrical regulatory authorities (PoE typically operates at 48V DC, while extra-low voltage does not exceed 50V AC or 120V DC). Increasing power capabilities are being achieved via PoE, which increases the risk of heat build-up if low quality or incorrect cables are used.

The potential for further development of PoE, as well as the likely emergence of other converged (power and telecommunications) cabling technologies, will be a challenge for regulatory arrangements that were developed when power and telecommunications cabling were distinct technologies.

Existing training requirements are not well suited to mitigating the risks presented by the rapid changes in customer cabling technology. Once the initial requirements for registration as a cabler are completed, there are no further requirements for a cabler to maintain the currency of their training in line with any developments that may occur within the industry. The cabler's skills may, in practice, be limited to the level at the time of initial registration. To ensure cablers have contemporary skills, a change in regulatory approach, including training requirements, may be necessary.

Implications for regulation

The rapid evolution of telecommunications technologies and services has called into question the appropriateness of regulatory arrangements that were devised to address the risks of thirty years ago.

More robust modern technologies and networks, including the shift to non-conductive fibre-based cabling, has diminished the need to regulate customer cabling to maintain network integrity. The risk of poor customer cabling electrically damaging a modern fibre-based network is low.

The nature of safety risks posed by customer cabling has also shifted. With the rise in use of mandatory earth leakage circuit breakers and residual current detectors, the risk of electrocution as a result of the inadequate separation of customer cabling from electrical mains wiring has reduced. New technologies, such as PoE, may however, have introduced new safety risks within customer cabling that were not envisaged in 1989. PoE requires specific cabling skills and expertise to ensure that expected performance levels are achieved without compromising safety. The use of inadequate cabling for PoE may result in performance degradation and thermal damage.

[8] https://www.commscope.com/Docs/POE_Groundwork_WP-107291.pdf

The increasing deployment of superfast broadband technologies may have introduced a new risk that warrants management under the regulatory arrangements. Modern data cables and new customer cabling technologies will continue to emerge, most likely including the increased deployment of converged technologies where single cables transmit telecommunications data while also distributing electrical power. These developments in cabling technologies require up-to-date, specialised skills to ensure their correct and safe operation.

While the training undertaken by cablers is appropriate at the time of their initial registration, there are no formal requirements for ongoing skills and professional development that would mitigate the risks presented by new and emerging technologies. This is perhaps the result of cabling not having the same level of training and recognition as is the case with the work of electricians.

Cablers' skills, training and qualification requirements are identified and developed by industry. This has been the case since October 2000, when the ACA introduced the 2000 Cabling Rules. An alternative approach to ensuring that the skills, training and qualification requirements of cablers are maintained and developed over time would be for cabling requirements to be incorporated into the Australian Qualifications Framework (AQF). The AQF incorporates the qualifications from each education and training sector into a single national qualifications framework. It was introduced in 1995 to underpin a national system of qualifications in Australia encompassing higher education, vocational education and training, and schools.[9]

The existing Cabling Rules exemplify many of the issues with existing regulatory arrangements for telecommunications customer cabling. Thirty years after the monopoly on installing customer cabling was dismantled, the ACMA is responsible for a bespoke regulatory regime that is focused on historical risks and which has not effectively adapted to new technologies, changing industry practices or the establishment of a national approach to training and qualifications. As such, it is appropriate to consider regulatory reforms that could better serve the contemporary requirements of industry and the community.

[9] See www.aqf.edu.au.

Future approach

Assessment framework and principles

The ACMA has developed an assessment framework to inform thinking about more efficient and effective regulatory design and administration. The framework incorporates regulatory best practice theory and draws on the ACMA's earlier paper, *Optimal conditions for self- and co-regulatory arrangements*.[10]

In summary, the framework involves:

- identifying the regulatory issue and the risks and harms for different stakeholder groups
- considering what regulatory response—or responses—might be appropriate to address the issue, given the external policy environment and characteristics of the market and industry
- applying 'implementation filters' to identify appropriate ways of delivering aspects of the proposed regulatory response
- reviewing in light of changes in the environment and consumer and public interest considerations.

The ACMA will use the assessment framework—and reference the intervention and regulatory design principles—to assist consideration of whether:

- the current regulation of customer cabling work is appropriate to address the risks associated with that work
- any of the functions could be referred to industry for self-regulation
- other regulatory or non-regulatory responses may be more appropriate for consideration.

Stakeholders are encouraged to consider the framework and principles when developing their submissions.

A summary of the assessment framework and the intervention and design principles is provided at Appendix B.

Reform opportunities

In addition to the questions raised in this consultation paper as set out below, stakeholders are invited to submit additional views and empirical evidence to support options for future customer cabling regulation. In particular, the ACMA is interested in feedback on reform opportunities that emerge from the issues discussed above, including:

- use of the Australian Qualification Framework (AQF) to establish training and qualification requirements for cablers that are:
  - better integrated with qualification and training requirements for related occupations such as electricians
  - more responsive to changes in technology and business requirements

[10] https://www.acma.gov.au/theACMA/Library/researchacma/Occasional-papers/optimal-conditions-for-effective-self--and-co-regulatory-arrangements-2015-edition

- the registration by the ACMA of an industry code that sets out requirements for customer cabling work including the qualification and registration of cablers
- continuation of existing regulatory arrangements for the supply of customer cabling products and equipment.

A reform model

Customer cabling regulation is divided into two separate areas—the supply of customer cabling products, and the performance of cabling work as undertaken by registered cablers. As the supply arrangements will be reconsidered after the establishment of the Equipment Rules, the Authority does not propose to review them until that time. However, in relation to the performance of cabling work, there is potential for industry codes and the AQF to improve outcomes independent of any changes to supply arrangements.

One potential reform model that the ACMA is considering is the implementation of an industry-developed code in unison with AQF-developed courses to manage the regulation of customer cabling.

Under this model, industry would have the opportunity to shape and direct the regulatory requirements for the performance of customer cabling. It is envisaged that the industry-developed requirements of the code would supersede the existing requirements of the Telecommunications Cabling Provider Rules 2014.

Industry codes

Industry codes are an important component of the existing co-regulatory approach to telecommunications regulation in Australia. The Act allows industry codes to be developed by industry bodies or associations on any matter that relates to telecommunications activities, including the performance of cabling work. Industry codes can be submitted to the ACMA for registration and once registered, the ACMA has powers to issue formal warnings to industry participants for breaches of the code and to also direct industry participants to comply with provisions of the code.

There are 21 registered industry codes at this time, one of which is the 'Cabling requirements for Business' industry code.[11] This code requires businesses engaging in customer cabling activities to ensure that the cablers working on their behalf perform work in accordance with the Cabling Rules. In addition, the code also provides direction on the implementation of quality systems and ongoing skills maintenance programs.

To enable the implementation of the proposed reform model, an industry code for individual cabling providers would need to identify the risks associated with the performance of customer cabling work and provide mechanisms that were appropriate in addressing those risks. These mechanisms may encompass training, registration and quality assurance systems. The code may also need to identify appropriate technical requirements and compliance and enforcement processes to ensure that those requirements are being met.

To address the issue of maintaining cablers' skills in line with developments in the industry, the code could require cablers to undergo refresher training and ongoing

[11] https://www.acma.gov.au/theACMA/Library/Corporate-library/Forms-and-registers/register-of-codes

skills maintenance programs as specified in the current 'Cabling requirements for Business' industry code.

Australian Qualification Framework

The AQF appears to provide a more appropriate mechanism to manage qualification and training requirements for cablers. The AQF was designed to ensure qualification titles and their associated level of skill and expertise are consistent across the country. The AQF provides a nationally standardised system that has clear rules on what each qualification title represents, thereby minimising uncertainty caused by differing qualification titles and education levels. Under the AQF, there are 10 qualification levels recognised, with Certificate I the entry qualification.

One of the key benefits of AQF courses is that its syllabus is overseen and vetted by relevant industry skills councils to ensure that the content is current and fit-for-purpose at the time of delivery. There is greater agility in this model than the current training requirements in ensuring the currency of training. Under the current arrangements, the last time cablers' skills were examined was in 2014 when the ACMA introduced mandatory competencies for specialised cabling work. Despite the changes within the industry, no further assessments of cablers' required skills have been made in the last four years.

Cabler qualifications managed entirely under the AQF would appear to benefit industry by ensuring greater consistency of skills and clear pathways to higher qualifications and skills. Unlike the current arrangement, which allows a person to obtain a cabling registration via the 'informal' completion of several training units, a recognised AQF course would provide a nationally recognised formal qualification upon completion. Having formal qualifications could also be beneficial to cablers as it provides opportunities in the future to integrate their cabler qualifications and training with associated occupations such as electricians.

In addition, there may also be financial benefits for cablers undertaking AQF courses. Subject to certain conditions, candidates of AQF courses may be eligible for government funding to assist with the costs of training.

Benefits of proposed reform model:

- Industry is best placed to understand the contemporary issues faced by cablers and the fast-changing cabling industry. An industry-developed code allows the cabling industry to shape cabling regulation to address any emerging and contemporary issues. This regulatory model provides greater agility than the current arrangements in adapting to change.
- The code could address the issue of continual developments in technology by implementing requirements for ongoing skills maintenance programs.
- The formal framework overseeing AQF courses ensures that their syllabus is continually relevant and current.
- Cablers will obtain a formal and nationally recognised qualification at the completion of an AQF course. This qualification provides opportunities to integrate into other related courses or industries.
- Candidates undertaking AQF courses may qualify for government funding assistance to offset the cost of training.

Questions

Safety and network integrity risks

1. Considering the separate regulatory requirements that exist for electrical cabling, including the mandatory use of ELCBs/RCDs and public information and awareness campaigns conducted by electricity distributors about electrical safety, are the electrical safety risks from customer cabling already effectively mitigated by other regulatory regimes and associated activities?
2. Given the availability and increasing use of modern networking technologies that are non-conductive (for example, Wi-Fi and fibre) or addressed through other regulatory regimes (such as broadband-over-powerline), are the harms that could result from Wiring Rule breaches still significant enough to require a regulatory response?

Operation of current arrangements

3. Are the three types of cabling registration (Open, Lift, Restricted) still appropriate?
4. Are additional types of cabling registration needed? If so, why?
5. In light of changes to the environment and consumer and public interest considerations, are there other types of customer cabling activities that can be safely undertaken by any person and able to be included in Schedule 1 of the Telecommunications (Types of Cabling Work) Declaration 2013?

Cabler skills and training

6. Are existing training requirements adequate in ensuring cablers are suitably skilled for the current and emerging cabling environment?
7. Are additional training requirements necessary to prepare cablers for PoE and other converged (telecommunications/electrical) cabling technologies that may develop?
8. Are there other new or upcoming technologies that may also require additional specialised training?
9. Are there any other additional skills and training required for cablers that are not already covered in the current mandatory training requirements?
10. Are there any areas where the training requirements mandated through the Cabling Rules are unnecessary or excessive?
11. Are existing industry-driven arrangements the most effective way to address the ongoing skills requirements of cablers?
12. In light of continuing developments in technology and changing business requirements, should there be ongoing training and development requirements for cablers?
13. If ongoing skills training and development were to be implemented, what mechanisms could be used to facilitate this requirement?

International perspectives

14. Given the minimalist approach taken by overseas regulators to regulation of customer cabling, do the Australian requirements impose unreasonable or unnecessary costs on industry and consumers?

15. Given that regulators in other comparable countries do not apply registration requirements for customer cablers, does Australia need to continue to register cablers to undertake telecommunications customer cabling work?

New technologies and changing environment

16. Given the changes in both the telecommunications environment and the electricity industry, are the safety risks associated with reticulation of telecommunications services within customer premises still best addressed by the Cabling Rules?
17. Given the changes in both the telecommunications environment and the electricity industry, are the network integrity risks associated with reticulation of telecommunications services within the customer's premises still best addressed by the Cabling Rules?
18. Are there other mechanisms (including self-regulatory mechanisms) that could be used to better address any continuing or residual risks?
19. What are the implications of convergence for regulation of telecommunications customer cabling such as PoE and broadband-over-powerline?
20. In addition to PoE and broadband-over-powerline, are there other new or emerging converged technologies relevant to customer cabling?
21. Are there new requirements that need to be addressed such as additional cabler skills? What is the best way to respond to these requirements?
22. Are there any other issues relevant to telecommunications customer cabling that the ACMA should consider?

Reform model

23. Is it necessary to regulate qualification and training requirements of cablers?
24. Are there any impediments to using the AQF to establish qualification and training requirements for cablers?
25. Is the development and registration of an industry code or codes necessary to minimise potential harms that can arise from customer cabling work?
26. Are there any impediments to the development of an industry code or codes that would apply to customer cabling work, including the qualification and registration of cablers?

Making a submission

The ACMA invites comments on the issues set out in this consultation paper or any other issues relevant to the regulation of customer cabling under the *Telecommunications Act 1997*.

- **Online submissions**—submissions can be made via the comment function or by uploading a document. The online consultation page provides details.
- **Submissions by post**—can be sent to:

  The Australian Communications and Media Authority
  Technical Regulation and NBN Section
  PO Box 13112 Law Courts
  Melbourne VIC 8010

The closing date for submissions is COB, 20 December 2018.

Electronic submissions in Microsoft Word or Rich Text Format are preferred.

Enquiries

- Consultation enquiries can be emailed to techreg@acma.gov.au.
- Media enquiries can be directed to Emma Rossi on 02 9334 7719 or by email to media@acma.gov.au.

Effective consultation

The ACMA is working to enhance the effectiveness of its stakeholder consultation processes, which are an important source of evidence for its regulatory development activities. To assist stakeholders in formulating submissions to its formal, written consultation processes, it has developed *Effective consultation—a guide to making a submission*. This guide provides information about the ACMA's formal written public consultation processes and practical guidance on how to make a submission.

Publication of submissions

In general, the ACMA publishes all submissions it receives, including any personal information in the submissions (such as names and contact details of submitters). The ACMA prefers to receive submissions that are not claimed to be confidential. However, the ACMA accepts that a submitter may sometimes wish to provide information in confidence. In these circumstances, submitters are asked to identify the material (including any personal information) over which confidentiality is claimed and provide a written explanation for the claim.

The ACMA will consider each confidentiality claim on a case-by-case basis. If the ACMA accepts a claim, it will not publish the confidential information unless authorised or required by law to do so.

Release of submissions where authorised or required by law

Any submissions provided to the ACMA may be released under the *Freedom of Information Act 1982* (unless an exemption applies) or shared with various other government agencies and certain other parties under Part 7A of the *Australian Communications and Media Authority Act 2005*. The ACMA may also be required to release submissions for other reasons including for the purpose of parliamentary processes or where otherwise required by law (for example, under a court subpoena). While the ACMA seeks to consult submitters of confidential information before that

information is provided to another party, the ACMA cannot guarantee that confidential information will not be released through these or other legal means.

Privacy

The *Privacy Act 1988* imposes obligations on the ACMA in relation to the collection, security, quality, access, use and disclosure of personal information. These obligations are detailed in the *Australian Privacy Principles*.

The ACMA may only collect personal information if it is reasonably necessary for, or directly related to, one or more of its functions or activities.

The purposes for which personal information is being collected (such as the names and contact details of submitters) are to:

- contribute to the transparency of the consultation process by clarifying, where appropriate, whose views are represented by a submission
- enable the ACMA to contact submitters where follow-up is required or to notify them of related matters (except where submitters indicate they do not wish to be notified of such matters).

The ACMA will not use the personal information collected for any other purpose, unless the submitter has provided their consent or the ACMA is otherwise permitted to do so under the Privacy Act.

Submissions in response to this paper are voluntary. As mentioned above, the ACMA generally publishes all submissions it receives, including any personal information in the submissions. If a submitter has made a confidentiality claim over personal information that the ACMA has accepted, the submission will be published without that information. The ACMA will not release the personal information unless authorised or required by law to do so.

If a submitter wishes to make a submission anonymously or use a pseudonym, they are asked to contact the ACMA to see whether it is practicable to do so in light of the subject matter of the consultation. If it is practicable, the ACMA will notify the submitter of any procedures that need to be followed and whether there are any other consequences of making a submission in that way.

Further information on the Privacy Act and the ACMA's privacy policy is available at www.acma.gov.au/privacypolicy. The privacy policy contains details about how an individual may access personal information about them that is held by the ACMA, and seek the correction of such information. It also explains how an individual may complain about a breach of the Privacy Act and how the ACMA will deal with such a complaint.

Appendix A—Existing arrangements

As set out earlier in this paper, the regulation of customer cabling can be separated into two distinct areas:

1. the supply of customer cabling equipment and products, and
2. the performance of customer cabling work which must be undertaken by appropriately registered cablers.

Although supply arrangements are not examined in this review, the following information on the regulation of customer cabling sets out existing arrangements for the supply of cabling equipment and products as well as for customer cabling work.

The ACMA's regulation of telecommunications cabling only covers cabling work and cabling products that are installed or used on the customer side of the telecommunications network boundary point (NBP). The NBP is the physical demarcation point between customer cabling (which is regulated by the ACMA) and network cabling (which is the responsibility of the relevant carrier and not regulated by the ACMA).

The NBP[12] is typically located within the customer's premises at the first phone socket for copper-based services or the network termination device being used to access the telecommunications network. In large commercial buildings or multi-dwelling units, the NBP is typically located at the main distribution frame (MDF).

The Act gives the ACMA statutory powers to impose and enforce requirements on cabling providers concerning customer cabling.

The ACMA made the following legislative instruments under Part 21 of the Act:

- Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015
- Telecommunications Cabling Provider Rules 2014.

The effect of these legislative arrangements is that all customer cabling work in Australia that connects, or is intended to connect, to the telecommunications network must be performed by an appropriately registered cabler in accordance with the Communications Alliance standard AS/CA S009:2013 Installation requirements for customer cabling (Wiring Rules) and using compliant equipment. This work is defined as customer cabling and includes cabling for phones, faxes, computer/data, home automation, fire alarm and security alarm systems.

The objective of these arrangements is to promote safety and maintain network integrity.

The safety objective is to prevent or minimize the risk of electrocution, fire or explosion. These risks may occur due to inadequate separation of electrical and telecommunications cabling, the installation of telecommunications cabling in hazardous or corrosive environments that may lead to its accelerated degradation, or the use of non-compliant cabling products. There is also the related risk of damage to

[12] The NBP is defined in the *Telecommunications Act 1997* at s.22

the local telephone exchange with the potential to affect the integrity and reliability of the telecommunications network.

History

Prior to June 1989, cablers were direct employees of the Postmaster General's Department and the then Telecom Australia. Licensing of cablers was not necessary as cabler competency was managed as a condition of employment.

With reform to the regulation of the cabling industry, in June 1989, came a need to ensure that all cablers performing customer cabling work had basic competencies to ensure consumer safety and network integrity. This need led to the introduction of a licensing system for individual cablers.

Until March 1998, all cabler licences were issued directly by the Australian Telecommunications Authority (Austel) and later by the Australian Communications Authority (ACA). Qualifying examinations were conducted by Austel and then the ACA.

After March 1998, the issue of cabler licences was administered by the National Electrical Contractors Association NECA/Teledata Licence Pty Ltd, under contract with the ACA. This arrangement was the first step in the movement towards industry self-regulation in the cabling industry.

After extensive consultation with industry, the ACA introduced the Telecommunications Cabling Provider Rules 2000 (the 2000 Cabling Rules) which commenced on 3 October 2000. Although licensing provisions remained in the Act, the ACA phased out the cabler licensing system and replaced it with a system of industry-run registration services for cabling providers.

Five industry bodies were granted accreditation under deeds of agreement with the ACA to provide registration services to individual cablers. The pre-existing, mandatory competency requirements for new cablers continued to apply unchanged.

No new ACA cabler licences were issued after 3 October 2000. However, the 2000 Cabling Rules and the cabler licensing system continued to operate concurrently until the last ACA-cabler licence expired on 2 October 2005. After that date, only the 2000 Cabling Rules continued to have effect. The 2000 Cabling Rules were subsequently revoked and replaced by the Telecommunications Cabling Provider Rules 2014 (the Cabling Rules).The main change brought by the Cabling Rules was the introduction of mandatory competencies for specialised cabling work.

Cabling compliance and enforcement programmes, including random construction-site inspections conducted by ACA compliance officers, ceased in June 2005, immediately before the 1 July 2005 establishment of the ACMA. Since then, a complaints-based approach has been adopted, with individual cabling inspections typically conducted in response to complaints submitted to the ACMA.

Table 1: Key dates

Date	Milestone
1 July 1997	Competency based training commenced
2 October 2000	Last cabling licence issued by the ACA
3 October 2000	Cabling Rules introduced
Oct–Dec 2000	Five accredited registrars appointed by the ACA to provide registration services to cabling providers

17 July 2003	Industry code—Cabling Requirements for Business registered by the ACA
1 July 2005	The ACMA is established
July 2005	Complaints-based approach introduced by the ACMA
2 October 2005	Last ACA issued cabling licence expired
2014	Mandatory competencies introduced for specialised cabling work

Regulating the supply of customer cabling equipment and products

Technical standards

Under section 376 of the Act, the ACMA may by written instrument, make technical standards for specified items of customer equipment and customer cabling. Scoped customer equipment and cabling must comply with the applicable technical standards before they can be supplied to the market. Standards made under section 376 must only consist of such requirements as are necessary or convenient for one of the objects listed in subsection 376(2). The current Standards are principally designed to address the objects related to:

- protecting personal health and safety
- protecting the integrity of telecommunications networks
- ensuring the supply of the standard telephone service
- ensuring access to emergency call services.

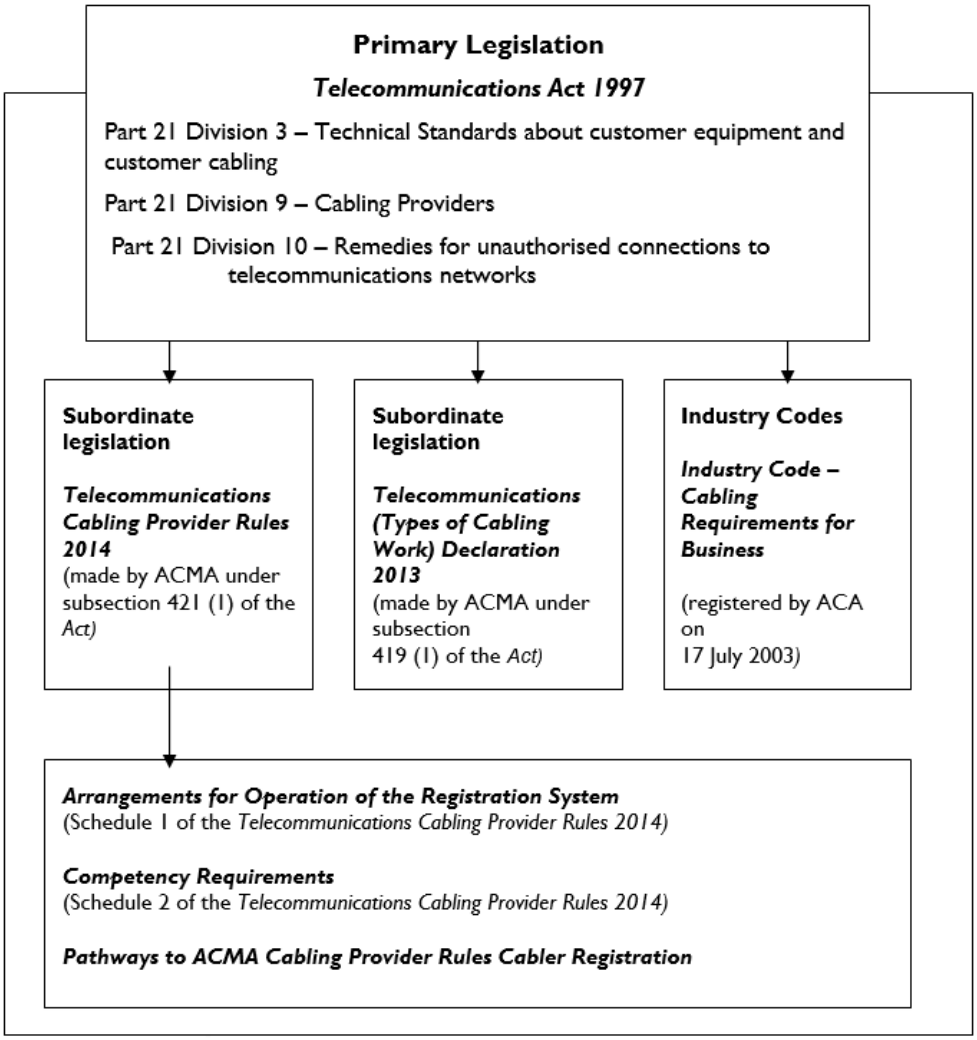
Cabling equipment

Requirements for customer cabling and associated cabling equipment used in a customer's premises (on the customer's side of the NBP) are based on compliance with the applicable ACMA technical standards and the compliance labelling requirements specified in the Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015 (the TLN).

The applicable ACMA technical standard for cable and associated cabling products mandated by the TLN is the Telecommunications Technical Standard (Requirements for customer cabling products – AS/CA S008) 2015. This ACMA technical standard incorporates the industry standard AS/CA S008:2010 Requirements for Customer Cabling Products published by Communications Alliance as the standard with which cabling products must comply.

Regulating the performance of cabling work

The main elements of the current framework for regulating customer cabling work, including provisions in the Act and subordinate legislation made by the ACMA, are outlined below.



Cabling Provider Rules

The performance of customer cabling work on the customer side of the NBP is regulated by the Telecommunications Cabling Provider Rules 2014 (the Cabling Rules) made by the ACMA under subsection 421(1) of the Act. The Cabling Rules establish an overall framework for customer cabling work.

The Cabling Rules are intended to provide a person with an understanding of the regulatory requirements they need to comply with, including that they:

- use compliant cabling products
- are competent to carry out the work
- hold a current cabler registration.[13]

[13] The Act specifies requirements that are to be met when a cabler undertakes customer cabling work, including registration and a requirement to comply with the telecommunications cabling provider rules. The

The cabler registration process is undertaken by five industry cabling registrars who administer this process under a Deed of Agreement with the ACMA.

The main elements of the Cabling Rules are as follows:

- All customer cabling work must be performed by a registered cabler.
- Cabling work must comply with the Wiring Rules. The Wiring Rules detail the minimum requirements for cabling installations. They are intended to protect the health and safety of persons working on and/or using the telecommunications network as well as the integrity of the telecommunications network.
- Depending on the type of cabling work performed, cablers must hold an Open, Restricted or Lift registration that meets the industry training competency requirements mandated by the ACMA.
- A key requirement of the Wiring Rules is that telecommunications cabling is adequately separated or segregated from mains electrical cabling to avoid the potentially hazardous situation where penetration from nails, screws, drills, saws and other sharp objects may cause harmful electrical current to appear on the telecommunications cable .
- Cablers are required to install only cabling products (including cable) and customer equipment that are compliant with the requirements of the TLN.
- Cablers must, in most instances at the completion of each cabling task, provide the client with a job sign-off form such as a Telecommunications Cabling Advice form (TCA1 form).
- Registered cablers must directly supervise an unqualified cabler's cabling work (the Supervision Rule).
- Under the Supervision Rule, a registered cabler must accept full responsibility for the work undertaken by an unqualified cabler and ensure that it fully complies with the Wiring Rules including signing the TCA1 form.
- Cablers must provide all reasonable cooperation and assistance to ACMA inspectors and cabling auditors.
- Cablers are required to notify their registrar of any change of contact details within 21 days.

Training requirements to obtain cabler registration are developed by industry, published by the ACMA and delivered by registered training organisations.[14]

The ACMA maintains these arrangements by:

- developing and maintaining the Cabling Rules, which incorporate the training requirements developed by industry
- providing input to and publishing training requirements for cablers
- holding quarterly meetings with the cabling registrars to identify, discuss and resolve issues relevant to the regulation of customer cabling work

telecommunications cabling provider rules have been used as the authorisation path for customer cabling work since 2000.

[14] Information about becoming a registered cabler, including training requirements, is available from the ACMA website at https://www.acma.gov.au/Industry/Telco/Infrastructure/Cabling-rules/how-to-become-a-registered-cabler.

- Providing input into working committees that develop the industry standards (AS/CA S008 and AS/CA S009), which are or may be incorporated by reference into legislative instruments made by the ACMA for the regulation of customer cabling.

The Wiring Rules

Subsection 421(1) of the Act provides that the ACMA may make rules that apply to specified persons and relate to the performance of cabling work or the supervision of the performance of cabling work or both. The ACMA has made the Cabling Rules, which incorporate by reference the industry technical standard AS/CA S009:2013 Installation requirements for customer cabling (the Wiring Rules) as the applicable standard for the performance of customer cabling work. The Wiring Rules specify the installation and maintenance requirements for fixed or concealed cabling or equipment that is connected, or is intended to be connected, to a telecommunications network.

Types of cabling registration

There are three types of registration defined in the Cabling Rules—Open, Restricted, and Lift. Cablers working in both commercial and domestic premises require an Open registration. Cablers working only in domestic or small business premises require a restricted registration. Cablers working in the lift industry require a Lift registration.

Open registration

Cabling work that requires an Open registration includes any type of customer cabling work where cabling terminates at the NBP on a socket, a network termination device or a distributor. Open registration cabling work also includes specialised cabling work for which additional competencies are required such as aerial, underground, structured (data), fibre or coaxial cabling work.

Examples of distributors are:

1. Main Distribution Frame.
2. Intermediate Distribution Frame.
3. Floor Distributor.

The full list of conditions for Open registration is specified in the Cabling Rules .

Restricted registration

Cabling work that requires a Restricted registration covers cabling work defined wholly in one of the two following scenarios:

- **Scenario A: Typical domestic and small business premises**
  - Termination is on a socket or network termination device.
  - The electrical supply voltage does not exceed typical domestic single-phase and three-phase electrical supply voltages.
  - Aerial, underground or broadband cabling work must be on private property and specialised competencies are required to undertake this work.
  - Aerial cabling must not use electricity distribution poles.
- **Scenario B: Work behind a compliant device in multi-storey or campus-style premises**
  - The cabling work is behind a compliant device (for example, alarm panel, modem, or customer switching system) where the compliant device is labelled in accordance with the TLN.

The full list of conditions for Restricted registration is specified in the Cabling Rules.

Lift registration

Lift registrations are for telecommunications cabling in lifts or elevators. The full list of conditions for a Lift registration is specified in the Cabling Rules.

An opportunity to recalibrate registration types

Recognising that there have been significant changes to the telecommunications customer cabling environment since the regulatory arrangements commenced, it is arguable whether the existing registration categories continue to be necessary.

The training requirements are not significantly different for each registration type. For example, the additional training required for Open vs Restricted registration is minimal—one extra unit. Therefore, it may be appropriate to consider 'grandfathering' existing Restricted registrations and moving towards an Open registration system only.

Types of cabling work

The Act defines cabling work as the installation of customer cabling for connection to a telecommunications network or facility, the connection of customer cabling to a telecommunications network or facility, or the maintenance of customer cabling connected to a telecommunications network or facility. Customer cabling includes 'associated customer cabling products such as telecommunications sockets, plugs and connectors.

The ACMA has made the Telecommunications (Types of Cabling Work) Declaration 2013 (the Cabling Declaration). The Cabling Declaration sets the scope of 'regulated' cabling work by specifying that any cabling work that is **not** listed in Schedule 1 of the Cabling Declaration is subject to cabling regulation as specified in Division 9 of Part 21 of the Act. That is, the Cabling Declaration permits certain types of cabling work to be undertaken by a person who is not a registered cabler.

For example, Schedule 1 of the Cabling Declaration allows any person to connect compliant pre-terminated 'plug-and-play' customer cabling products without engaging the services of a registered cabler. However, Schedule 1 does not allow the installation of a customer cabling product where any part of the cabling is concealed including within the roof, ceiling or wall cavities. Where the concealment of customer cabling products occurs within the cavities of a building, the installation must be undertaken by a registered cabler in accordance with the Wiring Rules. A common example of exempt cabling work is the connection of plug-and-play cabling to Wi-Fi modems by end-users. The Cabling Declaration allows the end-user to undertake this type of cabling work without a cabling registration so long as the cabling work is not concealed in building cavities.

Any cabling work not listed in Schedule 1 must be undertaken or directly supervised by a registered cabler and performed in accordance with the Wiring Rules.

Training

Competency-based training to obtain a cabling licence commenced in 1997. Before this, a person wishing to become a cabler was required to sit an examination based on the Wiring Rules of the time. If they passed and could demonstrate at least six months of practical cabling experience, they were issued with a cabling licence.

A cabling licence was required to undertake telecommunications cabling work beyond the carrier's network boundary. The carrier retained responsibility for their network cabling and the carrier's technicians working on the customer's side of the carrier's network boundary were also required to hold cabling licences.

To obtain the equivalent of today's Open registration, candidates were required to complete an eight-week training course comprising four modules. These modules were delivered by TAFE colleges and included both theoretical and practical training. At the completion of the course, candidates were required to pass an examination on the Wiring Rules. In addition, prospective cablers were required to demonstrate that they had undertaken 600 hours of practical cabling work. At that time, the training included 'endorsements' for aerial and underground cabling work. Cablers could voluntarily obtain additional endorsements for optical fibre, Cat 5 (data), and co-axial cabling work.

Training requirements to obtain a cabling registration have significantly reduced over the years. Today, a person is able to obtain an Open cabling registration if they complete a five-day course with a registered training organisation and are able to demonstrate 360 hours of practical cabling work experience. The five-day course includes theoretical and limited practical training, as well as the requirement to pass an examination on the Wiring Rules.

Commencing on 1 July 2014, in recognition of the specialised skills required for cabling in the NBN environment, the holder of an Open registration was required to obtain what are referred to as 'specialised competencies', if they did not already hold the applicable 'endorsement(s)', and they wished to undertake any aerial, underground, structured (data), optical fibre, or co-axial telecommunications customer cabling work.

Having obtained an Open registration, each competency typically takes two-days to complete and cablers are only required to complete training for the competencies where they actually undertake the work. Some providers offer training for three competencies concurrently over a four-day period.

Table 2: Comparisons of training requirements

Training requirements for licence/ open registration	Past	Today
Course duration	8 weeks (circa 2000)	5 days (87.5% time reduction)
Practical experience required	600 hours (circa 2000)	360 hours (40% time reduction)
Structured competency	•	2 days
Optical-fibre competency	•	2 days
Co-axial competency	•	1 day
Aerial competency	•	2 days
Underground competency	•	2 days

Appendix B—Assessment framework and principles

The ACMA's assessment framework

The regulatory assessment framework developed by the ACMA provides a high level, consistent, transparent and flexible tool for assessing potential regulatory design choices that support the government's policy objectives and outcomes.

In summary, the framework involves:

- identifying the regulatory issue and the risks and harms for different stakeholder groups
- considering what regulatory response—or responses—might be appropriate to address the issue given the external policy environment and characteristics of the market and industry
- applying 'implementation filters' to identify appropriate ways of delivering aspects of the proposed regulatory response
- ongoing review in light of changes in the environment and consumer and public interest considerations.

Under the framework, the overall approach is to assess the costs and benefits of the different regulatory responses while taking broader policy considerations into account. This will include an explicit analysis of any risks and incentives. The framework is in line with *The Australian Government Guide to Regulation*[15] that works to ensure that all policy options are carefully assessed, with the aim of cutting red tape and regulation, where appropriate.

The regulatory responses are considered to sit along a 'regulatory continuum' with a market-based response at one end, and direct government regulation at the other. Responses along the continuum, and the market and industry characteristics to which they are suited, are shown in Table 3 and Figure 1 on the following pages.

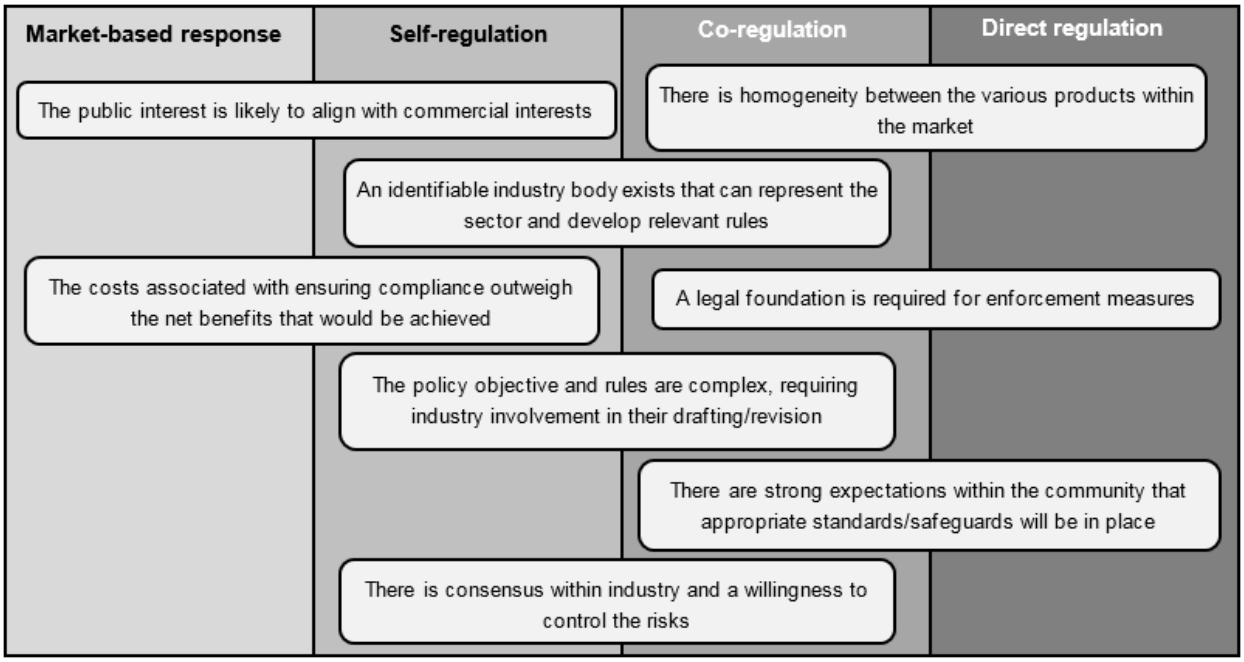
The government may also use non-regulatory responses—either on their own, or in combination with a regulatory response. Non-regulatory responses may include education campaigns, facilitation and regulatory forbearance.

[15] See https://www.cuttingredtape.gov.au/handbook/australian-government-guide-regulation.

Table 3: Regulatory responses along the regulatory continuum

Response	Description	Key elements
Market-based	Relies on market solutions—no regulatory action is required	> Likely to be appropriate where there are no significant public policy concerns > Needs to be a reasonable expectation that the market can deliver any public policy objectives > The cost of imposing the regulatory obligation outweighs the benefit of the public policy objective > Can be supported by non-regulatory tools (for example, education campaigns)
Industry self-regulation	Involves industry voluntarily developing, administering and enforcing its own solution to address a particular issue without any formal oversight from government or legal backstop for enforcement	> Needs a strong alignment between industry interests and the stated public interest or value outcome > Often involves a combination of other regulatory design options
Co-regulation	Involves government and industry sharing the regulatory role, with industry typically developing and administering its own arrangements (such as codes of practice) and government providing the underpinning legislation to enforce it	> Required where the public interest is unlikely to be fully addressed by industry alone
Direct regulation	Involves the greatest amount of intervention by the regulator, where black letter law arrangements are regarded as necessary to support policy objectives	> Often appropriate where clear obligations are required that do not need to be readily adjusted to reflect market developments > Can be supported by a range of non-regulatory tools

Figure 1: Market and industry characteristics suitable for each regulatory response



ACMA Review principles

The ACMA Review identified two sets of principles.[16] Firstly, there are high-level intervention principles that guide decisions about when and how governments should intervene in the market. Secondly, where it is decided that regulation is the appropriate form of intervention, a set of regulatory design principles are proposed to help guide the way regulation is used. These are outlined below.

High-level intervention principles

- The role of government is to facilitate competitive market environments as the primary mechanism for achieving public policy goals and then to intervene further only where clear evidence exists of market failure, or if a public policy goal is unlikely to be delivered by the market.
- When government intervenes in the market, it should be done in such a way as to impose the minimum cost in order to achieve the public policy goals. Such interventions should produce benefits that outweigh the costs, including costs imposed on industry (compliance), government (enforcement) and consumers (reduced innovation, choice or competition).
- When market interventions are necessary, a number of regulatory tools should be considered—policy makers should not rely exclusively on 'black letter' regulation but also consider other options such as direct and co-investment (for example NBN, Screen Australia and the Mobile Black Spot Program), contracted service delivery (Universal Service Obligation and National Relay Service), indirect funding (tax incentives) and facilitation and education programs.

[16] ACMA Review, page 87.

- Government intervention should be considered from a system-wide view of the interdependence, interconnectivity and feedback relationships between different parts of the communications sector and other sectors in the economy.

Regulatory design principles

- Regulation should establish rules that are clear, simple and practical for all users and that have a sound legal and empirical base.
- Regulation should be competitively neutral such that it achieves parity of treatment of similar services regardless of the underlying medium or device used to deliver or receive the service, unless there are clearly articulated and compelling reasons to do otherwise.
- Regulation should promote the greatest practical use of co-regulation and self-regulation.
- Enforcement frameworks in legislation should provide remedies that are proportionate to the nature of the relevant breach.