

**Baker
McKenzie.**

Review into consumer energy resources technical standards



2023

This document has been prepared for the Australian Energy Market Commission. You should not rely on the contents. It is not legal advice and should not be regarded as a substitute for legal advice. To the fullest extent allowed by law, Baker & McKenzie excludes all liability (whether arising in contract, for negligence or otherwise) in respect of all and each part of this document, including without limitation, any errors or omissions.

This document is current as at April 2023 unless indicated otherwise.

Table of Contents

| | |
|---|----|
| Executive Summary | 1 |
| 1. Background | 1 |
| 2. Jurisdictional frameworks applying to CER technical standards..... | 1 |
| 3. Multiple stakeholders | 2 |
| 4. Structure | 3 |
| Part A - Summary of regulatory frameworks | 4 |
| 1. Framework summary | 4 |
| Summary 1 – Jurisdictional frameworks..... | 5 |
| Summary 2 – Stage of supply chain..... | 24 |
| Part B – Overview of regulatory frameworks | 29 |
| 1. Section overview | 29 |
| 2. Application of Australian standards | 29 |
| 3. National Electricity Law and National Energy Retail Law | 29 |
| 4. Commonwealth..... | 33 |
| 5. State and territories | 40 |
| 6. Other relevant regulatory frameworks | 72 |
| Glossary | 77 |
| Contacts | 79 |

Executive Summary

1. Background

- 1.1 In Australia, there is an increasing uptake of DER, which refers to behind-the-meter energy sources including rooftop solar PV, battery storage systems and electric vehicles. Consumer energy resources (or CER)¹ refers to DER which is owned and operated by households. In the context of rapid growth of CER installation in Australian households, the AEMC has recognised the importance of technical standards relating to performance and interaction of CER devices, in particular in the context of ensuring the security, reliability and affordability of power supply in the NEM.
- 1.2 On 25 February 2021, the AEMC made a final rule to introduce technical standards applicable to CER into the NER and the NER (NT). This rule incorporates the requirements set out in Australian Standard AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) as in force from time to time into the NER and NER (NT).
- 1.3 The AEMC is currently undertaking a review into the implementation of CER technical standards in the NEM, in particular in relation to:
 - (a) compliance and enforcement of CER technical standards in the NER;
 - (b) NEM participants' and other relevant stakeholders' interpretation of CER technical standards; and
 - (c) the interaction between the NER and other regulatory regimes requiring compliance with CER technical standards.
- 1.4 The AEMC has engaged Baker McKenzie to support its current review into CER technical standards. We have been requested to outline the current regulatory frameworks and arrangements in each state, territory and the Commonwealth in relation to compliance and enforcement of CER technical standards and the roles and responsibilities of relevant regulatory bodies.

2. Jurisdictional frameworks applying to CER technical standards

- 2.1 The implementation of technical standards relating to CER span across a number of state, territory and Commonwealth regulatory frameworks.
- 2.2 Understanding the existing regulatory framework for CER technical standards is challenging due to the differing jurisdictional frameworks and technical regulators and a lack of clarity as to how such frameworks interact. Further, the number of stakeholders involved at different stages of the CER lifecycle influences compliance and the complexity of the existing framework.
- 2.3 In summary:
 - (a) The NER and NER (NT) require DNSPs to impose minimum content requirements to model standing and any other connection offers and negotiated connection contracts, requiring owners, controllers and operators of CER to comply with Australian Standard AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) as a condition of connection of their system. Under the National Energy Retail Rules, a DNSP must also publish information on its website regarding safety and technical requirements applicable under energy laws to small generators, including owners, operators and controllers of CER. The AER's key role in enforcement of AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) is ensuring that model standing connection offers require compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters -

¹ The terms "consumer energy resources" and / or "CER" will be used throughout this document for consistency with the consultation paper for the AEMC's review into consumer energy resources technical standards and given the focus of the AEMC's review is on consumer outcomes from DER.

Inverter requirements) and similarly, that DNSPs have imposed such condition pursuant to other connection offers and negotiated connection offers;

- (b) At the Commonwealth level, the Clean Energy Regulator oversees the Small scale Renewable Energy Scheme and STCs, which cannot be created with respect to small generation units unless the installer provides a written statement that the model of inverter used in installation complied with the same standard, AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). This requirement interacts with the list of approved products maintained by the Clean Energy Council; it is a requirement that components of a system such as PV modules or inverters are listed on the CEC list of approved products, in order for the system to be eligible for STCs after installation;
- (c) The electrical safety legislation applying in each state or territory primarily regulates the installation and maintenance of CER (pursuant to regulation of electrical installations more generally), requiring contractors carrying out such work to ensure it complies with standards prescribed by the regulations. For example, the Wiring Rules (AS 3000:2018 (Electrical installations)) are implemented in all state and territory frameworks. The NER technical standard AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) is only implemented as a direct mandatory compliance obligation in South Australia, Tasmania and Western Australia. However, the AS 4777 series (Grid connection of energy systems via inverters) is indirectly implemented in all states and territories via AS 3000:2018 (Electrical installations) (Wiring Rules) which requires electrical installations such as connection of systems via inverters and the method of connection to be compliant with the AS 4777 series (Grid connection of energy systems via inverters). The state and territory frameworks also extend some obligations to owners of CER or occupiers of premises where CER is being installed in respect of ensuring compliance with technical and safety requirements;
- (d) For jurisdictions that have implemented the EESS, manufacturers, importers and suppliers must ensure compliance with standards which are regulated to apply to CER. Queensland, Western Australia, Victoria and Tasmania are signatories to the relevant Inter-governmental Agreement governing the EESS, and have or are in the process of implementing the EESS. Legislation in Tasmania and Northern Territory has been enacted, but has not yet come into effect and Western Australia has committed to implementing the EESS, but has not yet done so by law although has imposed requirements that are consistent with or refer to the EESS. In New South Wales (which has not indicated an intention to adopt the EESS), regulation of manufacturers, importers and suppliers in respect of compliance with standards is governed under the electrical safety legislation;
- (e) Northern Territory and Tasmania are reforming their electrical safety laws. In Northern Territory, the new consolidated legislation will commence either by proclamation or otherwise on 1 November 2023 and will adopt the EESS, provide for a single Electrical Safety Regulator and establish an electrical safety inspectorate, which has been given powers of entry. In Tasmania, the new consolidated legislation will amend the provisions of the existing *Electricity Supply Industry Act 1995* (Tas) and repeals the *Electricity Industry Safety and Administration Act 1997* (Tas) to remove duplication and modernise electricity safety laws in Tasmania; and
- (f) In general, state and territory based technical regulators have broad enforcement powers to investigate, request information, inspect and enter premises for the purposes of monitoring compliance and enforcement. Penalties for non-compliance include infringements and penalties attracting penalty units or prison (for individuals).

3. Multiple stakeholders

- 3.1 As identified in the consultation paper for the AEMC's review into consumer energy resources technical standards, there are a number of roles and responsibilities played by a range of stakeholders in the lifecycle of CER devices, such as:

- (a) manufacturing by original equipment manufacturers, who are responsible for the design and manufacture of CER in addition to the provision of instructions and information to installers and customers and maintenance of control capabilities, security certificates and protocols;
- (b) importers and wholesalers of CER, who import CER manufactured overseas, and who sell to Australian retailers;
- (c) installation of CER devices by installers, who commission equipment and close out the connection process and have relevant safety reporting obligations;
- (d) certification of CER devices by relevant bodies, including jurisdictional regulators;
- (e) use of CER devices by customers, who are required to comply with connection agreements;
- (f) operation of distribution networks by DNSPs to which CER devices are connected; and
- (g) enforcement of both mandatory and voluntary regulatory regimes relating to CER devices by responsible regulators.²

3.2 The various number of stakeholders can also contribute to the complexity of the framework and risk of non compliance, due to uncertainty regarding division of responsibility for compliance.

4. Structure

4.1 The structure of this document is set out as follows:

- (a) **Part A:** Table summary of regulatory frameworks; and
- (b) **Part B:** Overview of regulatory frameworks.

² AEMC, *Review into consumer energy resources technical standards* (Consultation paper, 29 September 2022).

Part A - Summary of regulatory frameworks

1. Framework summary

- 1.1 This section contains the following summaries of the regulatory frameworks applicable to CER technical standards:
 - (a) **Summary 1** - A table summarising the jurisdictional frameworks applying in each State and Territory and at the Commonwealth level; and
 - (b) **Summary 2** - A table summarising the relevant requirements at each stage of the supply chain.
- 1.2 Refer to Part B for further detail.

Summary 1 – Jurisdictional frameworks

The table below summarises the jurisdictional frameworks applying in each State and Territory and at the Commonwealth level.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|--|--------------------------------|--|
| National Electricity Law and National Energy Retail Law | | | |
| National Electricity Rules; National Electricity Rules (Northern Territory) | | | |
| DNSPs and consumers | DNSPs must: <ul style="list-style-type: none"> include an obligation in their model standing connections offers that new or replacement <i>embedded generated units</i> must comply with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements); inform a customer that the <i>embedded generating unit</i> needs to be compliant with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements); ensure a connection offer to a person currently or proposing to own, control or operate an <i>embedded generating unit</i>, contains a requirement that the <i>embedded generating unit</i> is compliant with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements); and include as terms and conditions of the connection agreement each provision in | All types of CER. ³ | Regulatory authority Australian Energy Regulator (noting the AEMC and AEMO also play various roles in the National Electricity Market) Tools to monitor compliance <ul style="list-style-type: none"> DNSP model standing offer requires approval from AER. Range of general powers to support the exercise of AER's powers and functions, including investigative and information gathering powers. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> AER may not approve model standing offer and must give DNSP written reasons for its decision. DNSP must re-submit the proposed model standing offer with appropriate amendments as soon as reasonably practicable. Penalties for non-compliance with a civil penalty provision (noting that the NER and NER (NT) obligations relating to CER technical standards are not civil penalty provisions). |

³ *Embedded generating unit* means a generating unit (i.e. plant used in the production of electricity and all related equipment essential to its functioning as a single entity) connected within a distribution system and not having direct access to the transmission network. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|--------------------------------|---|
| | <p>Schedule 5.3 of the NER that is expressed as an obligation on a "Network User" and an obligation to comply with each agreed performance standard. This includes an obligation on customers to ensure that all electrical plant in their facility complies with relevant Australian Standards.</p> <p>Consumers must comply with the various requirements set out above as a condition to connection of CER.</p> | | |
| National Energy Retail Rules | | | |
| DNSPs and consumers | <ul style="list-style-type: none"> DNSPs must publish information on their website about the safety and technical requirements applicable under energy laws to small generators or owners, operators or controllers of small generators, which includes the AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) requirement under the NER and NER (NT), together with other applicable technical standards. The model terms and conditions for deemed standard contracts under the NERR require consumers who have a small generator to comply with applicable standards in operating and maintaining the generator when it uses supply services under the connection contract. | All types of CER. ⁴ | <p>Regulatory authority Australian Energy Regulator</p> <p>Tools to monitor compliance</p> <ul style="list-style-type: none"> Investigative powers. Range of powers to support the exercise of AER's powers and functions, including information gathering powers. <p>Enforcement and penalties / Remedies for non-compliance</p> <ul style="list-style-type: none"> Penalties for non-compliance with a civil penalty provision (noting that these obligations on DNSPs are not civil penalty provisions). |

⁴ Small generator means a generating unit of the kind contemplated by AS 4777. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|--|--|
| Commonwealth | | | |
| <i>Renewable Energy (Electricity) Act 2000 (Cth); Renewable Energy (Electricity) Regulations 2001 (Cth)</i> | | | |
| Installers and customers | <ul style="list-style-type: none"> The person entitled to create certificates for the unit must have obtained (if the system uses an inverter and is a grid-connected power system) a written statement by the installer that when the unit was installed, the model of inverter used in installation complied with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). The customer will be the person entitled to create certificates for the unit (i.e as the owner of the unit at the time of installation) unless the right to create certificates has been otherwise assigned to another party. CER used to create STCs must be on the Clean Energy Council's 'approved products list' (a list of compliant inverters and power conversion equipment that are approved for installation under the Small-scale Renewable Energy Scheme). Products on the list must meet AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) (amongst others). | <p>CER that generates electricity with energy source of hydro, wind or solar PV.⁵</p> <p>Specific requirements for certain types of equipment e.g. solar water heaters.</p> | <p>Regulatory authority</p> <p>Clean Energy Regulator (noting the Clean Energy Council maintains the 'approved products list').</p> <p>Tools to monitor compliance</p> <p>Clean Energy Regulator:</p> <ul style="list-style-type: none"> Require manufacturers and importers to provide serial numbers for all inverters or photovoltaic modules used in installation of CER. General investigative powers (including for authorised officers) such as power to inspect, obtain information, audit and monitoring. <p>Clean Energy Council:</p> <ul style="list-style-type: none"> Require independent certification. Random testing. <p>Enforcement and penalties / Remedies for non-compliance</p> <p>Clean Energy Regulator:</p> <ul style="list-style-type: none"> Declaration in writing that model of an inverter or photovoltaic module is not eligible for use in installation of CER. |

⁵ A small generation unit is defined as a device that generates electricity and as specified in the RE Regulations, includes:

- (a) a device whose energy source is hydro if it has a kW rating of no more than 6.4 kW and generates no more than 25 MWh of electricity each year;
- (b) a device whose energy source is wind if it has a kW rating of no more than 10 kW and generates no more than 25 MWh of electricity each year; and
- (c) a device whose energy source is solar (photovoltaic) if it has a kW rating of no more than 100 kW and generates no more than 250 MWh of electricity each year.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|---|--------------------------------|---|
| | <ul style="list-style-type: none"> Mandated compliance with specific requirements in respect of certain types of equipment, for example, solar water heaters must receive device product certifications by an accredited body in accordance with AS 2712:2007 (Solar and heat pump water heaters - Design and construction) in order to be considered a solar water heater under the RE Act. | | <ul style="list-style-type: none"> Suspension of registration of entity entitled to create certificates. Issue of civil penalty orders or penalty charges. <p>Clean Energy Council:</p> <ul style="list-style-type: none"> If random testing identifies a non-compliance, the CEC may undertake a number of steps such as suspension or removal of a listing and / or all other device model numbers relating to a manufacturer or applicant until compliance is verified, notifying the Clean Energy Regulator, state electrical authorities and / or the industry and / or refusing to process a new application until satisfactory corrective actions undertaken. |
| Australian Consumer Law | | | |
| Manufacturers, retailers and installers | <ul style="list-style-type: none"> CER technical standards are not mandated in the ACL. However, non compliance with an applicable Australian Standard may evidence a breach of the consumer guarantees contained in the ACL. | All types of CER. ⁶ | <p>Regulatory authority</p> <p>Australian Competition and Consumer Commission</p> <p>Tools to monitor compliance</p> <ul style="list-style-type: none"> General powers including to seek an injunction, apply to the court for an order requiring disclosure or publication of specified information and issuance of a public warning notice where there is a public interest. ACCC may bring a claim for non-compliance on behalf of a consumer, with the consumer's written consent. |

⁶ The consumer guarantees under the ACL apply to transactions for the supply of goods or services to a consumer. Goods include gas and electricity and any component part of, or accessory to gas or electricity and services cover a contract for or in relation to the performance of work whether with or without the supply of goods. A person is a consumer under the ACL if they have acquired goods or services that do not exceed \$40,000 or are ordinarily acquired for personal, domestic or household use or consumption. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|--------------------------------|--|
| | | | Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> • Offences for non-compliance with consumer guarantees. • Various remedies including for example, requiring supplier to remedy failure within a reasonable time and if not, the right to have the failure remedied and all reasonable costs recovered or claiming damages against manufacturer (in the case of goods). |
| New South Wales | | | |
| <i>Gas and Electricity (Consumer Safety) Act 2017 (NSW); Gas and Electricity (Consumer Safety) Regulation 2018 (NSW)</i> | | | |
| Installers and maintenance service providers | <ul style="list-style-type: none"> • Article of electrical equipment/ CER must comply with AS 3820:2009 (Essential safety requirements for electrical equipment). • Electrical installation work must be carried out in accordance with AS 3000:2018 (Electrical installations) (Wiring Rules) and comply with AS 3000:2018 (Electrical Installations) (Wiring Rules) before energised. • Free-standing electrical installation must not be energised unless the stand-alone power system to which it is to be connected complies with the requirements for such systems specified in AS 4509.1:2009 (Stand-alone power systems – Safety and installation). | All types of CER. ⁷ | Regulatory authority NSW Fair Trading Tools to monitor compliance <ul style="list-style-type: none"> • Investigative powers. • Seize and remove CER which do not meet compliance requirements. • Regular inspection of electrical goods being sold, power to issue search warrants to investigate unsafe equipment. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> • Require evidence of carrying out safety testing of electric or gas articles. |

⁷ Electrical installation means any fixed appliances, wires, fittings, meters, apparatus or other electrical equipment used for (or for purposes incidental to) the conveyance, measuring, control and use of electricity in a particular place, but does not include, amongst other exclusions not relevant to CER, any electrical equipment operating at not more than 50 volts alternating current or 120 volts ripple-free direct current. Accordingly, the definition of 'electrical installation' broadly covers CER.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|--|---|---|
| | | | <ul style="list-style-type: none"> Perform checks on electrical articles if they are under reasonable grounds that an electrical or gas article is likely to become unsafe. Offences for non-compliance, including related to providing misleading information or supplying unapproved, unmarked or non-complaint declared electrical articles. Penalties ranging from infringement notices to imprisonment for non-compliance. |
| Victoria | | | |
| <i>Electricity Safety Act 1998 (Vic); Electricity Safety (General) Regulations 2019 (Vic)</i> | | | |
| Installers and maintenance providers Owners/occupiers of properties | <ul style="list-style-type: none"> Installation and maintenance, repair of an electrical installation in accordance with AS 3000:2018 (Electrical installations) (Wiring Rules). Electrical work on a photovoltaic array must be tested in accordance with AS 5033:2021 (Installation and safety requirements for photovoltaic (PV) arrays). If electrical installation work includes the installation or alteration of a high voltage electrical installation, the licensed electrical installation worker carrying out that work must ensure that the electrical installation work is tested in accordance with AS 2067:2016 (Substations and high voltage installations) | All types of CER. ⁸ There are specific requirements for photovoltaic and battery systems. | Regulatory authority Energy Safe Victoria Tools to monitor compliance <ul style="list-style-type: none"> Investigative powers, including powers of entry to investigate electric incident, confirming compliance with the relevant legislation or regulations. Enforcement officer enter residence or land to inspect CER. Require information or documents. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> Energy Safe Victoria power to prohibit supply of electrical equipment if it does not meet relevant standard or the electrical equipment is likely to be unsafe under the <i>Electricity Safety Act 1998 (Vic)</i>. |

⁸ Electrical installation means electrical equipment that is fixed or to be fixed in, on, under or over any land but does not include a part of a supply network, subject to certain exclusions which are not relevant. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|--------------------------------|--|
| | <p>exceeding 1 kV a.c.). AS 2067:2016 (Substations and high voltage installations exceeding 1 kV a.c.) requires that electrical installation work must be tested against AS 3000:2018 (Electrical installations) (Wiring Rules).</p> <ul style="list-style-type: none"> A battery system must be installed, altered, repaired or maintained in accordance with AS 5139:2019 (Electrical installations - Safety of battery systems for use with power conversion equipment). If electrical installation work includes electrical work on a battery system, the relevant licensed electrical installation worker is required under the regulation to ensure that the electrical installation work is tested in accordance with AS 3000:2018 (Electrical Installations) (Wiring Rules) to verify that the installation work complies with AS 5139:2019 (Electrical installations - Safety of battery systems for use with power conversion equipment). | | <ul style="list-style-type: none"> Offences for non-compliance, including refusing to provide enforcement officer with information or installing an electrical system known to be unsafe. |
| Essential Services Commission Act 2001 (Vic); Electricity Industry Act 2000 (Vic); Electricity Distribution Code of Practice (Victoria) | | | |
| DNSPs and consumers | <ul style="list-style-type: none"> Where a connection application has been made by a <i>small embedded generator</i>, a DNSP must comply with its obligations under the NER in | All types of CER. ⁹ | <p>Regulatory authority</p> <p>Essential Services Commission</p> |

⁹ *Small embedded generating unit* means an *embedded generating unit* (i.e a generating unit connected to a distribution system) that is connected at a point of connection which, when aggregated with any other *embedded generating units* connected at that point of connection have a power transfer capability of not more than 30kVA in total. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|---------------------------------|---|
| | <p>responding to the connection application, including making a connection contract. Specifically, a DNSP must comply with its obligations relating to connection of <i>embedded generating units</i> under Chapter 5, Part B and Chapter 5A of the NER. Consumers must comply with the various requirements set out in the connection documentation as a condition to connection of CER.</p> <ul style="list-style-type: none"> DNSPs must publish information on their website about the safety and technical requirements applicable under electricity laws to <i>small embedded generators</i> and <i>small embedded generating units</i>, which includes the AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) requirement under the NER and NER (NT), together with other applicable technical standards under Victorian state law. | | <p>Tools to monitor compliance</p> <ul style="list-style-type: none"> General information gathering powers and inspection powers. <p>Enforcement and penalties / Remedies for non-compliance</p> <ul style="list-style-type: none"> Terms and conditions for distribution or supply of electricity to retail customers must be approved by the Essential Services Commission and must not be inconsistent with the Electricity Distribution Code of Practice. A number of functions and powers, including in relation to compliance and enforcement. |
| South Australia | | | |
| <i>Electricity Act 1996 (SA); Electricity (General) Regulations 2012 (SA); Electricity Distribution Code (SA); Technical Regulator Guidelines</i> | | | |
| Designers Installers | <ul style="list-style-type: none"> Design, installation, operation, and maintenance must comply with AS 3000:2018 (Electrical | All types of CER. ¹⁰ | <p>Regulatory authority</p> <p>The Technical Regulator, in conjunction with the Essential Services Commission (SA)</p> |

¹⁰ Electrical installation means a set of wires and associated fittings, equipment and accessories installed in a place for the conveyance, control, measurement or use of electricity that is, or is to be, or has been, supplied for consumption in the place, including anything declared by regulation to be or form part of an electrical installation, subject

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|----------------------------------|---|
| Other electrical work service providers Owners and operators of CER Technical Regulator Guidelines applies to manufacturers, DNSPs, retailers and installers. | <p>installations) (Wiring Rules) and its related standards.</p> <ul style="list-style-type: none"> If the electrical installation is, or will be, connected to the distribution network, it must comply with the rules established by the operator of that network, including compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). Electrical installations which fall within the scope of AS 3000:2018 (Electrical Installations) (Wiring Rules) (and its related standards) are required to be examined and tested in accordance with AS 3000:2018 (Electrical Installations) (Wiring Rules) (and its related standards). Electricity Distribution Code defines a 'small embedded generator' as owning, operating or controlling an embedded generating unit that complies with the requirements of AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). Technical Regulator Guidelines require all exporting solar systems to be capable of receiving and adhering to site export limits via IEEE 2030.5: 2018 (Standard for Smart Energy Profile Application Protocol) using the Common Smart Inverter Profile – Australia 'CSIP-AUS'. | Specific requirements for solar. | <p>Tools to monitor compliance</p> <ul style="list-style-type: none"> Power to request information. Enforcement officer enter residence or land to inspect CER. <p>Enforcement and penalties / Remedies for non-compliance</p> <ul style="list-style-type: none"> Offences for non-compliance, including refusing to provide enforcement officer with information or installing an electrical system known to be unsafe. The Technical Regulator may issue Warning Notices, apply for injunctions, and issue Enforcement Notices. |

to certain exclusions which are not relevant (although it is possible for anything to be declared not to be a declared installation under a regulation). Electrical installation therefore broadly covers CER.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|---------------------------------|--|
| Queensland | | | |
| <i>Electricity Act 1994 (Qld); Electrical Safety Act 2002 (Qld); Electricity Regulation 2006 (Qld); Electrical Safety Regulation 2013 (Qld)</i> | | | |
| Installers Other electrical work service providers Retailers/sellers of CER. Owners and occupiers of premises. | <ul style="list-style-type: none"> Installation and maintenance, repair of an electrical installation in accordance with AS 3000:2018 (Electrical installations) (Wiring Rules). Sale of certain electrical equipment will need to meet the safety criteria set out in AS 3820:2020 (Essential safety requirements for electrical equipment) in order to sell electrical equipment. Sale of "In-scope electrical equipment" (low voltage electrical equipment for household, personal or similar use) will need to meet the requirements of AS 4417.2:2018 (Regulatory compliance mark for electrical and electronic equipment), along with other relevant standards. | All types of CER. ¹¹ | <p>Regulatory authority Electrical Safety Office</p> <p>Tools to monitor compliance</p> <ul style="list-style-type: none"> Require information, evidence, or documents. Inspector enter workplace to inspect installation, require production of documents, seize evidence, and seize unsafe equipment. In urgent circumstances involving a serious electrical incident or dangerous electrical event inspectors may enter residential land. <p>Enforcement and penalties / Remedies for non-compliance</p> <ul style="list-style-type: none"> The Electrical Safety Office may apply for injunctions. Offence to supply electrical equipment that fails to meet relevant standards. Offence to fail to install electrical equipment in compliance with relevant standards. Offences for non-compliance, including refusing to provide enforcement officer with information or failure to comply with an improvement notice, failure to comply with a direction. |

¹¹ Electrical installation means electrical wiring or cable used or for use in carrying or controlling electricity (other than electricity with a voltage of not more than 50V a.c. or 120V ripple-free d.c.), including a wiring system, switchgear, control gear, generator, electrical accessory, electrical appliance, or fitting, that is used or for use in the conversion, storage, transmission, distribution, generation or use of electrical energy and connected to wiring or cable, subject to certain exceptions which are generally not relevant. Electrical installation therefore broadly covers CER.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|--|---------------------------------|--|
| Australian Capital Territory | | | |
| <i>Electricity Safety Act 1971 (ACT)</i> | | | |
| Installers Other electrical work service providers Sellers/retailers of CER. Owners and occupiers of premises with CER installations are also subject to obligations. | <ul style="list-style-type: none"> Electrical wiring work must comply with AS 3000:2018 (Electrical installations) (Wiring Rules). Electrical wiring work must be tested in accordance with AS 3017:2007 (Electrical installations - Verification guidelines). Sale or installation of electrical equipment must meet minimum safety standards for articles of electrical equipment in accordance with AS 3820:2020 (Essential safety requirements for electrical equipment). | All types of CER. ¹² | Regulatory Authority Construction Occupations Registrar Tools to monitor compliance <ul style="list-style-type: none"> Investigative powers, including powers of entry, powers to seize evidence where connected to an offence, powers to inspect electrical wiring work, confirming compliance with applicable legislation. Powers to give directions to rectify unsafe installations. Require information or documents. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> Offence to fail to take all reasonable steps to comply with the requirement to provide an inspector reasonable help. Offences for non-compliance, including refusing to provide enforcement officer with information or failing to comply with directions about unsafe articles or installations of electrical equipment. |

¹² Electrical installation means electrical wiring or cable used or for use in carrying or controlling electricity (other than electricity with a voltage of not more than 50V a.c. or 120V ripple-free d.c.), including a wiring system, switchgear, control gear, generator, electrical accessory, electrical appliance, or fitting, that is used or for use in the conversion, storage, transmission, distribution, generation or use of electrical energy and connected to wiring or cable. This broadly covers CER (and associated wiring / cabling). This is subject to certain exclusions, including (relevantly) that an electrical installation does not include a portable generator or storage device. Electrical installation therefore broadly covers CER where electricity is consumed on the premises.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|---|---|
| Tasmania | | | |
| <i>Electricity Supply Industry Act 1995 (Tas); Tasmanian Electricity Code; Electricity Industry Safety and Administration Act 1997 (Tas); noting the Electricity Safety Act 2022 (Tas) will consolidate the Tasmanian framework once in force</i> | | | |
| Installers Other electrical work service providers Owners and occupiers of premises with CER | <ul style="list-style-type: none"> Systems (being a solar, wind or water power generating system) must comply with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) (or otherwise is approved by the distributor) in order to qualify for the feed-in tariff. Compliance with AS 4417.2:2020 (Regulatory compliance mark for electrical and electronic equipment) for electrical articles prescribed by legislation. Legislation incorporates definitions from AS 3000:2018 (Electrical installations) (Wiring Rules). | All types of CER. ¹³ Solar, wind or water power generating systems ¹⁴ are eligible for feed-in tariff. | Regulator Tasmanian Economic Regulator (regulator to become the Director of Electricity Safety once the <i>Electricity Safety Act 2022 (Tas)</i> comes into effect) Tools to monitor compliance <ul style="list-style-type: none"> Enforcement officer enter residence or land to inspect CER. General investigative powers, including power to take possession of any object that may be evidence of an offence. Power to require information. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> Offences for non-compliance, including refusing to provide enforcement officer with information or failure to comply with a direction, order, determination, or requirement. Failure to comply with recall requirements. |

¹³ Electrical installation means a set of wires and associated fittings, equipment and accessories that forms part of a power system and includes a set of wires and associated fittings, equipment and accessories in premises to which a power system is connected. This broadly covers CER.

¹⁴ A system is a qualifying system for the purposes of feed-in tariff if it is for the generation of electricity by solar, wind or water power and complies with AS 4777 or, if it does not comply with AS 4777, is approved, before the transition day, by the distributor in respect of the premises at which the system is installed. The system must have the relevant total generation capacity in relation to the premises and must not be a member of a class of systems that are prescribed by the regulations not to be qualifying systems.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|---|---|--|
| Northern Territory | | | |
| <i>Electricity Reform Act 2000 (NT)</i>; noting the <i>Electrical Safety Act 2022 (NT)</i> will consolidate the Northern Territory framework once in force | | | |
| Designers Installers Other electrical work service providers Owners and operators of CER The new <i>Electrical Safety Act 2022</i> expands upon the safety obligations of electricity entities and introduces a | <ul style="list-style-type: none"> Electrical installations must comply with AS 3000:2018 (Electrical Installations) (Wiring Rules) and any other Australian Standard called up by AS 3000:2018 (Electrical installations) (Wiring Rules). | All types of CER where electricity is consumed on the premises. ¹⁵ | Regulator Electrical Safety Regulator Tools to monitor compliance <ul style="list-style-type: none"> Power to request information. Powers of entry and general investigative powers, including the ability to examine and test electrical installations, take copies of documents or photographs or video records, and seize electrical equipment reasonably believed to be connected to an offence. Power to disconnect electricity supply. Power to make installation safe. Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> Offences for non-compliance, including non-compliance with technical and safety requirements under regulations and failure to comply with directions. Under the <i>Electrical Safety Act 2022 (NT)</i>, offences are split into three categories for failure to comply with an electrical safety duty. A category 1 offence is the most serious. |

¹⁵ Electrical installation means; (a) under the *Electricity Reform Act 2000 (NT)*: a set of wires and associated fittings, equipment and accessories installed in a place for conveying, controlling, measuring or using electricity that is, or is to be, or has been, supplied for consumption; and (b) under the *Electrical Safety Act 2022 (NT)*: consists of a group of items of electrical equipment that are permanently electrically connected together and can be supplied with electricity from the electricity infrastructure of an electricity entity or from a generating source. An item of electrical equipment may form part of more than one electrical installation. Electrical equipment includes any apparatus, appliance, cable, conductor, fitting, insulator, material, meter or wire that is used for controlling, generating, supplying or transforming or transmitting electricity. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|---------------------------------|---|
| legal obligation on anyone that can impact the electrical safety of others. | | | Category 3 involves a failure to comply with an electrical duty, category 2 involves intentional conduct risking death, serious injury or serious illness caused or originating from electricity, and category 1 mirrors category 2, with the added proviso that the person contravening is reckless in relation to the risk of resultant harm. |
| Western Australia | | | |
| <i>Electricity Act 1945 (WA); Electricity Regulations 1947 (WA); Electricity (Licensing) Regulations 1991 (WA); WA Electrical Requirements</i> | | | |
| Installers Other electrical work service providers | Installers / electrical work service providers must comply with various prescribed Australian Standards. ¹⁶ | All types of CER. ¹⁷ | Regulator Director of Energy Safety Tools to monitor compliance <ul style="list-style-type: none"> The Director of Energy Safety has the power to enter, inspect, examine land, request information, prohibit unsafe things or things that don't conform with legislative requirements and disconnect energy supply. |

¹⁶ AS/NZS 3190:2016, concerning approval and test specific for residual current devices; AS 4741-2010, concerning the measurement of voltage on the neutral conductor of a consumer's installation; AS/NZS 3000:2018 (Australian / New Zealand Wiring Rules); AS/NZS 3008.1.1:2009, concerning selection of cables - Cables for alternating voltages up to and including 0.6/1kV — Typical Australian installation conditions; AS 3011.1-1992, concerning the installation of vented secondary batteries permanently installed in buildings.; AS 3011.2-1992, concerning the installation of sealed secondary batteries permanently installed in buildings; AS 4086.1-1993, concerning the general requirements for secondary batteries for use with stand-alone power systems; AS/NZS 4509.1:2009, concerning the safety and installation of stand-alone power systems; AS 4777.1-2005, concerning the installation requirements for grid connection of energy systems via inverters; AS 4777.2-2005, concerning the inverter requirements for grid connection of energy systems via inverters; AS 4777.3-2005, concerning the grid protection requirements for grid connection of energy systems via inverters; AS/NZS 5033:2015, concerning the installation of photovoltaic (PV) arrays; AS/NZS 2067:2008, concerning substations and high voltage installations; AS/NZS 3010:2005, concerning the electrical installation of generating sets; AS 4509.1:2009, concerning the safety and installation of stand-alone power systems; and AS/NZS 7000:2010, concerning the procedures for overhead line design.

¹⁷ Installation includes all wiring, wiring enclosures, switch gear, control and protective gear, appliances, and other components permanently connected to or associated with the wiring, on premises to which electricity is or is intended to be supplied through distribution works, and where electricity is supplied from a private generating plant includes that plant. This broadly includes CER.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|---|--|
| | | | Enforcement <ul style="list-style-type: none"> • Offence for obstruction of inspectors or failure to comply with orders. • Offences for non-compliance with the regulations, including non-compliance with applicable standards. • Offences for failure to design, carry out, and supervise electrical installations to be safe and comply with specified requirements. • Offence for failure to notify and prepare electrical safety certificates in relation to notifiable work (being electrical installing work other than specified maintenance and other activities). |
| Western Power Technical Rules; Western Power Basic Embedded Generator Connection Technical Requirements; Western Australian Service and Installation Requirements | | | |
| Installers Other electrical work service providers | Installers / electrical work service providers must comply with various prescribed Australian Standards. ¹⁸ Users must ensure compliance as a condition of connection. | Embedded generation connecting to Western Power's low voltage | Regulator Economic Regulation Authority |

¹⁸ AS/NZS 3000:2018 Electrical Installations (Wiring Rules), in respect of network connection and isolation requirements for inverter energy systems, earthing requirements and commissioning and verification; AS/NZS 4777 Grid Connection of Energy Systems via Inverters, in respect of export limits, reconnection requirements, inverter energy system and inverters, network connection and isolation, earthing, inverter integrated protection requirements, Power Quality response, commissioning and verification; AS/NZS 5033 Installation and Safety Requirements for Photovoltaic Arrays, in respect of earthing requirements, commissioning and verification; AS/NZS 5139 Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment, in respect of battery earthing systems; AS IEC 62116 Utility-Interconnected Photovoltaic Inverters – Test Procedure of Islanding Prevention Measures in respect of certification; AS/NZS 61000.3.7:2001 - Electromagnetic Compatibility; AS/NZS 61000.3.6:2001 - Electromagnetic Compatibility; AS/NZS 2067:2016, concerning requirements for the design and erection of high voltage installations; AS/NZS 7000:2016, concerning the procedures for overhead line design; AS/NZS 5139 Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|--|---|
| Users of embedded generation | | distribution network | Tools to monitor compliance <ul style="list-style-type: none"> The regulatory framework affords Western Power the ability to enter User facilities in emergencies, to inspect and to request tests, as well as to direct output of generating units. |
| Horizon Power Technical Rules; Horizon Power Basic Embedded Generator Connection Technical Requirements; Western Australian Service and Installation Requirements | | | |
| Installers Other electrical work service providers Users of embedded generation | Installers / electrical work service providers must comply with various prescribed Australian Standards. ¹⁹ Users must ensure compliance as a condition of connection. | Embedded generation connecting to Horizon Power's low voltage distribution network | Regulator Economic Regulation Authority Tools to monitor compliance <ul style="list-style-type: none"> The regulatory framework affords Horizon Power the ability to enter User facilities in emergencies, to inspect and to request tests, as well as to direct output of generating units. |

¹⁹ AS/NZS 3000:2018 - Electrical Installations (Wiring Rules); AS/NZS 3011 - secondary batteries installed in buildings; AS/NZS 3017 - Electrical installations – Verification guidelines; AS/NZS 3100 Approval and Test Specification – General Requirements for Electrical Equipment; AS/NZS 4777.1 2016 Grid Connection of Energy Systems via Inverters AS/NZS 4777.2 2020 Grid Connection of Energy Systems via Inverters; AS/NZS 5033 Installation and Safety Requirements for Photovoltaic Arrays; AS/NZS 5139 Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment; AS 60947.6.1: 2015 Low-voltage switchgear and controlgear Part 6.1: Multiple function equipment— Transfer switching equipment; and AS IEC 62619:2017 Safety Requirements for lithium cells and batteries. AS/NZS 61000.3.6:2020 - Electromagnetic compatibility (EMC) Limits - Assessment of emission limits for distorting loads in MV and HV power systems; AS/NZS TR IEC 61000.3.7:2012 - Electromagnetic compatibility (EMC) Limits - Assessment of emission limits for the connection of fluctuating installations to MV, HV and EHV power systems; AS/NZS 61000.4.7:2012 - Electromagnetic compatibility (EMC) Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto; AS 2067:2016 - Substations and high voltage installations exceeding 1 kV a.c.; AS/NZS IEC 60479.1:2022 - Effects of current on human beings and livestock General aspects; AS/NZS 4853:2012 - Electrical hazards on metallic pipelines; AS/NZS 1768:2021 - Lightning protection; AS 2344:2016 - Limits of electromagnetic interference from overhead a.c. powerlines and high voltage equipment installations in the frequency range 0.15 MHz to 3000 MHz; and AS 1359.102.1-1997 - Rotating electrical machines - General requirements Methods for determining losses and efficiency – General; AS/NZS 7000:2016, concerning the procedures for overhead line design; and AS/NZS 5139 Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|---------------------------------|--|
| | | | Enforcement <ul style="list-style-type: none"> Key avenue for enforcement is through the connection process and not approving connection if it is not satisfied that the relevant requirements have been complied with. |
| Electrical Equipment Safety System (EESS) | | | |
| Intergovernmental Agreement for the Electrical Equipment Safety System;²⁰ Equipment Safety Rules | | | |
| Manufacturers, wholesale importers and suppliers | <ul style="list-style-type: none"> A relevant standard for a type of level 1 in-scope electrical equipment is the standard that applies specifically to the type together with AS 3820 (Essential safety requirements for electrical equipment). A relevant standard for a type of level 2 or 3 in-scope electrical equipment is the relevant standard for the type shown in AS 4417 (Regulatory compliance mark for electrical and electronic equipment) and the standard that can be readily applied to that type. Low voltage is defined with reference to AS 3000 (Electrical installations) (Wiring Rules). | All types of CER. ²¹ | Regulator Electrical Regulatory Authorities Council (noting the Joint Accreditation System of Australia and New Zealand maintains joint accreditation system for accredited bodies) Tools to monitor compliance <ul style="list-style-type: none"> National registration database containing information relating to in-scope electrical equipment and registration of "Responsible Suppliers" (i.e manufacturers or importers of in-scope electrical equipment into Australia or New Zealand). Regulatory authorities in participating jurisdictions may access information required. Certifier of in-scope electrical equipment may be accredited via an assessment conducted by the JAS-ANZ and recognised under EESS Recognised External Certification Scheme. |

²⁰ The EESS was first adopted in Queensland. Participating jurisdictions in the EESS sign an Intergovernmental Agreement which requires them to either apply *the Electrical Safety and Other Legislation Amendment Act 2011* (Qld) in their jurisdiction or introduce their own law on substantially the same terms. Current signatories to the Intergovernmental Agreement are Queensland, Victoria, Tasmania and Western Australia.

²¹ The EESS applies to in-scope electrical equipment which is low voltage electrical equipment (50V AC to 1000V AC or between 120V DC to 1500V DC) and designed or marketed as suitable for household, personal or similar use. This broadly covers CER (and associated wiring / cabling).

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|--|---|---------------------------------|---|
| | | | Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> • Offences for non-compliance, for example, supplying in-scope electrical equipment that does not meet requirements, failing to produce required records, supply or offering level 2 or 3 in-scope electrical equipment without registration and supplying in-scope electrical equipment without the RCM. • Penalties for breach. |
| New Energy Tech Consumer Code (NETCC) | | | |
| Suppliers and installers | <ul style="list-style-type: none"> • Voluntary participation in the NETCC – an applicant may become an "Approved Seller" if it demonstrates that the requirements of the NETCC are met. This includes ensuring any products are delivered and installed in accordance with "all applicable safety standards, manufacturer's specifications, relevant Australian Standards, Energy network standards and good industry practice." | All types of CER. ²² | Regulator Clean Energy Council Tools to monitor compliance / Enforcement and penalties / Remedies for non-compliance <ul style="list-style-type: none"> • Monitoring powers include undertaking regular compliance audits and reviews of systems, policies and procedures, mystery shopping, assessing customer satisfaction, analysing customer complaints and investigating repeat instances. |

²² New Energy Tech is defined to include:

- small-scale (in-home or small business) products and systems that generate, store or trade energy away from Australia's main transmission and distribution networks or as distributed energy resources connected to a principal energy transmission or distribution network;
- services that support or are closely related to those products and systems;
- products, systems and services that monitor or manage a customer's usage of energy whether on or off an energy network;
- any other product, system and service that the Clean Energy Council is satisfied is appropriately within the NETCC.

New Energy Tech excludes simple, low cost or off-the-shell technology that is within a class exemption made by the Administrator in accordance with the NETCC. The non-exhaustive examples of New Energy Tech include distributed energy resources owned or leased by the customer that are connected to a the network such as solar PV, wind, hydro and bioenergy generators.

| Who must comply (stage of supply chain) | Requirement to comply with CER standards | What type of CER? | Responsible regulatory authority and tools to monitor compliance Enforcement and penalties / remedies for non-compliance |
|---|--|-------------------|--|
| | | | <ul style="list-style-type: none"> • Clean Energy Council to develop and publish Complaints Procedure setting out a process for allegation of breach of the NETCC. • Power to investigate complaints and determine remedial action or sanctions as appropriate for breach of NETCC by signatory. • Require signatory to rectify issues giving rise to breach and train staff to minimise likelihood of repeat breaches. |

Summary 2 – Stage of supply chain

The following table summarises the key regulatory requirements applying to Australian Standards applying at each stage of the supply chain.

| | Stage 1 - Manufacture and supply (includes wholesale / import) | Stage 2 – Installation | Stage 3 – Ongoing operation |
|---|---|---|--|
| National Electricity Rules; National Energy Retail Rules | | <p>DNSPs must require compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) in model standing connections offers, inform customers that <i>embedded generating units</i> must be compliant with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) and include in connection agreements an obligation on customers to ensure that all electrical plant in their facility complies with relevant Australian Standards.</p> <p>DNSPs must publish information on their website about safety and technical requirements applicable under energy laws to small generators or owners, operators or controllers of small generators.</p> <p>Consumers must comply with the various requirements above as a condition to connection of CER.</p> | Ongoing compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) is required as a condition of the relevant connection contract. |
| Commonwealth | <p>RE Regulations require CER used to create STCs be listed on the Clean Energy Council's "Approved Products List" (which requires compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements)).</p> | | |
| | Non compliance with an applicable Australian Standard may evidence a breach of the consumer guarantees contained in the ACL. | | |

| | Stage 1 - Manufacture and supply (includes wholesale / import) | Stage 2 – Installation | Stage 3 – Ongoing operation |
|------------------------|--|--|-----------------------------|
| New South Wales | Legislation regulating consumer safety in relation to gas and electricity requires that CER comply with AS 3820:2009 (Essential safety requirements for electrical equipment). | Legislation regulating consumer safety in relation to gas and electricity prescribes compliance with AS 3000:2018 (Electrical Installations) (Wiring Rules) and AS 4509.1:2009 (Stand-alone power systems – Safety and installation). | |
| Victoria | EESS Equipment Safety Rules require compliance by manufacturers / importers / suppliers with AS 3000 (Electrical installations) (Wiring Rules) AS 3820 (Essential safety requirements for electrical equipment) and AS 4417 (Regulatory compliance mark for electrical and electronic equipment). | Electrical safety legislation prescribes compliance with AS 3000:2018 (Electrical installations) (Wiring Rules), AS 5033:2021 (Installation and safety requirements for photovoltaic (PV) arrays) (applies to work on photovoltaic array), AS 2067: 2016 (Substations and high voltage installations exceeding 1 kV a.c.) (high voltage only) and AS 5139:2019 (Electrical installations - Safety of battery systems for use with power conversion equipment)(applies to battery systems) at the installation and maintenance stage. | |
| | | Electricity Distribution Code (Vic) requires compliance with DNSP obligations under the NER at connection stage. | |
| South Australia | EESS Equipment Safety Rules require compliance by manufacturers / importers / suppliers with AS 3000 (Electrical installations) (Wiring Rules), AS 3820 (Essential safety requirements for electrical equipment) and AS 4417 (Regulatory compliance mark for electrical and electronic equipment). | Electricity legislation prescribes compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). Electrical installations must be designed, installed, operated and maintained in compliance with AS 3000:2018 (Electrical installations) (Wiring Rules). | |
| | | Technical Regulator Guidelines reference IEEE 2030.5:2018 (Standard for Smart Energy Profile Application Protocol) using the Common Smart Inverter Profile – Australia 'CSIP-AUS'. | |
| Queensland | EESS Equipment Safety Rules require compliance by manufacturers / importers / suppliers with AS 3000 (Electrical installations) (Wiring Rules), AS 3820 | Electrical safety legislation prescribes compliance with AS 3000:2018 (Electrical Installations) (Wiring Rules) for installation, maintenance and repair. | |

| | Stage 1 - Manufacture and supply (includes wholesale / import) | Stage 2 – Installation | Stage 3 – Ongoing operation |
|-------------------------------------|---|--|-----------------------------|
| | <p>(Essential safety requirements for electrical equipment) and AS 4417 (Regulatory compliance mark for electrical and electronic equipment).</p> <p>Sale of electrical equipment must meet minimum safety standards in accordance with AS 3820:2020 (Essential safety requirements for electrical equipment).</p> <p>Sale of "In-scope electrical equipment" (low voltage electrical equipment for household, personal or similar use) will need to meet the requirements AS 4417.2:2018 (Regulatory compliance mark for electrical and electronic equipment), along with other relevant standards</p> | | |
| Australian Capital Territory | <p>Sale of electrical equipment must meet minimum safety standards in accordance with AS 3820:2020 (Essential safety requirements for electrical equipment).</p> | <p>Electrical wiring work must comply with AS 3000:2018 (Electrical Installations) (Wiring Rules) and be tested in accordance with AS 3017:2007 (Electrical installations - Verification guidelines). Installation of electrical equipment must meet minimum safety standards in accordance with AS 3820:2020 (Essential safety requirements for electrical equipment).</p> | |
| Tasmania | <p>Current Tasmanian electricity legislative framework requires compliance with AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment). Tasmania has passed the <i>Electricity Safety Act 2022</i> (Tas) to implement the EESS. The EESS Equipment Safety Rules will require compliance by manufacturers / importers / suppliers with AS 3000 (Electrical installations) (Wiring Rules), AS 3820 (Essential safety requirements for electrical equipment) and AS 4417</p> | <p>Current Tasmanian electricity safety legislative framework requires that solar, wind or water power generating systems comply with AS 4777 (Grid connection of energy systems via inverters - Inverter requirements) to be eligible for feed-in tariff. Prescribed electrical articles must also comply with AS 4417.2:2020 (Regulatory compliance mark for electrical and electronic equipment) for electrical articles prescribed by legislation.</p> | |

| | Stage 1 - Manufacture and supply (includes wholesale / import) | Stage 2 – Installation | Stage 3 – Ongoing operation |
|--------------------|---|--|-----------------------------|
| | (Regulatory compliance mark for electrical and electronic equipment). Systems must comply with AS 4777 (Grid connection of energy systems via inverters - Inverter requirements) in order to qualify for the feed-in tariff. | | |
| Northern Territory | From 1 November 2023, or otherwise earlier by declaration, the EESS will come into force in the Northern Territory. As such, the EESS Equipment Safety Rules will require compliance by manufacturers / importers / suppliers with AS 3000 (Electrical installations) (Wiring Rules), AS 3820 (Essential safety requirements for electrical equipment) and AS 4417 (Regulatory compliance mark for electrical and electronic equipment). | Electrical installation work must comply with AS 3000:2018 (Electrical Installations) (Wiring Rules) and any other Australian Standard called up by AS 3000:2018 (Electrical installations) (Wiring Rules). A person who connects an electrical installation to an electricity network must ensure that the installation and the connection, comply with the technical and safety requirements under the regulations. | |
| Western Australia | Compliance with AS 4777 (Grid connection of energy systems via inverters - Inverter requirements) is required for inverters. Western Australia has signed the EESS Inter-Governmental Agreement but not yet passed specific legislation. Gazette 42 of 2016 implements the requirements of AS 4417.2:2012 (Regulatory compliance mark for electrical and electronic equipment) and this Australian Standard must be read in conjunction with the EESS (amongst other regulatory requirements). | Electrical safety legislation prescribes compliance with AS 3190:2016 (Approval and test specification - Residual current devices (current operated earth-leakage devices)), AS 4741-2010 (Testing of connections to low voltage electricity networks), AS 3000:2018 (Electrical installations) (Wiring Rules), AS 3008.1.1:2009 (Electrical installations - Selection of cables), AS 3011.1-1992 (Electrical installations - Secondary batteries installed in buildings - Vented cells Vented cells), AS 3011.2-1992 (Electrical installations - Secondary batteries installed in buildings Sealed cells), AS 4086.1-1993 (Secondary batteries for use with stand-alone power | |

| | Stage 1 - Manufacture and supply (includes wholesale / import) | Stage 2 – Installation | Stage 3 – Ongoing operation |
|--|---|--|-----------------------------|
| | | systems General requirements), AS 4509.1:2009 (Stand-alone power systems Safety and installation), AS 4777 (Grid connection of energy systems via inverters), AS 5033:2015, AS 2067:2008 (Substations and high voltage installations exceeding 1 kV a.c.), AS 3010:2005 (Electrical installations - Generating sets), AS 4509.1:2009 (Stand-alone power systems – Safety and installation), and AS 7000:2010 (Overhead line design - Detailed procedures) at the installation stage. | |
| | | Western Power and Horizon Power Technical Rules and guidelines require compliance with various standards as a condition of connection (refer to Summary 1 above for further details). | |
| New Energy Tech Consumer Code | | Voluntary industry standards requiring delivery and installation in accordance with all applicable safety standards, manufacturer's specifications, relevant Australian Standards, Energy Network standards and good industry practice. | |

Part B – Overview of regulatory frameworks

Jurisdictional frameworks applying to CER technical standards

1. Section overview

- 1.1 This section provides an overview of the regulatory framework applicable to CER technical standards, applying in each State and Territory participating in the National Electricity Market, together with the Northern Territory and Western Australia.
- 1.2 For each jurisdictional framework we outline:
- (a) an overview of the regulatory framework;
 - (b) a summary of how the regulatory framework requires compliance with specified Australian standards in respect of CER;
 - (c) identification of what stage of the supply chain the relevant regulatory requirements apply to;
 - (d) the applicable regulators responsible for enforcement of the relevant regulatory requirements;
 - (e) the tools available to monitor compliance; and
 - (f) a summary how the regulatory requirements are enforced, including applicable offences and penalties.

2. Application of Australian standards

- 2.1 Australian Standards are developed by Standards Australia, an independent not-for-profit standards organisation that specialises in the development and adoption of standards in Australia.²³ These contain non mandated specifications, procedures and guidelines that ensure products, services and systems are safe, consistent and reliable. Australian Standards are regularly reviewed by Standards Australia technical committees.
- 2.2 Sections 3 – 6 of this Part B set out in more detail the regulatory frameworks that implement relevant CER technical standards.

3. National Electricity Law and National Energy Retail Law

National Electricity Rules, National Energy Retail Rules and AS 4777.2:2020

Overview of regulatory framework applying to CER technical standards

- 3.1 The NER and NER (NT) implement the requirements set out in AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) as in force from time to time and impose a requirement on DNSPs to include an obligation in their model standing connections offers that new or replacement *embedded generated units* (the subject of the *basic micro EG connection service*²⁴) must comply with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements).²⁵ Connection offers are accepted by consumers as a condition of connection of CER. An equivalent condition applies in respect of negotiated connection contracts. Under the negotiation framework governing negotiations between DNSPs and a connection applicant proposing to connect new or replacement CER (by way of a *basic micro EG connection service*, the DNSP must inform the customer that the *embedded generating unit* needs to be compliant with AS 4777.2:2020 (Grid connection of

²³ Standards Australia, 'What We Do' (Web Page) <<https://www.standards.org.au/about/what-we-do>>.

²⁴ A *basic micro EG connection service* is a basic connection service (as defined in the NER) for a retail customer who is a 'micro embedded generator'. 'Micro embedded generator' is a small customer, large customer or MGSA who operates, proposes to operate an *embedded generating unit* for which a micro EG connection is appropriate.

²⁵ *National Electricity Rules* r 5A.B.2; *National Electricity Rules as in force in the Northern Territory* r 5A.B.2.

energy systems via inverters - Inverter requirements)).²⁶ Further, any connection offer to a person owning, controlling or operating an *embedded generating unit* or proposing to own, control or operate an *embedded generating unit* operator involving the connection of a new or replacement *embedded generating unit* by way of a *basic micro EG connection service*, must contain a requirement that the *embedded generating unit* is compliant with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements).²⁷

- 3.2 The NER also provides that a DNSP must include as terms and conditions of the connection agreement each provision in Schedule 5.3 of the NER that is expressed as an obligation on a *Network User* and an obligation to comply with each agreed performance standard.²⁸ This includes, for example, an obligation on customers to ensure that all electrical plant in their facility (including a building, equipment and associated infrastructure) complies with relevant Australian Standards as applicable at the time of first installation of the electrical plant in that facility.²⁹ This supplements the obligation in rule 5A.B.2 set out in section 3.1 of this Part B above. Electrical plant is defined broadly to include, in relation to a connection point, all equipment involved in generating, utilising or transmitting electrical energy and covers CER. Relevant "Australian Standards" is not defined or specified, and needs to be interpreted together with applicable jurisdictional requirements.
- 3.3 We note that in Victoria, the Electricity Distribution Code of Practice reinforces the requirements of the National Electricity Rules outlined above, by imposing a condition that, where a connection application has been made by an *embedded generator* (i.e. CER), a DNSP must comply with its obligations under the NER in responding to the connection application, including making a connection contract. Specifically, it notes that a DNSP must comply with its obligations relating to connection of *embedded generators* under Chapter 5, Part B and Chapter 5A of the NER.³⁰ See sections 5.8 - 5.32 of this Part B below for more detail on the requirements in Victoria.
- 3.4 The NERR also requires a DNSP to publish information on its website about the safety and technical requirements applicable under energy laws to small generators (a CER), or owners, operators or controllers of small generators.³¹ Accordingly, DNSPs have an obligation to publish online that CER must comply with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements), together with other applicable technical standards. The model terms and conditions for deemed standard contracts under the NERR also require consumers who have a small generator, to comply with applicable standards in operating and maintaining the generator when it uses supply services under the connection contract.³²

What stage of supply chain do the relevant regulatory requirements apply to?

- 3.5 The requirements relating to AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) apply to consumers and DNSPs, in respect of connection of CER. As set out in paragraphs 3.1 – 3.4 of this Part B, the regulatory framework requires DNSPs to include various conditions in the connection agreement and documentation for connection of CER requiring compliance with applicable technical standards. Consumers must comply with such requirements as a condition of connection of CER.

²⁶ *National Electricity Rules* r 5A.C.3(a)(3)(v); *National Electricity Rules as in force in the Northern Territory* r 5A.C.3.(a)(3)(v).

²⁷ *National Electricity Rules* r S5A.1, pt B(a)(7a); *National Electricity Rules as in force in the Northern Territory* r S5A.1, pt B(a)(7a).

²⁸ *National Electricity Rules* r S5.3.1a(d).

²⁹ *National Electricity Rules* r S5.3.2.

³⁰ See section 3.1 of the Electricity Distribution Code of Practice. Section 21 of the Distribution Code of Practice also imposes technical obligations on *embedded generators*, including requiring compliance with applicable Australian Standards, however such additional obligations are stated to only apply in respect of *embedded generators* with a capacity of 5MW to 30MW. Household consumers are unlikely to have a system over 5MW.

³¹ *National Energy Retail Rules* r 147A(1)(a). The NERL / NERR does not apply in Victoria or Western Australia.

³² *National Energy Retail Rules* sch 2 (Model terms and conditions for deemed standard connection contracts) cl 6.6.

Applicable regulators

- 3.6 Each of the regulators in respect of the National Electricity Law, have the following roles which are relevant to the implementation of AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) in respect of CER:
- (a) **AEMO** - The NER requires AEMO to establish, maintain and update a DER register which is a database of distributed energy resources which includes relevant information reported to AEMO.³³ The AEMO DER register portal indicates that installers in New South Wales and the Australian Capital Territory are required to submit data directly to AEMO's DER Register via the portal whereas in South Australia, Victoria, Tasmania and Queensland, the relevant network service provider will collect and submit the data required to update the DER register.³⁴ The data is collected by DNSPs as part of the grid connection approval processes and must be provided to AEMO within a certain timeframe from system commissioning or activation. The DER Register Information Guidelines³⁵ provide that AEMO must publish a regular DER register report on at least a quarterly basis on its website which contains information by region, installed capacity and fuel type.
 - (b) AEMO has established a dedicated DER program, to understand and integrate distributed energy resources in Australian energy markets.³⁶ AEMO has established a number of workstreams under its DER program such as:
 - (i) **Markets and framework:** Market design of a new two-way energy system and two-sided DER marketplace aligned with the Open Energy Networks initiative's Hybrid Model;³⁷
 - (ii) **DER Demonstrations:** Small-scale innovative trials to inform evidence-based changes to regulatory and operational processes so that DER devices can be effectively integrated into the electricity grid and markets;
 - (iii) **Operations:** Examination of how DER assets behave during power system disturbances, and development of models to predict and manage DER performance in the future power system, together with ensuring adequate tools are in place to manage a high DER world;
 - (iv) **Data and visibility:** Development of a database of DER installations – the DER Register – to provide visibility of DER specifications and locations, enabling effective grid integration; and
 - (v) **Standards and connections:** Uplift of Standards (e.g. AS 4777.2 (Grid connection of energy systems via inverters - Inverter requirements) and AS 4755.2 (Demand response capabilities and supporting technologies for electrical products Demand Response Framework and requirements for Demand Response Enabling Devices (DREDs))) and guides to ensure optimal DER technical performance and energy system security and enhance interoperability and cyber security protection.
 - (c) AEMO collaborates with a wide range of stakeholders. For example, AEMO has collaborated with the Clean Energy Regulator and the CEC to incorporate inverter settings checks into the Clean Energy Regulator's existing inspection program as part of its SRES (see more detail in relation to this in section 4 below).

³³ *National Electricity Rules* r 3.7E(b).

³⁴ AEMO, 'DER Register portal' (Web Page) <<https://aemo.com.au/en/energy-systems/electricity/der-register/der-register-installer-portal>>.

³⁵ AEMO, 'DER Register Information Guidelines', DER Register Final Report for publication (Final Report, May 2019) <https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/NEM-Consultations/2019/DER-register/Final/DER-Register-Final-Report.pdf>.

³⁶ AEMO, 'NEM Distributed Energy Resources Program' (Web Page) <<https://aemo.com.au/en/initiatives/major-programs/nem-distributed-energy-resources-der-program>>.

³⁷ For more, see Open Energy Networks, 'An Energy Networks Australia and AEMO joint project' (Web Page) <<https://www.energynetworks.com.au/projects/open-energy-networks/>>.

- (d) **AER** - The AER is responsible for monitoring and enforcing compliance by registered participants and other persons with the NER. It undertakes investigation of breaches or possible breaches of provisions of the NER, and issues penalties for non-compliance (amongst other functions and powers).³⁸ Generally, it has a range of powers to support the exercise of its powers, including information gathering powers.³⁹
- (e) With respect to AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements), the AER can enforce the DNSP's obligation to include compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) as a condition of connection of CER. It does this by approving a DNSP's model standing offer, which must be submitted to the AER for approval.⁴⁰ The AER may also enforce non-compliance by a DNSP pursuant to its ordinary powers.
- (f) There is no express rule requiring DNSPs to enforce compliance of the connection condition requiring the owner, operator or controller of CER (i.e. the connection customer) to comply with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements). DNSPs have existing processes such as requiring provision of a certificate of compliance from a licensed electrical worker following installation and prior to connection of a system, which confirms the relevant installation work has been undertaken in accordance with applicable standards prescribed under the jurisdictional energy safety laws. However, as noted above, most electrical safety laws do not specifically mandate compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) (within the NEM, only South Australia and Tasmania do so). Each state and territory, however, requires compliance with AS 3000:2018 (Electrical installations) (Wiring Rules) during installation, which in turn requires electrical installations such as connection of systems via inverters and the method of connection to be compliant with the AS 4777 series (Grid connection of energy systems via inverters). Therefore, whilst compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) is not specifically mandated in a number of jurisdictions, it is indirectly implemented through AS 3000:2018 (Electrical installations) (Wiring Rules) which is legislated in every State and Territory.
- (g) **AEMC** - In 2022, the AEMC developed a plan setting out its approach with respect to CER technical standards,⁴¹ which in summary involves:
 - (i) identification of when new CER technical standards are required;
 - (ii) actively working with the ESB and ARENA's work on its Distributed Energy Integration Program to support existing work on CER technical standards;
 - (iii) observe the work of Standards Australia's CER committees to contribute to the work program;
 - (iv) update CER technical standards in the NER by assessing rule change requests in relation to technical standards in the NER; and
 - (v) report on progress in relation to adopting technical standards in the NER.

³⁸ *National Electricity (South Australia) Act 1996* (SA) Schedule *National Electricity Law* s 15.

³⁹ Refer to AER's Compliance and Enforcement Policy available at <<https://www.aer.gov.au/publications/corporate-documents/aer-compliance-enforcement-policy>> for further details regarding AER's enforcement powers and policy.

⁴⁰ *National Electricity Rules* r 5A.B.4.

⁴¹ AEMC, *Governance of distributed energy resources* (Final Rule Determination, 17 March 2022).

4. Commonwealth

RE Act

Overview of regulatory framework

- 4.1 The RE Act establishes the LRET and SRES. The SRES establishes a market for small-scale technology certificates which liable entities are required to buy and surrender to the regulator, thereby incentivising individuals and small businesses to install small-scale renewable energy systems that are eligible for the creation of such certificates such as CER devices.⁴²
- 4.2 The objectives of the RE Act are to encourage the additional generation of electricity from renewable energy sources, reduce emissions of greenhouse gases in the electricity sector, ensure that renewable energy sources are ecologically sustainable and to contribute to the achievement of Australia's greenhouse gas emission reduction targets.⁴³ The LRET and SRES are in effect until 2030.
- 4.3 The RE Act requires that the regulations to the RE Act must establish a scheme for the inspection of installation of small generation units for which certificates have been created and that such regulations must provide that each year a statistically significant selection of small generation units that were installed during that year must be inspected for conformance with Australian standards and any other standards or requirements relevant to the creation of certificates in relation to that small generation unit.⁴⁴

Compliance with applicable standards

- 4.4 The RE Regulations prescribes eligibility requirements in respect of the creation of STCs for small systems, including the following conditions relating to Australian Standards:
- (a) CER used to create STCs must be on the Clean Energy Council's 'approved products list' which is a list of compliant inverters and power conversion equipment that are approved for installation under the Small-scale Renewable Energy Scheme. Products on the list must meet AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) standard (Grid connection of energy systems via inverters) and other IEC standards.⁴⁵ This approved list framework interrelates with the EESS (set out below in section 6 of this Part B), as part of the process to be listed involves ensuring all importers or local manufacturers register as a Responsible Supplier on the EESS database.⁴⁶ It is also a requirement that components (e.g. PV modules, inverters) that will be installed as part of a system are listed on the CEC list of approved products, in order for the system to be eligible for small-scale technology certifications after installation;
 - (b) the person who is entitled to create certificates for the unit must have obtained (if the system uses an inverter and is a grid-connected power system) a written statement by the installer that when the unit was installed, the model of inverter used in installation complied with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements);⁴⁷
 - (c) CER must comply with all jurisdictional requirements in respect of installation of the unit; and

⁴² For more information, see Clean Energy Regulator, 'Small-scale Renewable Energy Scheme' (Web Page) <<https://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/How-the-scheme-works/Small-scale-Renewable-Energy-Scheme>>.

⁴³ *Renewable Energy (Electricity) Act 2000* (Cth) s 3.

⁴⁴ *Renewable Energy (Electricity) Act 2000* (Cth) s 23AAA.

⁴⁵ For more information, see Clean Energy Council, Inverter Categories (Guidance, 2021)

<https://assets.cleanenergycouncil.org.au/documents/products/CEC-inverter_listing_categories_2021.pdf>.

⁴⁶ For more information, see Clean Energy Council, 'How to Apply: Inverter application with AS/NZS 4777.2:2020' (Web Page) <<https://www.cleanenergycouncil.org.au/industry/products/inverters/how-to-apply-inverters>>.

⁴⁷ *Renewable Energy (Electricity) Regulations 2001* (Cth) reg 20AC(5)(e)(ii).

- (d) mandated compliance with specific requirements in respect of certain types of equipment, for example, solar water heaters must receive device product certifications by an accredited body in accordance with AS 2712:2007 (Solar and heat pump water heaters—Design and construction) in order to be considered a solar water heater under the RE Act.⁴⁸

What stage of supply chain do the regulatory requirements apply to?

- 4.5 Primarily applies to installers and customers that own / operate CER devices that are eligible for small-scale technology certificates. The customer will be the person entitled to create certificates for the unit (i.e as the owner of the unit at the time of installation) unless the right to create certificates has been otherwise assigned to another party.⁴⁹

Applicable regulator

- 4.6 The Clean Energy Regulator oversees the administration of the LRET and SRES and is responsible for enforcement of compliance with the two schemes. The Clean Energy Council (the relevant industry body) maintains the 'approved products list'.

Tools to monitor compliance

- 4.7 The Clean Energy Regulator has the following tools available to assist with the monitoring of compliance:
 - (a) **Production of serial numbers:** Manufacturers and importers are required to provide serial numbers for all inverters or photovoltaic modules used in the installation of a small generation unit to the Clean Energy Regulator (or a person nominated by the Clean Energy Regulator);⁵⁰
 - (b) **CEC approved products testing:** the CEC requires that the product is tested to the AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) standard and other international standards by an accredited testing laboratory. The product is required to be independently certified by a JAS-ANZ accredited certification agency, or state electrical safety regulator.⁵¹ In order to monitor compliance on the Approved Products List, the CEC purchases selected devices from the Australian market based on a risk analysis in addition to random selection and has them tested at testing laboratories.⁵²
 - (c) If the CEC testing identifies non-compliance with the certification, the CEC may:
 - (i) suspend or remove the listing until compliance is verified;
 - (ii) suspend or remove all other device model numbers related to that manufacturer or applicant;
 - (iii) notify the Clean Energy Regulator, state electrical authorities, and the industry; and/or
 - (iv) refuse to process a new application for listing until satisfactory corrective actions are complete.⁵³
 - (d) **Power to inspect small generation units:** Under the RE Regulations, a 'statistically significant inspection of small generation units', that were installed during the year are to be inspected by an inspector appointed by the Clean Energy Regulator to ensure compliance with the Australian standards and other relevant standards and/or

⁴⁸ *Renewable Energy (Electricity) Regulations 2001* (Cth) reg 3A.

⁴⁹ *Renewable Energy (Electricity) Act 2000* (Cth) ss 23, 23C.

⁵⁰ *Renewable Energy (Electricity) Regulations 2001* (Cth) reg 20AD.

⁵¹ For more information, see Clean Energy Council, 'How to Apply: Inverter application with AS/NZS 4777.2:2020' (Web Page) <<https://www.cleanenergycouncil.org.au/industry/products/inverters/how-to-apply-inverters>>.

⁵² For more information, see Clean Energy Council, 'Product Faults and Testing (Web Page)' <<https://www.cleanenergycouncil.org.au/industry/products/product-faults-and-testing>>.

⁵³ For more information, see Clean Energy Council, 'Product Faults and Testing (Web Page)' <<https://www.cleanenergycouncil.org.au/industry/products/product-faults-and-testing>>.

requirements for the creation of certificates.⁵⁴ The RE Regulations provide certain criteria for inspections and inspectors are to prepare a report upon completion of an inspection.⁵⁵

- (e) **Power to obtain information:** The Clean Energy Regulator may require a person to provide information or documents if the Clean Energy Regulator has reason to believe that the person has information or documents or is capable of providing information or documents relevant to the operation of the CER Act.⁵⁶
- (f) **Audit and monitoring powers of authorised officers:** Under the RE Act, authorised officers (defined as members of staff of the Clean Energy Regulator) may enter any premises and exercise a number of monitoring powers for the purposes of substantiating information provided under the RE Act or regulations or determining whether the RE Act or regulations have been complied with.⁵⁷ Monitoring powers include:
 - (i) power to search the premises for anything that may relate to creation or transfer of certificates or relevant acquisitions of electricity;
 - (ii) power to examine anything or activity conducted on the premises or inspect and take extract or make copies of any document on the premises that may relate to information provided for the purposes of the RE Act or the regulations and take photographs or make video or audio recordings or sketches on the premises of any such activity or thing;
 - (iii) power to take equipment and materials as required for the purpose of exercising powers in relation to the premises; or
 - (iv) power to secure a thing that is found during the exercise of monitoring powers if the authorised officer reasonably believes the thing to afford evidence of an offence against the RE Act, the Crimes Act or a contravention of a civil penalty provision of RE Act and it would be lost, destroyed or tampered with before a warrant can be obtained.⁵⁸
- (g) In certain circumstances, the authorised officer may hold a monitoring warrant. In which case the authorised officer must make available a copy of that warrant to the relevant person.⁵⁹
- (h) **Monitoring Warrants:** Under the RE Act, an authorised officer may obtain a warrant from a magistrate to enter a premises and exercise monitoring powers (with such assistance and by such force as is necessary) if the magistrate is satisfied that is reasonably necessary for the purposes of substantiating information provided under the RE Act or regulations or determining whether the RE Act or regulations have been complied with.⁶⁰

Enforcement

4.8 The following remedies are available to the Clean Energy Regulator for non-compliance:

- (a) **Declaration of ineligibility of small generation units:** The Clean Energy Regulator may declare in writing that a model of an inverter, or a model of a photovoltaic module is not eligible for use in the installation of small generation units for the purposes of the RE Regulations.⁶¹ In deciding whether or not to make such a declaration, the Clean Energy Regulator must consider (amongst other factors) whether the model complies with the Australian standards applicable to the inverter or photovoltaic

⁵⁴ *Renewable Energy (Electricity) Regulations 2001* (Cth) regs 30, 33.

⁵⁵ *Renewable Energy (Electricity) Regulations 2001* (Cth) regs 39, 42.

⁵⁶ *Renewable Energy (Electricity) Act 2000* (Cth) s 125A.

⁵⁷ *Renewable Energy (Electricity) Act 2000* (Cth) ss 110, 111.

⁵⁸ *Renewable Energy (Electricity) Act 2000* (Cth) s 111.

⁵⁹ *Renewable Energy (Electricity) Act 2000* (Cth) s 119.

⁶⁰ *Renewable Energy (Electricity) Act 2000* (Cth) s 125.

⁶¹ *Renewable Energy (Electricity) Regulations 2001* (Cth) reg 20AF.

module (the RE Regulations do not specify the Australian standards, but instead refer to "applicable" standards). The RE Regulations sets out the process that the Clean Energy Regulator must follow before making such a declaration.

- (b) **Enforceable undertakings:** Under the RE Act, the Clean Energy Regulator may accept written undertakings that people will take specific action or refrain from taking specific action comply with, RE Act, regulations and associated provisions.⁶² The Clean Energy Regulator may also accept undertakings that people will surrender one or more certificates to compensate for the creation of certificates that the person was not entitled to create.⁶³
- (c) **Suspension of registration:** Under the RE Act, the Clean Energy Regulator may suspend registration of an entity entitled to create LGCs or STCs if the Clean Energy Regulator believes on reasonable grounds that the person has committed an offence against the RE Act, contravened a civil penalty provision of the RE Act or if the registration was obtained improperly, such as obtaining a certificate where the person was not entitled to a certificate.
- (d) **Injunctions:** Under the RE Act, the Federal Court may grant an injunction if a person has engaged, is engaging or is about to engage in conduct that is an offence under the RE Act, contravened a civil penalty provision of the RE Act or if the registration was obtained improperly, such as obtaining a certificate where the person was not entitled to a certificate.⁶⁴
- (e) **Civil penalty orders:** Under the RE Act, if a person has contravened a civil penalty provision of the RE Act, the court may order the person to pay a pecuniary penalty upon the application of the Clean Energy Regulator.⁶⁵
- (f) **Penalty charges:** Under the RE Act, the Clean Energy Regulator has the power to issue penalty charges to liable entities. If a liable entity, other than a government body, refuses or fails to provide an energy acquisition statement, a large-scale generation shortfall statement or relevant information for the assessment year, makes or omits false or misleading statements, or provide any information in relation to each of the above the Clean Energy Regulator may require the liable entity to pay a penalty charge.⁶⁶

Australian Consumer Law

Overview of regulatory framework

- 4.9 Non-compliance with applicable CER technical standards may trigger a breach of the consumer guarantees contained in Division 1 of Part 3-2 of the ACL.⁶⁷ The ACL prescribes implied guarantees for transactions for the supply of goods or services to a customer. Goods are defined to include gas and electricity and any component part of, or accessory to gas or electricity,⁶⁸ and services cover a contract for or in relation to the performance of work (including work of a professional nature), whether with or without the supply of goods.⁶⁹ A person is a consumer under the ACL where they have acquired goods or services that:
- (a) did not exceed \$40,000;
 - (b) are ordinarily acquired for personal, domestic or household use or consumption; or

⁶² *Renewable Energy (Electricity) Act 2000* (Cth) s 154Q.

⁶³ *Renewable Energy (Electricity) Act 2000* (Cth) s 154Q.

⁶⁴ *Renewable Energy (Electricity) Act 2000* (Cth) s 30A.

⁶⁵ *Renewable Energy (Electricity) Act 2000* (Cth) ss 154B, 154C.

⁶⁶ *Renewable Energy (Electricity) Act 2000* (Cth) ss 99, 99A, 100.

⁶⁷ *Competition and Consumer Act 2010* (Cth) sch 2 (*Australian Consumer Law*).

⁶⁸ *Competition and Consumer Act 2010* (Cth) sch 2 (*Australian Consumer Law*) s 2.

⁶⁹ *Competition and Consumer Act 2010* (Cth) sch 2 (*Australian Consumer Law*) s 2.

- (c) in the case of goods, the goods are a vehicle or trailer acquired primarily to use for the transport of goods on public roads.⁷⁰
- 4.10 Under the ACL, the following relevant consumer guarantees apply with respect to goods:
- (a) the goods are reasonably fit for any disclosed purpose;⁷¹
 - (b) the goods correspond with any description or sample model provided;⁷²
 - (c) the goods are reasonably capable of being repaired and spare parts are available;⁷³
 - (d) the goods comply with any express warranty given by the manufacturer;⁷⁴ and
 - (e) the goods are of acceptable quality.⁷⁵ Goods are of acceptable quality if a reasonable consumer, acquainted with the state and condition of the goods, would regard them as being fit for all purposes for which goods of that kind are commonly supplied, acceptable in appearance and finish, free from defects, safe and durable.⁷⁶
- 4.11 Under the ACL, the following relevant consumer guarantees apply with respect to services:
- (a) services will be rendered with due care and skill;⁷⁷
 - (b) services, and any product resulting from the services, will be reasonably fit for any purpose communicated to the supplier;⁷⁸ and
 - (c) services are supplied within a reasonable time.⁷⁹

Compliance with applicable standards

- 4.12 CER technical standards are not explicitly mandated by the consumer guarantees regime in the ACL. However, non-compliance with an applicable Australian Standard may evidence a breach of a guarantee. For example, in *Coliban Heights Pty Ltd v Citisolar Vic Pty Ltd*,⁸⁰ expert evidence indicating the installation of four photovoltaic electrical systems was non-compliant with Australian Standards was led to establish that the service provided was defective.⁸¹ The claim failed on a separate point of law, but the consumer's reliance on breach of standards remained unchallenged.

What stage of supply chain do the regulatory requirements apply to?

- 4.13 The ACL consumer guarantees apply to manufacturers, retailers and installers of CER.

Applicable regulator

- 4.14 The ACCC is responsible for administering the ACL. Where the ACL has been incorporated into fair trading and consumer protection legislation by a State or Territory, the applicable State or Territory body or officer can also act as a regulator.⁸²

Tools to monitor compliance

- 4.15 The ACCC has the following tools available to monitor compliance with the consumer guarantees:

⁷⁰ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 3.*

⁷¹ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 55.*

⁷² *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) ss 56–7.*

⁷³ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 58.*

⁷⁴ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 59.*

⁷⁵ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 54.*

⁷⁶ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 54(2).*

⁷⁷ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 60.*

⁷⁸ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 61.*

⁷⁹ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 62.*

⁸⁰ [2017] VSC 751; [2018] VSCA 191.

⁸¹ *Coliban Heights Pty Ltd v Citisolar Vic Pty Ltd* [2017] VSC 751 [10]; [2018] VSCA 191 [12]–[17].

⁸² *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 2 (definition of 'regulator').*

- (a) **Injunctions:** the ACCC or any other person may seek an injunction to restrain a person from engaging in conduct that would constitute a contravention of the consumer guarantees.⁸³
- (b) **Information disclosure:** the ACCC may apply to the court for an order requiring a person to disclose or publish specified information.⁸⁴
- (c) **Public warning notice:** the ACCC may issue a public warning notice that warns of a person's conduct where there is a public interest in publishing and it is satisfied that one or more other persons have or are likely to suffer due to their conduct.⁸⁵

Enforcement

4.16 Consumer guarantees are primarily enforced by the consumer. However, the ACCC may also bring a claim for non-compliance with a consumer guarantee on behalf of a consumer who is entitled to take action, provided that the consumer has given their written consent.⁸⁶

4.17 Action against supplier of goods⁸⁷

- (a) **Cause of action:** A consumer may take action if:
 - (i) a supplier supplies, in trade or commerce, goods to the consumer; and
 - (ii) a guarantee relating to the supply of goods is not complied with.
- (b) **Remedy:** If the failure to comply with the guarantee can be remedied and is not a major failure (as defined in the ACL):
 - (i) the consumer may require the supplier to remedy the failure within a reasonable time; or
 - (ii) if such a requirement is made of the supplier but the supplier refuses or fails to comply with the requirement, or fails to comply with the requirement within a reasonable time, the consumer may:
 - (A) otherwise have the failure remedied and, by action against the supplier, recover all reasonable costs incurred by the consumer in having the failure remedied; or
 - (B) notify the supplier that the consumer rejects the goods and of the grounds for rejection. This is subject to a number of factors as set out in the ACL and must be done within a period of time that it would be reasonable to expect a failure to comply with a guarantee to become apparent having regard to a number of factors under the ACL.

If the failure to comply with the guarantee cannot be remedied or is a major failure (as defined in the ACL), the consumer may:

- (i) notify the supplier that the consumer rejects the goods and of the grounds for rejection. This is subject to a number of factors as set out in the ACL and must be done within a period of time that it would be reasonable to expect a failure to comply with a guarantee to become apparent having regard to a number of factors under the ACL; or
- (ii) by action against the supplier, recover compensation for any reduction in the value of the goods below the price paid or payable by the consumer for the goods.

⁸³ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 232.*

⁸⁴ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) ss 246(2)(c)–(d), 247(1).*

⁸⁵ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 223.*

⁸⁶ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 277.*

⁸⁷ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 259.*

The consumer may, by action against the supplier, recover damages for any loss or damage suffered by the consumer because of the failure to comply with the guarantee if it was reasonably foreseeable that the consumer would suffer such loss or damage as a result of such failure.

4.18 Action against manufacturers of goods⁸⁸

- (a) A consumer may recover damages from a manufacturer where the goods are not of acceptable quality, do not match the description provided by the manufacturer, or if the manufacturer fails to make repairs and spare parts available.

4.19 Action against supplier of services⁸⁹

- (a) **Cause of action:** A consumer may take action if:
 - (i) the supplier supplies, in trade or commerce, services to the consumer;
 - (ii) a guarantee relating to the supply of services is not complied with; and
 - (iii) unless the guarantee is in relation to the provision of services with due care and skill- the failure to comply did not occur only because of:
 - (A) an action, default or omission of, or representation made by, any person other than the supplier, or an agent or employee of the supplier; or
 - (B) a cause independent of human control that occurred after the services were supplied.
- (b) **Remedy:** If the failure to comply with the guarantee can be remedied and is not a major failure (as defined in the ACL):
 - (i) the consumer may require the supplier to remedy the failure within a reasonable time; or
 - (ii) if such a requirement is made of the supplier but the supplier refuses or fails to comply with the requirement, or fails to comply with the requirement within a reasonable time, the consumer may:
 - (A) otherwise have the failure remedied and, by action against the supplier, recover all reasonable costs incurred by the consumer in having the failure so remedied; or
 - (B) terminate the contract for the supply of the services.
- (c) If the failure to comply with the guarantee cannot be remedied or is a major failure (as defined in the ACL), the consumer may:
 - (i) terminate the contract for the supply of the services; or
 - (ii) by action against the supplier, recover compensation for any reduction in the value of the services below the price paid or payable by the consumer for the services.

4.20 The consumer may, by action against the supplier, recover damages for any loss or damage suffered by the consumer because of the failure to comply with the guarantee if it was reasonably foreseeable that the consumer would suffer such loss or damage as a result of such a failure.

⁸⁸ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 271.*

⁸⁹ *Competition and Consumer Act 2010 (Cth) sch 2 (Australian Consumer Law) s 267.*

5. State and territories

New South Wales

Gas and Electricity (Consumer Safety) Act 2017

Overview of regulatory framework

- 5.1 A key regulatory framework prescribing compliance with standards in New South Wales is the *Gas and Electricity (Consumer Safety) Act 2017* (NSW). This legislation regulates consumer safety in relation to gas and electrical products and services.
- 5.2 The legislation prescribes that all electrical installation work must be carried out in accordance with the standards or requirements prescribed by regulations and to ensure that the installation are maintained in accordance with regulations. Electrical installation work is defined broadly to capture electrical equipment used to convey, measure, control and use electricity in a particular place, and includes CER, but does not include any CER which is owned or used or under the control of an electricity supply authority or which is used at a mine.⁹⁰ Electricity supply authorities include energy services corporations, which are corporations set out in Schedule 1 of the *Energy Services Corporation Act 1995* (NSW). At the date of this document, the only corporation included in Schedule 1 is Essential Energy, which is listed as an energy distributor under Part 2.

Compliance with applicable standards

- 5.3 The *Gas and Electricity (Consumer Safety) Regulation 2018* prescribes compliance with the following standards:
- (a) Electrical article (not including a declared electrical article, such as a battery charger) must comply with clauses 4.1, 4.2, 4.3 and 4.5 of AS 3820:2009 (essential safety requirements for electrical equipment);
 - (b) Electrical installation work must be carried out in accordance with AS 3000:2018 (Electrical installations) (Wiring Rules);
 - (c) Electrical installation work comply with AS 3000:2018 (Electrical Installations) (Wiring Rules) before energised; and
 - (d) Free-standing electrical installation must not be energised unless the stand-alone power system to which it is to be connected complies with the requirements for such systems specified in AS 4509.1:2009 (Stand-alone power systems Safety and installation).⁹¹

What stage of supply chain do the regulatory requirements apply to?

- 5.4 Primarily applies to regulate installers (and electrical work service providers), as well as manufacturers and retailers of CER.

Applicable Regulator

- 5.5 NSW Fair Trading is responsible for administering the *Gas and Electricity (Consumer Safety) Act 2017* (NSW) and associated regulations.

Tools for monitoring compliance

- 5.6 NSW Fair Trading has the following tools available to monitor compliance:
- (a) **Investigative powers:** NSW Fair Trading has the right to investigate, seize and remove uncertified electrical and gas appliances from retail sale and CER which do not meet compliance requirements. The legislation allows NSW Fair Trading investigators to take immediate corrective action in situations where gas or electricity

⁹⁰ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 4.

⁹¹ *Gas and Electricity (Consumer Safety) Regulation 2018* (NSW) reg 34.

installations or appliances are being used in an unsafe manner which poses a real risk of harm. Restrictions on investigation and inspection powers exist under Part 7 of the *Electricity (Consumer Safety) Act 2017* (NSW).

- (b) **NSW Fair Trading (Evidence of Safety Tests):** NSW Fair Trading may request, by written notice, evidence of the person/corporation carrying out safety testing of electric (or gas) articles, and subsequently provide any further evidence concerning the safety of articles.⁹² The regulator can perform checks on electrical articles if they are under reasonable grounds that an electrical (or gas) article is likely to become unsafe.
- (c) **Search Warrants:** An authorised officer under legislation may apply to an authorised warrants officer for a search warrant in order to investigate (a) an unsafe electrical (or gas) installation, or (b) a series electrical or gas accident.⁹³

Enforcement

5.7 The legislation prescribes the following offences:

- (a) **Electrical standards must meet certain standards before they can be sold:**
 - (i) **Offence:** A person (individual or corporation) must not sell an electrical article that is not marked in accordance with the regulations or does not comply with regulations, class specifications, model specifications, specifications or standards prescribed by regulations.⁹⁴
 - (ii) **Penalty:** The penalty for non-compliance with the offence above is:
 - (A) For an individual: \$55,000 for a first offence or \$82,500 or imprisonment for 2 years, or both for a second or subsequent offence;⁹⁵ and
 - (B) For a corporation: \$550,000 for a first offence or \$825,000 for a second or subsequent offence.⁹⁶
- (b) **Offences relating to investigations and inspections:**
 - (i) A person (individual or corporation) must not:
 - (A) without reasonable excuse, refuse to fail with any requirement to answer a question asked by an authorised officer under the *Gas and Electricity (Consumer Safety) Act 2017* (NSW);
 - (B) provide information or give evidence knowing it is misleading or false;
 - (C) intentionally delay or obstruct an authorised officer in exercise of its functions; or
 - (D) falsely represent themselves to be an authorised officer.⁹⁷
 - (ii) The maximum penalty is:
 - (A) For an individual: \$16,500;⁹⁸ and

⁹² *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 30.

⁹³ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 59.

⁹⁴ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 8(2). Note a person must not sell a declared electrical item (which relevantly includes a battery charger) if it is not of a model of electrical article that as a model approval, a class, description or model that has been approved by the relevant authority in another State or Territory, or a model of an electrical article that has been approved or certified by an external approval scheme (as evidenced by marking on the article).

⁹⁵ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 8(2). All penalty amounts in relation to the *Gas and Electricity (Consumer Safety) Act 2017* (NSW) are based on the penalty unit which as at the date of this document is \$110, pursuant to section 17 of the *Crimes (Sentencing Procedure) Act 1999* (NSW).

⁹⁶ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 8(2).

⁹⁷ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 45.

⁹⁸ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 45.

(B) For a corporation: \$55,000.⁹⁹

- (c) **Penalty Infringement Notices** Based on its investigations, NSW Fair Trading can take steps to mitigate safety risks from incorrect installation of gas and electrical equipment. Non-compliant parties who are responsible for gas and electricity offences can be issued with penalty infringement notices.

Victoria

Electricity Safety Act 1998* and *Electricity Distribution Code of Practice

Overview of regulatory framework

- 5.8 A key regulatory framework prescribing compliance with standards in Victoria is the *Electricity Safety Act 1998* (Vic) and associated regulations. The purpose of the legislation is to provide for the safety of electricity supply and use, the reliability and security of electricity supply, and the efficiency of electrical equipment.
- 5.9 The Victorian Electricity Distribution Code of Practice is made under the *Essential Services Commission Act 2001* (Vic), with the objective (amongst others) of regulating the connection of an electrical installation or *embedded generating unit* to the distribution system so that it is undertaken in a safe, efficient and reliable manner.¹⁰⁰ Pursuant to section 40A of the *Electricity Industry Act 2000* (Vic), terms and conditions for the distribution or supply of electricity to retail customers must be approved by the Essential Services Commission and must not be inconsistent with the Electricity Distribution Code of Practice.

Compliance with applicable standards

- 5.10 The *Electricity Safety (General) Regulations 2019* (Vic) prescribes compliance with the following standards:
- (a) Installation and maintenance, repair of an electrical installation must comply with AS 3000:2018 (Electrical installations) (Wiring Rules);¹⁰¹
 - (b) electrical work on a photovoltaic array must be tested in accordance with AS 5033:2021 (Installation and safety requirements for photovoltaic (PV) arrays);¹⁰²
 - (c) if electrical installation work includes the installation or alteration of a high voltage electrical installation, the licensed electrical installation worker carrying out that work must ensure that the electrical installation work is tested in accordance with AS 2067 (Substations and high voltage installations exceeding 1 kV a.c.).¹⁰³
 - (d) a battery system must be installed, altered, repaired or maintained in accordance with AS 5139 (Electrical installations - Safety of battery systems for use with power conversion equipment).¹⁰⁴
 - (e) Electrical installation work includes electrical work on a battery system, the relevant licensed electrical installation worker is required under the regulation to ensure that the electrical installation work is tested in accordance with AS 3000:2018 (Electrical Installations) (Wiring Rules) to verify that the installation work complies with AS 5139 (Electrical installations - Safety of battery systems for use with power conversion equipment).¹⁰⁵

⁹⁹ *Gas and Electricity (Consumer Safety) Act 2017* (NSW) s 45.

¹⁰⁰ Essential Services Commission, *Electricity Distribution Code of Practice* (2022) s 1.1(a).

¹⁰¹ Note high voltage electrical installations must comply with AS 2067.¹⁰¹ which requires that electrical installation work must be tested against AS/NZS 3000:2018.

¹⁰² *Electricity Safety (General) Regulations 2019* (Vic) regs 240, 243.

¹⁰³ *Electricity Safety (General) Regulations 2019* (Vic) reg 246.

¹⁰⁴ *Electricity Safety (General) Regulations 2019* (Vic) reg 212.

¹⁰⁵ *Electricity Safety (General) Regulations 2019* (Vic) reg 244.

- 5.11 Energy Safe Victoria issues certificates of suitability in respect of in-scope electrical equipment, pursuant to Division 2 of the *Electrical Safety Act* (Vic) and Part 4 of *Electricity Safety (Equipment Safety Scheme) Regulations 2019* (Vic).
- 5.12 Refer also to the EESS in section 6 below. The *Electrical Safety (Equipment Safety Scheme) Regulations 2019*, enacted under the *Electricity Safety Act 1998* (Vic), implements the EESS in Victoria.
- 5.13 As set out in section 3.3 of this Part B, the Electricity Distribution Code of Practice reinforces the requirements in the NER, by imposing a condition that, where a connection application has been made by an *embedded generator*, a DNSP must comply with its obligations under the NER in responding to the connection application, including making a connection contract. Specifically, a DNSP must comply with its obligations relating to connection of *embedded generating units* under Chapter 5, Part B and Chapter 5A of the NER.¹⁰⁶ DNSPs must also publish information on their website about the safety and technical requirements applicable under electricity laws to *small embedded generators* and *small embedded generating units*,¹⁰⁷ which includes the AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) requirement under the NER and NER (NT), together with other applicable technical standards under Victorian state law.

What stage of supply chain do the regulatory requirements apply to?

- 5.14 The *Electricity Safety Act 1998* (Vic) and *Electricity Safety (General) Regulations 2019* (Vic) primarily applies to regulate installers (and electrical work service providers). Owners and occupiers of premises with CER installations are also subject to obligations. The Electricity Distribution Code of Practice applies to DNSPs and customers.

Regulator

- 5.15 Energy Safe Victoria is responsible for administering the *Electricity Safety Act 1998* (Vic) and associated regulations, including monitoring compliance.
- 5.16 The relevant functions of Energy Safe Victoria are to:
- (a) determine minimum safety standards for electrical equipment, electrical installations and electrical work;
 - (b) to inspect and test electrical equipment, in-scope electrical equipment or electrical installations and electrical work for compliance with relevant standards;
 - (c) to investigate events which have implications for electricity safety;
 - (d) to provide advisory and consultative services on electricity safety and electrical equipment, electrical installations and electrical work;
 - (e) to advise the electricity industry and the community on electricity safety; and
 - (f) to monitor and enforce compliance with *Electricity Safety Act 1998* (Vic) and the *Electricity Safety (General) Regulations 2019* (Vic).
- 5.17 The Essential Services Commission also has a number of functions and powers under the *Essential Services Commission Act 2001* (Vic), including in relation to compliance and enforcement.

Tools to monitor compliance

- 5.18 Energy Safe Victoria has the following tools available to monitor compliance:
- (a) **Powers of Entry – Compliance:** an enforcement officer (with prior consent of Energy Safe Victoria) may exercise powers for the purpose of investigating a serious electrical incident, determining compliance with an electricity safety management scheme, determining compliance with the *Electricity Safety Act 1998* or regulations.

¹⁰⁶ Essential Services Commission, *Electricity Distribution Code of Practice* (2022) s 3.1.

¹⁰⁷ Essential Services Commission, *Electricity Distribution Code of Practice* (2022) s 25.4.1.

Further, the enforcement officer may enter any residence or land and perform an inspection of the CER.¹⁰⁸

- (b) **Require Information or Documents:** when investigating a serious electrical incident, emergency, or determining compliance with the *Electricity Safety Act 1998* (Vic), regulations or an electricity safety management scheme, enforcement officers may request a person to give information to the officer. This tool requires a person to produce documents for the enforcement officer and to give reasonable assistance in the fact finding process. The enforcement officer must obtain the prior written consent of Energy Safe Victoria before exercising this power.¹⁰⁹
- (c) **Rectification:** An enforcement officer may issue a rectification notice to the person who is responsible for carrying out electrical installation work that is in breach of any provision of the *Electricity Safety Act 1998* (Vic).

5.19 The Essential Services Commission also has general information gathering powers and inspection powers under the *Essential Services Commission Act 2001* (Vic).

Enforcement

5.20 The *Electricity Safety Act 1998* (Vic) prescribes the following offences:

- (a) **Failure to provide information:**
 - (i) **Offence:** A person (individual or corporation) must not refuse to provide an enforcement officer with information requested by an enforcement officer under Pt 11 Div 4 s 134(3) (referred to above).¹¹⁰
 - (ii) **Penalty:** The offence carries a penalty equivalent to \$36,984.¹¹¹
- (b) **Safety of Electrical Installations:**¹¹²
 - (i) Installers and persons carrying out electrical equipment work are subject to the following offences:
 - (A) **Offence:** A person (individual or corporation) must not install electrical equipment if it knows or reasonably be expected to know that the electrical equipment is unsafe if connected, would make any other electrical equipment unsafe if connected, or will make the building or structure unsafe if supplied with electricity. Whilst not expressly provided for, it is reasonable to conclude that an electrical equipment would be unsafe if it does not comply with the Australian standards as prescribed under the regulations. An equivalent offence applies in respect of persons carrying out electrical equipment work.
 - (B) **Penalty:** The offence carries a penalty equivalent to \$7,396.80.
 - (ii) An occupier of a premises is subject to the following offence:
 - (A) **Offence:** The occupier of any premises in which there is any unsafe electrical equipment must cause the electrical equipment to be removed from the premises or to be made safe, or in the case of electrical equipment forming part of an electrical installation, notify the owner of the premises of the unsafe electrical installation.
 - (B) **Penalty:** The offence carries a penalty equivalent to \$7,396.80.
 - (iii) An owner of a premises is subject to the following offence:

¹⁰⁸ *Electricity Safety Act 1998* (Vic) s 122.

¹⁰⁹ *Electricity Safety Act 1998* (Vic) s 134.

¹¹⁰ *Electricity Safety Act 1998* (Vic) s 134(4).

¹¹¹ All penalty amounts in relation to the *Electricity Safety Act 1998* (Vic) are based on the penalty unit as at the date of this document which is \$184.92 per Gazette Number G16 dated 21 April 2022.

¹¹² *Electricity Safety Act 1998* (Vic) s 43.

- (A) **Offence:** An owner of premises who is notified by the occupier must cause the electrical installation to be removed from the premises or to be made safe.
 - (B) **Penalty** The offence carries a penalty equivalent to \$7,396.80 if the owner is a natural person, or \$36,984 if the owner is a body corporate.
- (c) **Compliance and testing of electrical installation work**¹¹³
 - (i) **Offence:** A licensed electrical installation worker must ensure that all electrical installation work carried out by that worker complies with, and is tested in accordance with the *Electricity Safety Act 1998* (Vic) and regulations.
 - (ii) **Penalty:** The offence carries a penalty equivalent to \$7,396.80.
- (d) **Compliance with a rectification notice:**¹¹⁴
 - (i) **Offence:** A person (individual or corporation) must:
 - (A) comply with the requirement made by an enforcement officer that issues a rectification notice in respect of installation work that is in breach of the provision of the *Electricity Safety Act 1998* (Vic); and
 - (B) not ask for, or receive, from the person for whom the work was originally carried out (or any agent of that person) any money in respect of any cost arising from anything the person does in complying with a rectification notice.
 - (ii) **Penalty:** A failure to comply with the above provision may attract a penalty equivalent to \$9,246 for a natural person and \$46,230 in the case of a body corporate.

Other powers

- 5.21 **Prohibit the supply of specified electrical equipment:** Energy Safe Victoria, may by Government Gazette, prohibit the supply of specified electrical equipment if they have reasonable grounds to believe that (a) the electrical equipment does not satisfy the relevant standard, or (b) the electrical equipment is likely to become unsafe to use.¹¹⁵
- 5.22 **Penalty Infringement Notices:** An enforcement officer may serve an infringement notice on any person that he or she has reason to believe has committed a prescribed offence in failing to comply with respective standards and legislation.¹¹⁶

South Australia

Electricity Act 1996 (SA)

Overview of regulatory framework

- 5.23 A key regulatory framework prescribing compliance with standards in South Australia is the *Electricity Act 1996* (SA). The purpose of the legislation is to create and maintain the safety and efficiency of electricity generation, transmission, distribution and supply, to establish the necessary safety standards for the electrical supply industry and safety and technical standards for electrical installations and protect the interests of electricity consumers.

¹¹³ *Electricity Safety Act 1998* (Vic) s 44.

¹¹⁴ *Electrical Safety Act 1998* (Vic) s 45AB.

¹¹⁵ *Electricity Safety Act 1998* (Vic) s 63. Certain RCBOs are prohibited by Energy Safe Victoria pursuant to this power. More information is available in Energy Safe Victoria, *RCBOs prohibition* (Web Site, 29 January 2023) <<https://esv.vic.gov.au/technical-information/electrical-appliances-and-equipment/rcbos-prohibition-qa/>>.

¹¹⁶ *Electricity Safety Act 1998* (Vic) s 140B.

- 5.24 Electrical installations are defined broadly as a set of wires and associated fittings, equipment and accessories installed for the conveyance, control, measurement or use of electricity for general power and lighting in a place used for electricity generating operations, or incidental or related operation, and include CER¹¹⁷

Compliance with applicable standards

- 5.25 The *Electricity (General) Regulations 2012* (SA) prescribe compliance with the following standards and related requirements:
- (a) electrical installations must be designed, installed, operated and maintained in compliance with the standard set out in AS 3000 (Electrical Installations) (Wiring Rules) (and its related standards);¹¹⁸
 - (b) if the electrical installation is, or will be, connected to the distribution network, it must comply with the rules established by the operator of that network.¹¹⁹ Such rules would include compliance with AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements) as prescribed by the NER; and
 - (c) electrical installations which fall within the scope of AS 3000 (Electrical Installations) (Wiring Rules) (and its related standards) are required to be examined and tested in accordance with AS 3000 (Electrical Installations) (Wiring Rules) (and its related standards) and the rules established by the operator of the relevant distribution network. Subject to satisfying the requirements of the standard, an electronic certificate of compliance is issued by a registered electrical worker, with a hard copy approved by the Technical Regulator to later be issued.¹²⁰
- 5.26 The Electricity Distribution Code (Version EDC/13) dated 1 July 2020, defines a '*small embedded generator*' as owning, operating or controlling an *embedded generating unit* that complies with the requirements of AS 4777.2:2020 (Grid connection of energy systems via inverters - Inverter requirements), inferring a requirement that such standard must be complied with.
- 5.27 The Technical Regulator Guidelines, which apply to designated electrical generating plants under the *Electricity (General) Regulations 2012* (SA), require all exporting solar systems to be capable of receiving and adhering to site export limits via IEEE 2030.5: 2018 (Standard for Smart Energy Profile Application Protocol) using the 'Common Smart Inverter Profile – Australia 'CSIP-AUS'. The CSIP-AUS has been developed as a national standard, developed by the DER integration API Technical Working Group. This working group formed in 2019 as a collaboration of Australian energy sector businesses from across the supply chain, including numerous distribution networks, retailers, equipment manufacturers and aggregators.

What stage of supply chain do the regulatory requirements apply to?

- 5.28 Primarily applies to regulate installers (and electrical work service providers, including designers). Owners and operators of CER installations are also subject to obligations. The following entities must ensure compliance with the Technical Regulator Guidelines as it relates to CSIP-Aus:
- (a) original equipment manufacturers in developing software and hardware, DNSPs;
 - (b) DNSPs via testing and assessing compliance;
 - (c) solar retailers, by ensuring that equipment sold are compatible with the requirements; and
 - (d) solar installers, by ensuring that they install and configure equipment and successfully execute a dynamic exports capability test (which requires compliance with CSIP-Aus).

¹¹⁷ *Electricity (General) Regulations 2012* (SA) reg 5.

¹¹⁸ *Electricity (General) Regulations 2012* (SA) regs 53, 55.

¹¹⁹ *Electricity (General) Regulations 2012* (SA) reg 55(b).

¹²⁰ *Electricity (General) Regulations 2012* (SA) regs 56(1), 56(1a).

Applicable regulator

- 5.29 The Technical Regulator, in conjunction with the Essential Services Commission (SA) is responsible for overseeing the safety and technical standards relevant to the electricity installations.

Tools to monitor compliance

- 5.30 The Technical Regulator has available the following tools to monitor compliance:
- (a) **Powers to request information:** The Technical Regulator may request that a person provide information within the person's possession to the Technical Regulator for the performance of the Technical Regulator's functions.¹²¹
 - (b) **Powers of entry:** An authorised officer, being a person authorised by the Minister, may enter and remain in any place as reasonably required for the enforcement of the *Electricity Act 1996* (SA).¹²² An authorised officer may enter and remain in a place for the purpose of, amongst other things, investigating whether the *Electricity Act 1996* (SA) is being complied with, examining and testing electrical installations or equipment to determine whether they are safe and comply with the *Electricity Act 1996* (SA) and investigating a suspected interference with electrical installation.¹²³

Enforcement

- 5.31 The legislation prescribes the following offences:
- (a) **Failure to provide information:**¹²⁴
 - (i) **Offence:** If a person does not to comply with a request from the Technical Regulator under Pt 2 Div 1 s 10(1) of the EA (referred to above) within the stated time, it commits an offence.
 - (ii) **Penalty:** the offence carries a maximum penalty of \$20,000.00.
 - (b) **Installation of electrical equipment:**¹²⁵
 - (i) **Offence:** A person must not install electrical equipment that the person knows or should be reasonably expected to know is, or will be, unsafe in use.¹²⁶
 - (ii) **Penalty:** The offence carries a maximum penalty of \$10,000.00.
 - (c) **Design of electrical installations:**¹²⁷
 - (i) **Offence:** A person who fails to design electrical installations in accordance with technical and safety requirements contained within the regulations commits an offence.
 - (ii) **Penalty:** The offence attracts a maximum penalty of \$10,000.00.¹²⁸
 - (d) **Owner or operator of electrical installation:**¹²⁹

¹²¹ *Electricity Act 1996* (SA) s10(1).

¹²² *Electricity Act 1996* (SA) s 68.

¹²³ *Electricity Act 1996* (SA) s 69(1).

¹²⁴ *Electricity Act 1996* (SA) s 10(1), (2).

¹²⁵ *Electricity Act 1996* (SA) s 61B.

¹²⁶ *Electricity Act 1996* (SA) s 61A.

¹²⁷ *Electricity Act 1996* (SA) s 61B.

¹²⁸ *Electricity Act 1996* (SA) s 61B.

¹²⁹ *Electricity Act 1996* (SA) s 60A(1b).

- (i) **Offence:** A person who owns or operates an electrical installation must take reasonable steps to ensure that the installation complies with the technical and safety requirements under the regulations and is safe.¹³⁰
- (ii) **Penalty:** The offence attracts a maximum penalty of \$50,000.00 for a body corporate or \$10,000.00 in any other case.¹³¹

5.32 The Commission also has the following powers of enforcement:

- (a) **Warning Notices:** The Technical Regulator may issue a warning notice to a person who appears to be guilty of a contravention of the technical and safety requirements set out in Part 6 or 6A, where the contravention is capable of being corrected.¹³² The person is then given the opportunity to rectify the contravention within a specified period.¹³³ The Technical Regulator may accept an assurance from a person related to a matter governed by the EA.¹³⁴
- (b) **Injunctions:** A court may grant an injunction if it is satisfied, on application from the Technical Regulator (or the Minister or the Commission) that a person has or proposes to act in contravention of the Electricity Act 1996 (SA).¹³⁵
- (c) **Enforcement Notices:** An authorised officer, being suitable persons appointed by the Minister, may issue an enforcement notice which requires the receiving party to comply with a requirement of the Electricity Act 1996 (SA).¹³⁶

Queensland

Electricity Act 1994 (Qld), Electrical Safety Act 2002 (Qld)

Overview of regulatory framework

- 5.33 A key regulatory framework prescribing compliance with standards is the *Electrical Safety Act 2002* (Qld) provides for the minimisation of electrical risk and ensuring electrical safety in Queensland.¹³⁷ The *Electrical Safety Act 2002* (Qld) imposes electrical safety duties upon entities that provide goods or services relating to electrical equipment or electrical installations.¹³⁸
- 5.34 Electrical installations is defined broadly to capture electrical equipment (being equipment used for controlling, generating, supplying, transforming or transmitting electricity at a voltage greater than extra low voltage, is operated by electricity at greater than low voltage, is part of an electrical installation in an atmosphere at risk of fire or explosion or is part of a cathodic protection system) that is permanently connected, can be supplied with energy and does not include works of an electricity entity.¹³⁹
- 5.35 Under the *Electrical Safety Act 2002* (Qld), the Minister may make a notice or code of practice that prescribes a way of discharging a person's electrical safety duties.¹⁴⁰ A number of codes of practice have been made by the Minister and are currently in place that require adherence to standards,¹⁴¹ however, currently these are not directly relevant to CER.

¹³⁰ *Electricity Act 1996* (SA) s 60A(1b).

¹³¹ *Electricity Act 1996* (SA) s 60A(1b).

¹³² *Electricity Act 1996* (SA) s 63A(2).

¹³³ *Electricity Act 1996* (SA) ss 63A(1), 63A(2).

¹³⁴ *Electricity Act 1996* (SA) s 63B(1).

¹³⁵ *Electricity Act 1996* (SA) s 63C(1), 63C(2).

¹³⁶ *Electricity Act 1996* (SA) s 63D.

¹³⁷ See *Electrical Safety Act 2002* (Qld) s 4.

¹³⁸ *Electrical Safety Act 2002* (Qld) pt 4.

¹³⁹ *Electrical Safety Act 2002* (Qld) ss 14, 15

¹⁴⁰ *Electrical Safety Act 2002* (Qld) ss 42–4. the *Electrical Safety (Codes of Practice) Notice 2013* (Qld), available at <<https://www.legislation.qld.gov.au/view/html/inforce/current/sl-2013-0276>>. It designates certain relevant codes of practice in schedule 1.

¹⁴¹ *Electrical Safety (Codes of Practice) Notice 2013* (Qld).

- 5.36 The *Electricity Act 1994* (Qld) also regulates Queensland's electricity industry. Broadly, the *Electricity Act 1994* (Qld) provides for the regulation of the electricity industry and electricity use in Queensland, and ensuring that the interests of customers are protected.

Compliance with applicable standards

- 5.37 The *Electricity Regulation 2006* (Qld) prescribes compliance that if a person installs and operates a low voltage electric line forming part of their electrical installation beyond a person's property, such electrical line must be installed in accordance with AS 3000 (Electrical installations) (Wiring Rules).¹⁴²
- 5.38 The *Electrical Safety Regulation 2013* (Qld) prescribes compliance with the following specific technical requirements and other rules relating to electrical work, installations, and equipment in a variety of contexts. The following areas may be of relevance:
- (a) sale of certain electrical equipment will need to meet the safety criteria set out in AS 3820 (Essential safety requirements for electrical equipment) order to sell electrical equipment.¹⁴³
 - (b) sale of "In-scope electrical equipment" (low voltage electrical equipment for household, personal or similar use)¹⁴⁴ will need to meet the requirements of AS 4417 (Regulatory compliance mark for electrical and electronic equipment), and AS 3820 (Essential safety requirements for electrical equipment) (with any relevant AS/NZS or IEC standard),¹⁴⁵ or other relevant standards.¹⁴⁶; and
 - (c) licensed electrical workers must ensure that the electrical installation complies with AS 3000:2018 (Electrical installations) (Wiring Rules).¹⁴⁷

What stage of supply chain do the regulatory requirements apply to?

- 5.39 Primarily applies to regulate installers (and electrical work service providers). Also applies to retailers of CER. Owners and occupiers of premises with CER installations are also subject to obligations.

Regulator

- 5.40 The Electrical Safety Office is responsible for regulation of electrical safety in Queensland (being part of the Office of Industrial Relations),¹⁴⁸ as well as a broad regulation-making power including safety and technical requirements for electrical work, electrical installations, and electrical equipment.¹⁴⁹
- 5.41 The regulator of the *Electricity Act 1994* (Qld) is the chief executive of the Department of Energy and Public Works.¹⁵⁰

Tools to monitor compliance

- 5.42 **Power to obtain information**

¹⁴² *Electricity Regulation 2006* (Qld) reg 24. We note that subsections 27(a) and (b) of the *Electricity Act 1994* (Qld) apply to persons who operate a generating plant with a capacity of 30MW or less (who are deemed to hold a special approval to connect to the distribution network). Those provisions require compliance with technical conditions of connection to a supply network, as prescribed by the Regulations, and accordingly must comply with the relevant requirements under *Electricity Regulation 2006* (Qld).

¹⁴³ *Electrical Safety Regulation 2013* (Qld) reg 191.

¹⁴⁴ *Electrical Safety Act 2002* (Qld) s 48B(1).

¹⁴⁵ *Electrical Safety Regulation 2013* (Qld) regs 126–7 and pt 7.

¹⁴⁶ *Electrical Safety Regulation 2013* (Qld) reg 127.

¹⁴⁷ *Electrical Safety Regulation 2013* (Qld) regs 70–1.

¹⁴⁸ See generally *Electrical Safety Act 2002* (Qld) ss 122, 122A.

¹⁴⁹ *Electrical Safety Act 2002* (Qld) s 210(2).

¹⁵⁰ *Electricity Act 1994* (Qld) s 62.

- (a) ***Electricity Act 1994 (Qld)***: The regulator may require a person operating a generating plant of less than 30MW (a 'special approval' holder) to carry out an internal audit of its compliance with its special approval.¹⁵¹
- (b) ***Electrical Safety Act 2002 (Qld)***: The Electrical Safety Office can require a person to give information, provide documents, or give evidence relating to a possible contravention of the *Electrical Safety Act 2002* (Qld) or that will help the regulator to monitor or enforce compliance with the *Electrical Safety Act 2002* (Qld).¹⁵²

5.43 Inspectors and power of entry, seizure

- (a) ***Electrical Safety Act 2002 (Qld)***: The Electrical Safety Office can appoint inspectors to investigate contraventions of the *Electrical Safety Act 2002* (Qld) and help in the prosecution of offences.¹⁵³ Inspectors may enter a workplace subject to an electrical safety duty under the *Electrical Safety Act 2002* (Qld) when that workplace is open,¹⁵⁴ in an emergency,¹⁵⁵ or with a search warrant (on application to and issue by the magistrate).¹⁵⁶ Upon entry of a place, inspectors have powers to require production of documents,¹⁵⁷ copy and retain documents,¹⁵⁸ seize evidence,¹⁵⁹ and seize unsafe equipment.¹⁶⁰ An inspector that enters a place may take and remove for analysis, testing or examination, a substance or thing or sample of any substance or thing without paying for it.¹⁶¹ The Electrical Safety Office may have such substance, thing or sample analysed and obtain a certificate or report from the analyst stating the analysis result.¹⁶²
- (b) ***Electricity Act 1994 (Qld)***: The regulator can appoint inspection officers who may enter a place with consent of the occupier, where the place is a public place or where entry is authorised by a warrant.¹⁶³ Amongst other conditions, a warrant can only be issued where there is reasonable grounds for suspecting there is a particular thing or activity that may provide evidence of an offence under the *Electricity Act 1994* (Qld), or a special warrant may be issued in urgent or other special circumstances.¹⁶⁴ Upon entry of a place, an inspection officer has various search and evidence collection powers where for a prescribed purpose (being monitoring and enforcing compliance with the *Electricity Act 1994* (Qld)), including taking photographs, things, copying documents, seizing evidence requiring reasonable help and to answer questions from persons at the place.¹⁶⁵

Enforcement

Electricity Act 1994 (Qld)

5.44 Obligation to comply with inspection officer entering place

- (a) **Offence**: A person given a requirement to assist an inspection officer or answer questions must comply (unless the person has a reasonable excuse).¹⁶⁶

¹⁵¹ *Electricity Act 1994* (Qld) s 120AA.

¹⁵² *Electrical Safety Act 2002* (Qld) s 122C.

¹⁵³ *Electrical Safety Act 2002* (Qld) s 137.

¹⁵⁴ *Electrical Safety Act 2002* (Qld) s 138(1).

¹⁵⁵ *Electrical Safety Act 2002* (Qld) ss 138–138D.

¹⁵⁶ *Electrical Safety Act 2002* (Qld) s 139.

¹⁵⁷ *Electrical Safety Act 2002* (Qld) s 141.

¹⁵⁸ *Electrical Safety Act 2002* (Qld) s 141C.

¹⁵⁹ *Electrical Safety Act 2002* (Qld) s 141D.

¹⁶⁰ *Electrical Safety Act 2002* (Qld) ss 141E, 141F.

¹⁶¹ *Electrical Safety Act 2002* (Qld) s 138B(f).

¹⁶² *Electrical Safety Act 2002* (Qld) s 138D.

¹⁶³ *Electricity Act 1994* (Qld) s 152A. Note: there is also provision for entry for audits under section 135IT of the *Electricity Act 1994* (Qld), but note that audits are no longer conducted under this section.

¹⁶⁴ *Electricity Act 1994* (Qld) ss 152D–152E.

¹⁶⁵ *Electricity Act 1994* (Qld) ss 152G–152H.

¹⁶⁶ *Electricity Act 1994* (Qld) s 120A.

- (b) **Penalty:** up to \$14,375.¹⁶⁷
- 5.45 **Obligation to provide reasonable help or information to auditor**
- (a) **Offence:** special approval holder must provide reasonable help or information required for an independent auditor (appointed on requirement of the regulator under section 120AA of the *Electricity Act 1994* (Qld)).¹⁶⁸
- (b) **Penalty:** up to \$143,750.¹⁶⁹
- 5.46 **Conveyance of electricity beyond own property**
- (a) **Offence:** CER that does not meet the special approval requirements may not operate an electric line beyond that person's property unless permitted by regulation.¹⁷⁰
- (b) **Penalty:** up to \$5,750.¹⁷¹
- 5.47 **Specific provisions**
- (a) **Offences:** a person may not unlawfully connect anything to a transmission grid or supply network, connect, disconnect or interfere with supply of electricity to a customer, and other offences.¹⁷²
- (b) **Penalties:** up to \$1,150 - \$11,500, and option for imprisonment in some cases.¹⁷³
- Electrical Safety Act 2002* (Qld)
- 5.48 **Power to obtain information**
- (a) **Offence:** The Electrical Safety Office can require a person to give information, provide documents, or give evidence relating to a possible contravention of the *Electrical Safety Act* (Qld) or that will help the Electrical Safety Office to monitor or enforce compliance with the *Electrical Safety Act* (Qld).¹⁷⁴
- (b) **Penalty:** up to \$14,375 (for refusal or failure to comply with a notice without a reasonable excuse).¹⁷⁵
- 5.49 **Improvement notices**
- (a) **Offence:** Where an inspector reasonably believes that a person is contravening, or is likely to continue or repeat a prior contravention, they may issue an improvement notice requiring the person to remedy the contravention, prevent a likely contravention from occurring, or remedy the things or operations causing the contravention or likely contravention.¹⁷⁶
- (b) **Penalty:** up to \$71,875 for failure to comply within the period stated in the notice.¹⁷⁷
- 5.50 **Electrical safety protection notices**
- (a) **Offence:** Where an inspector reasonably believes that there are circumstances causing, or that are likely to cause, a risk of death, shock or injury caused by electricity, they may direct the person in control of the relevant activity or electrical

¹⁶⁷ *Electricity Act 1994* (Qld) s 120A. All penalty amounts in relation to the *Electricity Act 1994* (Qld) are based on the penalty unit as at the date of this document which is \$143.75 per section 3 of the *Penalties and Sentences Regulation 2015* (Qld).

¹⁶⁸ *Electricity Act 1994* (Qld) s 120AC.

¹⁶⁹ *Electricity Act 1994* (Qld) s 120AC.

¹⁷⁰ *Electricity Act 1994* (Qld) s 227.

¹⁷¹ *Electricity Act 1994* (Qld) s 227.

¹⁷² *Electricity Act 1994* (Qld) ss 228–244.

¹⁷³ *Electricity Act 1994* (Qld) ss 228–244.

¹⁷⁴ *Electrical Safety Act 2002* (Qld) s 122C.

¹⁷⁵ *Electrical Safety Act 2002* (Qld) s 122C(6).

¹⁷⁶ *Electrical Safety Act 2002* (Qld) s 146.

¹⁷⁷ *Electrical Safety Act 2002* (Qld) s 146B.

equipment to stop using the electrical equipment, or disconnect electrical equipment to eliminate the risk.¹⁷⁸

- (b) **Penalty:** up to \$143,750 (for failures to comply with a direction),¹⁷⁹ and potential for remedial action by the inspector at the relevant person's expense.¹⁸⁰

5.51 Unsafe equipment notices

- (a) **Offence:** Where an inspector reasonably believes that electrical equipment is so defective or hazardous that it is likely to cause a serious electrical incident, they may issue an unsafe equipment notice requiring the owner to make the electrical equipment harmless or unusable.¹⁸¹
- (b) **Penalty:** up to \$143,750 (for failure to comply with an unsafe equipment notice without a reasonable excuse).¹⁸²

5.52 Non-disturbance notices

- (a) **Offence:** Where an inspector reasonably believes that it is necessary to do so to facilitate the exercise of his or her compliance powers, they may issue a non-disturbance notice to the person with management or control of a place requiring them to preserve or prevent the disturbance of a particular site.¹⁸³
- (b) **Penalty:** \$71,875 (for failure to comply with a non-disturbance notice without a reasonable excuse).

5.53 Specific provisions

- (a) **Offence:** Sale of electrical equipment in contravention of AS 3820 (Essential safety requirements for electrical equipment),¹⁸⁴ failure by a licensed electrical worker to ensure that the electrical installation complies with AS 3000:2018 (Electrical installations) (Wiring Rules),¹⁸⁵ failure to ensure any structure supporting an electric line or item of electrical equipment forming part of the electrical installation complies with AS 3000:2018 (Electrical installations) (Wiring Rules),¹⁸⁶ supply of in-scope electrical equipment that does not comply with the relevant standards for the type of equipment,¹⁸⁷ failure to keep evidence of compliance with relevant standards,¹⁸⁸ failure to comply with various obligations relating to in-scope electrical equipment,¹⁸⁹ and failure to ensure a private generating plant intended to supply electricity during an interruption of electricity supply from a distribution entity complies with AS 3000:2018 (Electrical installations) (Wiring Rules).¹⁹⁰
- (b) **Penalty:** up to \$5,750.¹⁹¹

The Electrical Safety Office also has the following powers of enforcement:

- 5.54 **Injunctions:** Where it has issued an electrical safety protection notice or unsafe equipment notice, it may apply to a magistrates court for an injunction either compelling a person to comply with a notice or restraining a person from contravening a notice.¹⁹²

¹⁷⁸ *Electrical Safety Act 2002* (Qld) s 147.

¹⁷⁹ *Electrical Safety Act 2002* (Qld) s 147(6).

¹⁸⁰ *Electrical Safety Act 2002* (Qld) s 148(3).

¹⁸¹ *Electrical Safety Act 2002* (Qld) s 148.

¹⁸² *Electrical Safety Act 2002* (Qld) s 149B.

¹⁸³ *Electrical Safety Act 2002* (Qld) s 149–149A.

¹⁸⁴ *Electricity Safety Regulation 2013* (Qld) regs 191–2.

¹⁸⁵ *Electrical Safety Regulation 2013* (Qld) regs 70–1.

¹⁸⁶ *Electrical Safety Regulation 2013* (Qld) reg 77.

¹⁸⁷ *Electricity Safety Regulation 2013* (Qld) regs 14–5, 151–2.

¹⁸⁸ *Electricity Safety Regulation 2013* (Qld) regs 147–9.

¹⁸⁹ *Electricity Safety Regulation 2013* (Qld) regs 164, 179, 180, 182, 186.

¹⁹⁰ *Electricity Safety Regulation 2013* (Qld) reg 224.

¹⁹¹ *Electrical Safety Regulation 2013* (Qld) regs 70–1, 77, 143–5, 191.

¹⁹² *Electrical Safety Act 2002* (Qld) ss 152, 152A.

Australian Capital Territory

Electricity Safety Act 1971 (ACT)

Overview of regulatory framework

- 5.55 A key regulatory framework prescribing compliance with standards in the Australian Capital Territory is the *Electricity Safety Act 1971 (ACT)*. The *Electricity Safety Act 1971 (ACT)* regulates the safe use of electricity in the Australian Capital Territory.
- 5.56 The *Electricity Safety Act 1971 (ACT)* prohibits a person from connecting a new electrical installation to an electricity network where such installation has not been inspected, tested and passed by an inspector.¹⁹³ Electrical installation is defined broadly to capture electrical wiring or cable used or for use in carrying or controlling electricity (other than electricity with a voltage of < 50V a.c. or 120V ripple-free d.c.), but doesn't include portable generators or storage devices, appliances, electricity network or part of a network or telecommunications cabling or equipment of <90V a.c.

Compliance with applicable standards

- 5.57 The *Electricity Safety Act 1971 (ACT)* prescribes compliance with the following standards:
- (a) electrical wiring work must comply with AS 3000 (Electrical installations) (Wiring Rules);¹⁹⁴
 - (b) electrical wiring work must be tested in accordance with AS 3017 (Electrical Installations - Verification By Inspection And Testing);¹⁹⁵
 - (c) sale or installation of electrical equipment must meet minimum safety standards for articles of electrical equipment in accordance with AS 3820 (Essential safety requirements for electrical equipment);¹⁹⁶
- 5.58 The *Electricity Safety Regulation 2004 (ACT)* provides exemptions to the requirements for complying with electrical wiring requirements and the testing and reporting requirements (on the basis of timing of the work and some other specific exemptions).

What stage of supply chain do the regulatory requirements apply to?

- 5.59 Primarily applies to regulate installers (and electrical work service providers). Owners and occupiers of premises with CER installations are also subject to obligations.

Regulator

- 5.60 The Construction Occupations Registrar is the regulatory authority responsible for administering the *Electricity Safety Act 1971 (ACT)*.

Tools to monitor compliance

- 5.61 **Power to require information and documents:** The Construction Occupations Registrar may require a person to give it information or produce documents for the *Electricity Safety Act 1971 (ACT)*.¹⁹⁷
- 5.62 **Power to enter premises and seize evidence:** An inspector may enter any premises with the consent of the occupier, when open to the public, during business hours of the premises or in accordance with a warrant (received on application from the magistrate),¹⁹⁸ and seize

¹⁹³ *Electricity Safety Act 1971 (ACT)* s 4.

¹⁹⁴ *Electricity Safety Act 1971 (ACT)* s 5.

¹⁹⁵ *Electricity Safety Act 1971 (ACT)* s 6.

¹⁹⁶ *Electricity Safety Act 1971 (ACT)* s 26.

¹⁹⁷ *Electricity Safety Act 1997 (ACT)* s 39.

¹⁹⁸ *Electricity Safety Act 1997 (ACT)* ss 43–7.

evidence (where connected to an offence under the *Electricity Safety Act 1971* (ACT) and where entry is via a warrant).¹⁹⁹

- 5.63 **Powers on entry to premises:** An inspector may inspect, measure, photograph or film anything on the premises, copy a document, test or take samples, take onto the premises any people, equipment or material reasonably required under the *Electricity Safety Act 1971* (ACT), or require the occupier or a person on the premises to give reasonable help to exercise a power under the *Electricity Safety Act 1971* (ACT).²⁰⁰
- 5.64 **Power to inspect electrical wiring work:** An inspector appointed by the Construction Occupations Registrar may enter and remain on premises to conduct a test or inspection in relation to electrical wiring work and electrical installations.²⁰¹
- 5.65 **Directions to rectify unsafe installations of electrical equipment:** If an inspector considers an electrical installation unsafe or not to have been inspected, tested or passed, the inspector may give a direction to rectify the electrical wiring work to make it safe and compliant with the relevant standards.²⁰²
- 5.66 **Directions to rectify unsafe installations of electrical equipment:**²⁰³ If the Construction Occupations Registrar believes on reasonable grounds that a person has sold or may sell an article of electrical equipment that does not comply with the relevant standard (amongst other criteria), it may give that person a direction to do a number of things prescribed in the *Electricity Safety Act 1971* (ACT), including make the article safe and compliant with the relevant standard.

Enforcement

- 5.67 **Power to require information and documents**
- (a) **Offence:** If a person contravenes a requirement made to provide information or produce a document.²⁰⁴
- (b) **Penalty:** \$40,500 (corporation), \$8,000 (individual) or 6 months' imprisonment.
- 5.68 **Power to require an occupier or person to give reasonable help**
- (a) **Offence:** If a person does not take all reasonable steps to comply with the requirement to provide an inspector reasonable help.²⁰⁵
- (b) **Penalty:** \$40,500 (corporation), \$8,000 (individual) or 6 months' imprisonment.
- 5.69 **Directions about unsafe articles of electrical equipment**
- (a) **Offence:** If the Construction Occupations Registrar issues directions to the seller of articles of electrical equipment that do not comply with the relevant standard or for any reason unsafe, the person must comply with that direction.²⁰⁶
- (b) **Penalty:** \$162,000 (corporation), \$32,000 (individual)
- 5.70 **Directions to rectify unsafe installations of electrical equipment**²⁰⁷
- (a) **Offence:** If an inspector gives a direction to rectify the electrical wiring work to make it safe and compliant with the relevant standards and a person must comply with that direction.

¹⁹⁹ *Electricity Safety Act 1997* (ACT) s 53.

²⁰⁰ *Electricity Safety Act 1997* (ACT) s 48.

²⁰¹ *Electricity Safety Act 1997* (ACT) s 57.

²⁰² *Electricity Safety Act 1997* (ACT) s 8.

²⁰³ *Electricity Safety Act 1997* (ACT) s 8.

²⁰⁴ *Electricity Safety Act 1997* (ACT) s 3.

²⁰⁵ *Electricity Safety Act 1997* (ACT) s 48(1)(e).

²⁰⁶ *Electricity Safety Act 1997* (ACT) s 40.

²⁰⁷ *Electricity Safety Act 1997* (ACT) s 8.

(b) **Penalty:** \$40,500 (corporation), \$8,000 (individual) or 6 months' imprisonment.

Tasmania

Electricity Supply Industry Act 1995 (Tas)

Overview of regulatory framework

- 5.71 A key regulatory framework prescribing compliance with standards in Tasmania is the *Electricity Supply Industry Act 1995 (Tas)*. The purpose of this legislation is to provide for a safe and efficient system of electricity generation, transmission, distribution and supply, to provide for the safety of electrical installations, equipment and appliances, to enforce proper standards in the performance of electrical work and in the electricity supply industry and protect the interests of consumers of electricity.²⁰⁸
- 5.72 Electrical installation is defined broadly as a set of wires and associated fittings, equipment and accessories that forms part of a power system (a system for the generation, transmission or distribution of electricity) and includes a set of wires and associated fittings, equipment and accessories in premises to which a power system is connected.
- 5.73 The Tasmanian Electricity Code is established under the *Electricity Supply Industry Act 1995 (Tas)* to cover the detail of jurisdictional matters related or incidental to the regulation of the electricity supply industry that are not otherwise covered by national laws (i.e. NER, NERL and NERR).²⁰⁹ This includes regulations in respect of aspects of distribution, Code administrative procedures and the Bass Strait Islands (which are not part of the NEM).
- 5.74 Another regulatory framework prescribing compliance with standards in Tasmania is the *Electricity Industry Safety and Administration Act 1997 (Tas)*, which establishes safety standards for electrical articles.
- 5.75 The *Electricity Safety Act 2022 (Tas)* will consolidate electricity safety provisions in the existing regulatory framework through amendment of the *Electricity Supply Industry Act 1995 (Tas)* and repeal of the *Electricity Industry Safety and Administration Act 1997 (Tas)* once it comes into force (section 3 of the *Electricity Safety Act 2022 (Tas)* states the provisions of the *Electricity Safety Act 2022 (Tas)* will commence on a date to be proclaimed, however no date has yet been set).²¹⁰ The *Electricity Safety Act 2022 (Tas)* regulates requirements for electricity infrastructure, installations, and equipment, the safety requirements of activities near electricity infrastructure and installations, and apply current technical standards to ensure safety.

Compliance with applicable standards

- 5.76 The *Electricity Supply Industry Act 1995 (Tas)* prescribes that systems (being a solar, wind or water power generating system) must comply with AS 4777 (Grid connection of energy systems via inverters - Inverter requirements) (or otherwise is approved by the distributor) in order to qualify for the feed-in tariff.²¹¹ Compliance with this standard will be required on commencement of the *Electricity Safety Act 2022 (Tas)* (i.e. is not being repealed).
- 5.77 The *Electricity Industry Safety and Administration Act 1997 (Tas)* prescribes compliance with AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment) as the 'relevant Australian Standard for electrical articles'.²¹² This definition has application under Part 4 of the *Electricity Industry Safety and Administration Act 1997 (Tas)*.²¹³ The *Electricity Industry Safety and Administration Act 1997 (Tas)* will be repealed on commencement of the *Electricity Safety Act 2022 (Tas)*.

²⁰⁸ *Electricity Supply Industry Act 1995 (Tas)*.

²⁰⁹ *Electricity Supply Industry Act 1995 (Tas)* div 9; Tasmanian Electricity Code 2015 (Tas), preamble page 1.

²¹⁰ *Electricity Safety Act 2022 (Tas)* s 2.

²¹¹ *Electricity Supply Industry Act 1995 (Tas)* s 44B.

²¹² *Electricity Industry Safety and Administration Act 1997 (Tas)* s 3.

²¹³ *Electricity Industry Safety and Administration Act 1997 (Tas)* s 48.

- 5.78 *Electricity Safety Act 2022* (Tas) gives 'explosive atmosphere', 'high voltage', 'in-scope electrical equipment', 'low voltage range', and 'low voltage' the meanings linked to those meanings set out in AS 3000 (Electrical installations) (Wiring Rules). The *Electricity Safety Act 2022* (Tas) also requires compliance with relevant standards (being those standards prescribed to apply to a type of in-scope electrical equipment).

What stage of supply chain do the regulatory requirements apply to?

- 5.79 Primarily applies to regulated installers (and electrical work service providers). Owners and occupiers of premises with CER installations are also subject to obligations.

Regulator

- 5.80 The Tasmanian Economic Regulator is the regulator for the monitoring and regulation of technical standards in the electricity supply industry under the *Electricity Supply Industry Act 1995* (Tas), as well as the Code.²¹⁴
- 5.81 The Secretary of the relevant government department of the time is the regulator under the *Electricity Supply Industry Act 1995* (Tas), including in relation to standards.²¹⁵
- 5.82 Under the *Electricity Safety Act 2022* (Tas), the Director of Electricity Safety will have the electricity safety functions and powers formerly assigned to the Tasmanian Economic Regulator in the *Electricity Supply Industry Act 1995* (Tas) and the Secretary under the *Electricity Supply Industry Act 1995* (Tas).²¹⁶

Tools to monitor compliance

General powers of officers

- 5.83 The regulators have available the following tools to monitor compliance the relevant legislation:

(a) **Power of entry:**

- (1) ***Electricity Supply Industry Act 1995* (Tas):** authorised officers (and their assistants) have the power to enter any place for the purpose of carrying out functions assigned to them under the legislation (including using force, where entry is authorised under a warrant²¹⁷ or in an emergency (if accompanied by a police officer)).²¹⁸
- (2) ***Electricity Industry Safety and Administration Act 1997* (Tas):** An authorised officer may enter land and premises:
- at any reasonable time to inspect electrical infrastructure, an electrical installation or an electrical article, and may conduct tests to determine whether the infrastructure, installation or article is safe;²¹⁹ and
 - carry out any inspection or do anything else reasonably necessary for the administration or enforcement of the *Electricity Industry Safety and Administration Act 1997* (Tas), either with consent of the occupier, with the authority of a warrant (received on application from the justice), or in an emergency.²²⁰

²¹⁴ *Electricity Supply Industry Act 1995* (Tas) ss 5, 6.

²¹⁵ *Electricity Industry Safety and Administration Act 1997* (Tas) ss 3, 6.

²¹⁶ *Electricity Safety Act 2022* (Tas) schs 1, 2.

²¹⁷ *Electricity Supply Industry Act 1995* (Tas) s 107.

²¹⁸ *Electricity Supply Industry Act 1995* (Tas) s 88.

²¹⁹ *Electricity Industry Safety and Administration Act 1997* (Tas) s 63.

²²⁰ *Electricity Industry Safety and Administration Act 1997* (Tas) s 99.

- (3) ***Electricity Safety Act 2022 (Tas)***: provides for a similar power by granting electricity officers a power of entry at any reasonable time, although limited to circumstances relating to safety and incidents, including, in the event of an emergency (and where accompanied by a police officer), by the use of reasonable force.²²¹
- (b) **General investigative powers:**
- (1) ***Electricity Supply Industry Act 1995 (Tas)***: an authorised officer entering a place, may exercise any of the following powers:
- investigate a suspected interference with electrical infrastructure or an electrical installation;
 - investigate a suspected theft or diversion of electricity;
 - take photographs or make films or other records of activities in the place and electrical installations in the place;
 - take possession of any object that may be evidence of an offence against the *Electricity Industry Safety and Administration Act 1997 (Tas)*.²²²
- (2) ***Electricity Safety Act 2022 (Tas)***: the Director of Electricity Safety has similar general investigative powers as the Tasmanian Economic Regulator under this *Electricity Supply Industry Act 1995 (Tas)*, as well as specific powers relating to:
- the inspection and investigation of electrical accidents;
 - investigation of compliance with the *Electricity Safety Act 2022 (Tas)*;
 - inspection and testing of any electrical equipment, electricity infrastructure or electrical installation; and
 - testing and analysis of any substance or thing that may relate to an accident.²²³
- (3) ***Electricity Industry Safety and Administration Act 1997 (Tas)***: the Secretary has powers to carry out investigations into serious electrical accidents, including powers to enter, inspect the place, examine and test equipment, take photographs or substances, require persons to answer questions or produce records, although must not enter residential premises unless authorised by the occupier or a warrant.²²⁴
- (c) **Power to require information:**
- (1) ***Electricity Supply Industry Act 1995 (Tas)***:
- The Tasmanian Economic Regulator may, by written notice, require a person to give it information it reasonably requires for the administration of the *Electricity Supply Industry Act 1995 (Tas)*, the regulations, the Code and the National Electricity Rules.²²⁵

²²¹ *Electricity Safety Act 2022 (Tas)* ss 114, 115, 120.

²²² *Electricity Supply Industry Act 1995 (Tas)* s 89.

²²³ *Electricity Safety Act 2022 (Tas)* s 127.

²²⁴ *Electricity Industry Safety and Administration Act 1997 (Tas)* s 74.

²²⁵ *Electricity Supply Industry Act 1995 (Tas)* s 15.

- An authorised officer may require a person to provide information and produce documents in the person's possession relevant to enforcement of the legislation.²²⁶
- (2) **Electricity Safety Act 2022 (Tas):** has similar powers to require information as under the *Electricity Supply Industry Act 1995* (Tas)(without an express notice requirement), including specific powers to ask questions and retain documents.²²⁷
- (3) **Electricity Supply Industry Act 1995 (Tas):** The Secretary may, by written notice, require a person to give it information, documents or materials it reasonably requires for the administration of the *Electricity Supply Industry Act 1995* (Tas).²²⁸

Enforcement

Electricity Supply Industry Act 1995 (Tas)

5.84 Failure to provide information to Tasmanian Economic Regulator under section 15:

- (a) **Offence:** If a person fails to comply with a requirement to provide information under section 15 of the *Electricity Supply Industry Act 1995* (Tas) within the (reasonable) time stated in the notice.²²⁹
- (b) **Penalty:** the offence carries a maximum penalty of \$181,000.²³⁰

5.85 Failure to provide information to an authorised officer under section 94:

- (a) **Offence:** If a person fails to comply with a requirement to provide information or produce documents under section 94(1) or (2) without reasonable excuse.²³¹ A reasonable excuse includes if the documents would tend to incriminate the person of an offence.²³²
- (b) **Penalty:** the offence carries a maximum penalty of \$3,620.²³³

5.86 Failure to comply with direction, order, determination and/or requirement:

- (a) **Offence:** Electrical entities failure to comply with any direction, order, determination or requirement given or made under this Act, the regulations or the Code.²³⁴
- (b) **Penalty:** the fine for non-compliance must not exceed \$181,000 and, in the case of a continuing offence, a further fine not exceeding \$18,100 for each day during which the offence continues.²³⁵ If guilty of the offence, the Court may in addition to, or instead of, imposing the monetary penalty listed make orders requiring compliance,²³⁶ directing the entity to do or refrain from doing anything,²³⁷ or make any other such order the Court considers appropriate.²³⁸

5.87 Authorised officers also have the following powers of enforcement:

²²⁶ *Electricity Supply Industry Act 1995* (Tas) s 94.

²²⁷ *Electricity Safety Act 2022* (Tas) s 132.

²²⁸ *Electricity Industry Safety and Administration Act 1997* (Tas) s 10.

²²⁹ *Electricity Supply Industry Act 1995* (Tas) s 15.

²³⁰ *Electricity Supply Industry Act 1995* (Tas) s 15(2).

²³¹ *Electricity Supply Industry Act 1995* (Tas) s 94(1)(2).

²³² *Electricity Supply Industry Act 1995* (Tas) s 94(4).

²³³ *Electricity Supply Industry Act 1995* (Tas) s 94(3).

²³⁴ *Electricity Supply Industry Act 1995* (Tas) s 114A(1).

²³⁵ *Electricity Supply Industry Act 1995* (Tas) s 114A(1).

²³⁶ *Electricity Supply Industry Act 1995* (Tas) s 114A(2)(a).

²³⁷ *Electricity Supply Industry Act 1995* (Tas) s 114A(2)(b).

²³⁸ *Electricity Supply Industry Act 1995* (Tas) s 114A(2)(c).

- (a) **Disconnection of electricity supply:** where an authorised officer finds that electricity is being supplied or consumed contrary to the *Electricity Supply Industry Act 1995* (Tas), the authorised officer may disconnect the electricity supply.²³⁹
- (b) **Injunction:** if a magistrate is satisfied that an electricity entity is contravening, has contravened or is proposing to contravene this Act, the regulations or the Code, the magistrate may grant an injunction in terms the magistrate considers appropriate.²⁴⁰

Electricity Supply Industry Act 1995 (Tas)

5.88 Failure to comply with Secretary orders:

- (a) **Offence:** failure to comply with an order from the Secretary to the owner or person in charge of electrical infrastructure to carry out specified work to repair or replace the infrastructure, to relocate infrastructure, direct discontinuance of supply or use of equipment, or for discontinuance of practice, make electrical infrastructure installations safe, give directions in an emergency.²⁴¹
- (b) **Penalty:** \$9,050 (for repair, replacement and relocation), \$36,200 (for discontinuance of supply), \$18,000 (for discontinuance of use of equipment or practice, for making electrical infrastructure installations safe, for directions in an emergency).²⁴²

5.89 Failure to comply with recall requirements of defective electrical articles under section 57

- (a) **Offence:** Failure to comply with Secretary requirement to recall and repair/replace electrical articles²⁴³
- (b) **Penalty:** failure to comply will attract a maximum penalty of \$9,050.²⁴⁴

5.90 Failure to comply with a regulation made under this Act under section 103

- (a) **Offence:** failure to comply with a regulation made by the Governor under the *Electricity Supply Industry Act 1995* (Tas).²⁴⁵
- (b) **Penalty:** failure to comply with a regulation will attract a maximum penalty of \$36,200 for a body corporate, and \$18,100 for an individual.²⁴⁶

Electricity Safety Act 2022 (Tas)

5.91 Contravention of Act

- (a) **Offence:** non-compliance with the *Electricity Safety Act 2022* (Tas).²⁴⁷
- (b) **Penalty:** a maximum penalty of \$905,000 (for the first day on which the contravention occurs), and a further maximum fine of \$36,000 (for each subsequent day on which contravention continues).²⁴⁸

5.92 Failure to provide information to an authorised officer under section 132

²³⁹ *Electricity Supply Industry Act 1995* (Tas) s 90.

²⁴⁰ *Electricity Supply Industry Act 1995* (Tas) s 114D.

²⁴¹ *Electricity Supply Industry Act 1995* (Tas) ss 63–70.

²⁴² *Electricity Supply Industry Act 1995* (Tas) ss 63–70.

²⁴³ *Electricity Supply Industry Act 1995* (Tas) s 57.

²⁴⁴ *Electricity Supply Industry Act 1995* (Tas) s 57(4).

²⁴⁵ *Electricity Supply Industry Act 1995* (Tas) s 103(1).

²⁴⁶ *Electricity Supply Industry Act 1995* (Tas) s 103(4).

²⁴⁷ *Electricity Safety Act 2022* (Tas) s 118(1).

²⁴⁸ *Electricity Safety Act 2022* (Tas) s 118(1). All penalty amounts in relation to the *Electricity Safety Act 2022* (Tas) are based on the penalty unit as at the date of this document which is \$181 per section 4 of the *Penalty Units and Other Penalties Act 1987* (Tas).

- (a) **Offence:** failure to provide an authorised officer with information in the person's possession relevant to the enforcement of the *Electricity Supply Industry Act 1995* (Tas).²⁴⁹
- (b) **Penalty:** contravention without reasonable excuse will attract a maximum monetary penalty of \$45,250 for a body corporate, and \$18,100 for an individual.²⁵⁰

5.93 Failure to comply with a rectification order under section 128

- (a) **Offence:** failure to comply with a rectification order made by the Director or authorised officer to rectify the unsafe matter, defect or non-compliance with the *Electricity Safety Act 2022* (Tas).²⁵¹
- (b) **Penalty:** a maximum of \$45,250 (body corporate), or \$22,625 (individual).²⁵²

5.94 Failure to comply with authorised officer safety directions given under section 129

- (1) **Offence:** Failure to comply with a safety order given by an authorised officer in an emergency.²⁵³
- (2) **Penalty:** a maximum of \$27,150 (body corporates), or \$13,575 (individuals).²⁵⁴

5.95 Authorised officers also have the following powers of enforcement:

- (a) **Power to make safe²⁵⁵ and power to isolate electricity supply:²⁵⁶**
 - (i) **Power:** Where an electrical installation is unsafe, an authorised officer may make it safe by isolating the electricity supply (with written notice) or giving directions to make the infrastructure or installation safe.
 - (ii) **Offence:** for reconnection supply without completion of work or approval by an authorised officer, or failing to comply with a direction to 'make safe' under s 131.
 - (iii) **Penalty:** a maximum fine of \$181,000 (body corporates), or \$90,500 (individuals).
- (b) **Rectification orders:** authorised officers may make a rectification order where satisfied that electrical infrastructure or installation is defective or non-compliant with the *Electricity Safety Act 2022* (Tas).²⁵⁷
- (c) **Infringement notices:** an authorised officer may serve an infringement notice on a person they believe has committed an offence under the *Electricity Safety Act 2022* (Tas), that is prescribed as an offence for which an infringement notice may be issued. It must not relate to more than 4 offences.²⁵⁸

Northern Territory

Electricity Reform Act 2000 (NT)

Overview of regulatory framework

²⁴⁹ *Electricity Safety Act 2022* (Tas) s 132(1).

²⁵⁰ *Electricity Safety Act 2022* (Tas) s 132.

²⁵¹ *Electricity Safety Act 2022* (Tas) s 128.

²⁵² *Electricity Safety Act 2022* (Tas) s 128(3).

²⁵³ *Electricity Safety Act 2022* (Tas) s 129(1).

²⁵⁴ *Electricity Safety Act 2022* (Tas) s 129.

²⁵⁵ *Electricity Safety Act 2022* (Tas) s 131.

²⁵⁶ *Electricity Safety Act 2022* (Tas) s 130.

²⁵⁷ *Electricity Safety Act 2022* (Tas) s 128.

²⁵⁸ *Electricity Safety Act 2022* (Tas) s 133.

- 5.96 The *Electricity Reform Act 2000* (NT) is the current legislative framework in place in Northern Territory and seeks to establish and enforce proper safety and technical standards for electrical installations (amongst other objectives).²⁵⁹
- 5.97 The Northern Territory is currently modernising its electrical safety laws and has introduced the *Electrical Safety Act 2022* (NT), which will commence on 1 November 2023. This legislation purports to consolidate the existing framework and adopts the EESS (refer to section 6 for more detail) amongst other matters. The *Electricity Reform Act 2000* (NT) will continue to operate with the amendments made by the *Electrical Safety Act 2022* (NT); the key change being that provisions which currently deal with safety will be repealed on the commencement of the *Electrical Safety Act 2022* (NT) and instead dealt with in the *Electrical Safety Act 2022* (NT).

Compliance with applicable standards

- 5.98 Under the *Electricity Reform Act 2000* (NT), a person who connects an electrical installation to an electricity network must ensure that the installation and the connection, comply with the technical and safety requirements under the regulations.²⁶⁰ The *Electricity Reform (Safety and Technical) Regulations 2000* (NT) require an electrical installation to comply with AS 3000 (Electrical Installations) (Wiring Rules) and any other Australian Standard called up by AS 3000 (Electrical Installations) (Wiring Rules). The *Electricity Reform (Safety and Technical) Regulations 2000* (NT) will be repealed when the *Electrical Safety Act 2022* (NT) commences on 1 November 2023.²⁶¹ Regulations under the new *Electrical Safety Act 2022* (NT) have not yet been made.

What stage of supply chain do the regulatory requirements apply to?

- 5.99 The existing framework primarily applies to regulate installers (and electrical work service providers, including designers). Owners and operators of CER installations are also subject to obligations. The new *Electrical Safety Act 2022* expands upon the safety obligations of electricity entities and introduces a legal obligation on anyone that can impact the electrical safety of others.²⁶²

Regulator

- 5.100 The *Electricity Reform Act 2000* (NT) is broadly regulated by the Electricity Safety Regulator, to be appointed by the Minister.²⁶³ Specifically, the regulator monitors and regulates safety and technical standards with respect to electrical installations as well as performing other functions assigned under the framework.²⁶⁴ Under the new *Electrical Safety Act 2022* (NT), the role and functions of the existing Electricity Safety Regulator under the *Electricity Reform Act 2000* (NT) will be repealed. The new *Electrical Safety Act 2022* (NT) sets out expansive powers for the new Electrical Safety Regulator to monitor and ensure compliance with both quality and safety standards.²⁶⁵

Tools to monitor compliance

- 5.101 The Electricity Safety Regulator has available the following tools to monitor compliance:
- (a) **Power to Request Information:** The Electricity Safety Regulator is appointed by the Minister and has the function of monitoring and regulating safety and technical standards with respect to electrical installations.²⁶⁶ The Electricity Safety Regulator may issue a notice to a person requiring that they provide information in the person's

²⁵⁹ *Electricity Reform Act 2000* (NT) s 3.

²⁶⁰ *Electricity Reform Act 2000* (NT) s 67(1).

²⁶¹ *Electrical Safety Act 2022* (NT) s 255.

²⁶² *Electrical Safety Act 2022* (NT) s 23–36.

²⁶³ *Electricity Reform Act 2000* (NT) ss 7–8.

²⁶⁴ *Electricity Reform Act 2000* (NT) s 8.

²⁶⁵ *Electrical Safety Act 2022* (NT) ss 95, 259.

²⁶⁶ *Electrical Safety Act 2022* (NT) s 8(1).

possession that is required by the Electrical Safety Regulator for the performance of its functions under the *Electricity Reform Act 2000* (NT).²⁶⁷

- (b) **Power of Entry:** An authorised officer may, as reasonably required for the purposes of the enforcement of the *Electricity Reform Act 2000* (NT), enter and remain in any place.²⁶⁸ The authorised officer may otherwise enter under a warrant.²⁶⁹ The *Electrical Safety Act 2022* (NT) amends the search powers of the authorised officer, called an inspector under the reforms.²⁷⁰ An inspector will have the same broad powers as an authorised officer to enter places for the enforcement of the *Electricity Reform Act 2000* (NT), except premises that are used for residential purposes (except in specific circumstances).²⁷¹
- (c) **General Investigative Powers:** In addition to the power of entry, the *Electricity Reform Act 2000* (NT) grants authorised officers the ability to, amongst other things, investigate compliance with the *Electricity Reform Act 2000* (NT), examine and test electrical installations, investigate a suspected interference with electrical infrastructure or installations, search, examine and copy documents or records as required for the enforcement of the *Electricity Reform Act 2000* (NT) once they have entered a place.²⁷² From 1 November 2023, powers of inspection are a matter for inspectors under the *Electrical Safety Act 2022* (NT).²⁷³ Inspectors may inspect, examine and make inquiries at a premises, inspect and examine any electrical equipment anything else related to electrical safety, take copies of (or extracts) of documents, take photographs or video record of the premises or things at the premises, use any equipment reasonably necessary to exercise its powers, seize electrical equipment or other items reasonably believed to be connected to an offence and / or take and remove for analysis a sample of any substance or thing.²⁷⁴

Enforcement

5.102 The *Electricity Reform Act 2000* (NT) prescribes the following offences:

- (a) **Failure to comply with technical and safety requirements under regulations**²⁷⁵
 - (i) **Offence:** A person who connects an electrical installation to an electricity network must ensure that the installation and the connection, comply with the technical and safety requirements under the regulations.²⁷⁶
 - (ii) **Penalty:** A failure to do so could attract a maximum penalty equivalent to \$81,000.²⁷⁷

On commencement of the *Electrical Safety Act 2022* (NT) the above provision is repealed.
- (b) **Failure to take reasonable steps to ensure compliance with technical and safety requirements under regulations**²⁷⁸

²⁶⁷ *Electrical Safety Act 2022* (NT) s 10.

²⁶⁸ *Electrical Safety Act 2022* (NT) s 76.

²⁶⁹ *Electricity Reform Act 2000* (NT) s 94.

²⁷⁰ *Electrical Safety Act 2022* (NT) s 150.

²⁷¹ *Electrical Safety Act 2022* (NT) s 151.

²⁷² *Electrical Safety Act 2022* (NT) s 77.

²⁷³ *Electrical Safety Act 2022* (NT) s 159.

²⁷⁴ *Electrical Safety Act 2022* (NT) s 159.

²⁷⁵ *Electricity Reform Act 2000* (NT) s 67(1).

²⁷⁶ *Electricity Reform Act 2000* (NT) s 67(1).

²⁷⁷ *Electricity Reform Act 2000* (NT) s 67(1). All penalty amounts in relation to this Northern Territory section are based on the penalty unit as at the date of this document which is \$162 per section 2 of the *Penalty Units Regulations 2010* (NT).

²⁷⁸ *Electricity Reform Act 2000* (NT) s 68(1).

- (i) **Offence:** A person who owns or operates an electrical installation must take reasonable steps to ensure that the installation complies with technical and safety requirements under the regulations and is safe and safely operated.²⁷⁹
- (ii) **Penalty:** A failure to do so could result in a maximum penalty equivalent to \$405,000.²⁸⁰

On commencement of the *Electrical Safety Act 2022* (NT) the above provision is repealed.

(c) **Failure to ensure work carried out in accordance with regulations, required examinations and tests are carried out and notification requirements complied with²⁸¹**

- (i) **Offence:** A person who carries out work on an electrical installation or proposed electrical installation must ensure that the work is completed in accordance with the Regulations, the required examinations and tests are carried out and the notification requirements under the Regulations are complied with.²⁸²
- (ii) **Penalty:** The maximum penalty for non-compliance is equivalent to \$8,100.²⁸³

On commencement of the *Electrical Safety Act 2022* (NT) the above provision is repealed.

(d) **Failure to comply with direction²⁸⁴**

- (i) **Offence:** If an electrical installation is unsafe, or does not comply with the *Electricity Reform Act 2000* (NT), the electricity safety regulator may give a direction for the rectification of the installation to the electricity safety regulator's satisfaction, temporary disconnection of the electricity supply while works are being undertaken (if applicable) or the disconnection and removal of the installation.²⁸⁵
- (ii) **Penalty:** A failure to comply with a direction under this provision may attract a maximum penalty equivalent to \$81,000.²⁸⁶

On commencement of the *Electrical Safety Act 2022* (NT) the above provision is repealed. Instead, an inspector will have the ability to give a direction relating to electrical safety if it believes on reasonable grounds that an immediate electrical risk exists at a place.²⁸⁷ A direction could include to disconnect electrical equipment, stop an activity or stop using unsafe electrical equipment.²⁸⁸ If a person intentionally engages in conduct that contravenes the requirements of a direction and the person is reckless in relation to that result, that is an offence that may attract a maximum penalty equivalent to \$162,000.²⁸⁹

5.103 The *Electrical Safety Act 2022* (NT) will penalise persons who fail to comply with an electrical safety duty. The three levels of conduct which can be penalised are as follows:

(a) **Category 1: Reckless conduct**

²⁷⁹ *Electricity Reform Act 2000* (NT) s 68(1).

²⁸⁰ *Electricity Reform Act 2000* (NT) s 68(1).

²⁸¹ *Electricity Reform Act 2000* (NT) s 69.

²⁸² *Electricity Reform Act 2000* (NT) s 69.

²⁸³ *Electricity Reform Act 2000* (NT) s 69.

²⁸⁴ *Electricity Reform Act 2000* (NT) s 70(1).

²⁸⁵ *Electricity Reform Act 2000* (NT) s 70(1).

²⁸⁶ *Electricity Reform Act 2000* (NT) s 70(4).

²⁸⁷ *Electrical Safety Act 2022* (NT) s 198(1).

²⁸⁸ *Electrical Safety Act 2022* (NT) s 198(2).

²⁸⁹ *Electrical Safety Act 2022* (NT) s 198(6).

- (i) **Offence:** A person who has an electrical safety duty intentionally engages in conduct that results in a risk of death, serious injury or serious illness to an individual caused directly by electricity or otherwise originating from electricity and the person is reckless in relation to that result.²⁹⁰
- (ii) **Penalty:** The maximum penalty for an individual is equivalent to \$324,000 or imprisonment for 5 years or both or for an individual who is conducting a business the maximum penalty is equivalent to \$648,000 or imprisonment for 5 years or both.²⁹¹ The maximum penalty for a body corporate is equivalent to \$3,240,000.²⁹²
- (b) **Category 2: Failure to comply with electrical safety duty**
 - (i) **Offence:** A person who has an electrical safety duty and intentionally engages in conduct which results in a risk of death, serious injury or serious illness to an individual caused directly by electricity or otherwise originating from electricity.²⁹³
 - (ii) **Penalty:** The maximum penalty for an individual is equivalent to \$162,000 or for an individual who is conducting a business the maximum penalty is equivalent to \$324,000.²⁹⁴ The maximum penalty for a body corporate is equivalent to \$1,620,000.²⁹⁵
- (c) **Category 3: Failure to comply with electrical safety duty**
 - (i) **Offence:** A person has an electrical duty and fails to comply with that duty.²⁹⁶
 - (ii) **Penalty:** The maximum penalty for an individual is equivalent to \$51,840 or for an individual who is conducting a business the maximum penalty is equivalent to \$105,300.²⁹⁷ The maximum penalty for a body corporate is equivalent to \$518,400.²⁹⁸

5.104 The Electricity Safety Regulator also has the following powers of enforcement:

- (a) **Disconnection of Electricity Supply:** If an authorised officer finds that electricity is being supplied or consumed in contravention of the *Electricity Reform Act 2000* (NT), it may disconnect the electricity supply.²⁹⁹ If an electricity supply has been disconnected under this section, a person must not reconnect the electricity supply, or have it reconnected, without the approval of an authorised officer.³⁰⁰ If a person acts contrary to this provision, they may be liable for a maximum penalty equivalent to \$81,000.³⁰¹

On commencement of the *Electrical Safety Act 2022* (NT) the above provision is repealed.

- (b) **Power to Make Installation Safe:** If an authorised officer finds that an electrical installation is unsafe, the officer may disconnect the electricity supply or give a direction for the electricity supply's disconnection and give a direction requiring that works be taken to make the installation safe before the electricity supply is reconnected.³⁰² A failure to comply with a direction under this provision may attract a

²⁹⁰ *Electrical Safety Act 2022* (NT) s 43(1)(a)–(d).

²⁹¹ *Electrical Safety Act 2022* (NT) s 43(a)–(b).

²⁹² *Electrical Safety Act 2022* (NT) s 43(c).

²⁹³ *Electrical Safety Act 2022* (NT) s 44(1)(a)–(c).

²⁹⁴ *Electrical Safety Act 2022* (NT) s 44(1)(a)–(b).

²⁹⁵ *Electrical Safety Act 2022* (NT) s 44(c).

²⁹⁶ *Electrical Safety Act 2022* (NT) s 45(1)(a)–(b).

²⁹⁷ *Electrical Safety Act 2022* (NT) s 45(1)(a)–(b).

²⁹⁸ *Electrical Safety Act 2022* (NT) s 45(c).

²⁹⁹ *Electrical Safety Act 2022* (NT) s 78(1).

³⁰⁰ *Electrical Safety Act 2022* (NT) s 78(3).

³⁰¹ *Electrical Safety Act 2022* (NT) s 78(3).

³⁰² *Electricity Reform Act 2000* (NT) s 80(1).

maximum penalty equivalent to \$81,000.³⁰³ The power to make an installation safe is removed when the *Electrical Safety Act 2022* (NT) comes into force.³⁰⁴

Under the *Electrical Safety Act 2022* (NT), an inspector, being a person appointed by the Electrical Safety Regulator, will have broader powers to issue improvement notices where there is a contravention of the *Electricity Safety Act 2022* (NT).³⁰⁵ A failure to comply with an improvement notice carries a maximum penalty of \$81,000.³⁰⁶

The Electrical Safety Regulator will also have power to issue rectification directions for electrical work which is not safe or was performed by someone who was negligence or incompetent or the work was performed in a manner that causes an individual or property to not be safe from electrical risk.³⁰⁷ A failure to comply with a rectification direction carries a maximum penalty of \$16,200.³⁰⁸

- (c) **Power to Request Information:** If the Electricity Safety Regulator requests information under Pt 3 Div 2 s 10(1) and the request is not complied with, the person may be liable for a maximum penalty equivalent to \$32,400.³⁰⁹ Once the *Electrical Safety Act 2022* (NT) commences the maximum penalty will reduce to \$8,100. If an authorised officer requests information or documents in accordance with Pt 6 Div 2 s 81 and request is not complied with, the person may be liable for a maximum penalty equivalent to \$32,400.³¹⁰
- (d) **Prohibition:** Once the *Electrical Safety Act 2022* (NT) comes into force, the Electrical Safety Regulator may give notice prohibiting the supply or sale of consumer electrical equipment if it is satisfied that the equipment is not safe from electrical risk or does not comply with the requirements of the *Electricity Safety Act 2022* (NT) or regulations.³¹¹ If a person intentionally supplies or sells prohibited consumer electrical equipment and are reckless in relation to that sale or supply, they may receive a maximum penalty of equivalent to \$81,000.
- (e) **Non-disturbance Notices:** Noting that an Electrical Safety Regulator has all of the powers of an inspector, an inspector may issue a non-disturbance notice to a person if it believes on reasonable grounds that it is necessary to preserve the site of a serious electrical event or dangerous electrical event, prevent disturbance to a place being inspected or investigated or facilitate the exercise of the inspector's powers under Part 7.³¹² A failure to comply with a non-disturbance notice may attract a penalty equivalent to \$81,000.³¹³

Western Australia

Electricity Act 1945 (WA)

Overview of regulatory framework

- 5.105 State-owned corporations Western Power and Horizon Power, alongside the Economic Regulation Authority regulate a number of standards in relation to CER in Western Australia. Western Power owns and operates the South West Interconnected System, whilst Horizon Power governs in regional areas of Western Australia. Key regulatory frameworks are the Western Power Basic Embedded Generator (EG) Connection Technical Requirements and

³⁰³ *Electricity Reform Act 2000* (NT) s 80(4).

³⁰⁴ *Electrical Safety Act 2022* (NT) s 278.

³⁰⁵ *Electrical Safety Act 2022* (NT) s 184.

³⁰⁶ *Electrical Safety Act 2022* (NT) s 187(2).

³⁰⁷ *Electrical Safety Act 2022* (NT) s 188.

³⁰⁸ *Electrical Safety Act 2022* (NT) s 190(2).

³⁰⁹ *Electricity Reform Act 2000* (NT) s 10(2).

³¹⁰ *Electricity Reform Act 2000* (NT) s 81(3).

³¹¹ *Electrical Safety Act 2022* (NT) s 195(1).

³¹² *Electrical Safety Act 2022* (NT) s 204(1).

³¹³ *Electrical Safety Act 2022* (NT) s 205(3).

Horizon Power Basic Embedded Generator (EG) Connection Technical Requirements, developed with the Western Power Technical Rules and Horizon Power Technical Rules.

- 5.106 Another key regulatory framework prescribing compliance with standards in Western Australia is the *Electricity Act 1945* (WA). The purpose of the legislation is to regulate examination and licensing of persons undertaking works relating to electricity and electrical appliances, and regulates in relation to the installation and supply of electricity and sale of electrical appliances, as well as providing for the making of regulations, including regulations that prescribe standards and rules for electrical wiring, electrical materials, for the construction or installation of electric works, service apparatus, electric fittings and other electrical installations.³¹⁴
- 5.107 Installation is defined broadly to include all wiring, wiring enclosures, switch gear, control and protective gear, appliances, and other components permanently connected to or associated with the wiring, and includes CER.³¹⁵
- 5.108 A number of subordinate instruments have been made by the Minister and are currently in place that require adherence to standards, specifically:
- (a) *Electricity Regulations 1947* (WA);
 - (b) *Electricity (Network Safety) Regulations 2015* (WA), however these regulations apply only to network operators and their contractors and do not place obligations on consumers;
 - (c) *Electrical (Licensing) Regulations 1991* (WA); and
 - (d) *Electricity Industry (Network Quality and Reliability of Supply) Code 2005* (WA), however compliance with standards in these regulations apply only to holders of transmission, distribution or integrated regional licences and do not place obligations on consumers.

These instruments are supplemented by the *WA Electrical Requirements*,³¹⁶ which are issued by the Director of Energy Safety and mandatory under the *Electrical (Licensing) Regulations 1991* (WA).³¹⁷

The *Electrical (Licensing) Regulations 1991* (WA) defines electrical work to include work on electrical machines, instruments, installations, appliances or equipment to which electricity is supplied at a specified pressure and work assessing electrical installations.³¹⁸ Private generating plant includes CER.³¹⁹

Compliance with applicable standards

- 5.109 There are technical requirements published by Western Power, a statutory corporation that owns and operates the South West Interconnected System. As a condition of CER connection, Western Power requires compliance with the Western Power Basic Embedded Generator (EG) Connection Technical Requirements, which in turn prescribe compliance with the following standards:
- (a) AS 3000 (Electrical Installations) (Wiring Rules), in respect of network connection and isolation requirements for inverter energy systems, earthing requirements and commissioning and verification;³²⁰
 - (b) AS 4777 (Grid Connection of Energy Systems via Inverters), in respect of export limits, reconnection requirements, inverter energy system and inverters, network

³¹⁴ *Electricity Act 1945* (WA) s 32(1)(j), (q).

³¹⁵ *Electricity Act 1945* (WA) s 5(1).

³¹⁶ Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019).

³¹⁷ *Electrical (Licensing) Regulations 1991* (WA) reg 49(1)(b).

³¹⁸ *Electrical (Licensing) Regulations 1991* (WA) reg 4A.

³¹⁹ *Electrical (Licensing) Regulations 1991* (WA) reg 4AA.

³²⁰ Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) ss 4.5.1, 4.6, 6.

- connection and isolation, earthing, inverter integrated protection requirements, Power Quality response, commissioning and verification;³²¹
- (c) AS 5033 (Installation and Safety Requirements for Photovoltaic Arrays), in respect of earthing requirements, commissioning and verification;³²²
 - (d) AS 5139 (Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment), in respect of battery earthing systems;³²³ and
 - (e) AS IEC 62116 (Utility-Interconnected Photovoltaic Inverters – Test Procedure of Islanding Prevention Measures) in respect of certification.³²⁴
- 5.110 The Western Power Technical Rules prescribe compliance with the following standards:³²⁵
- (a) AS 61000.3.7:2001 - Electromagnetic Compatibility;
 - (b) AS 61000.3.6:2001 - Electromagnetic Compatibility;
 - (c) AS 3000 (Electrical Installations) (Wiring Rules);
 - (d) AS 4777 (Grid Connection of Energy Systems via Inverters); and
 - (e) AS 5033 (Installation and Safety Requirements for Photovoltaic Arrays).
- 5.111 The Western Power Distribution Customer Connection Requirements prescribe compliance with the following standards:³²⁶
- (a) AS 3000 (Electrical Installations) (Wiring Rules);
 - (b) AS 4777 (Grid Connection of Energy Systems via Inverters); and
 - (c) AS 2067:2016, concerning requirements for the design and erection of high voltage installations.
- 5.112 There are a number of technical requirements published by Horizon Power, a statutory corporation that generates, distributes and retails electricity across regional Western Australia. As a condition of CER connection, Western Power requires compliance with the Horizon Power Basic Embedded Generator (EG) Connection Technical Requirements, which in turn prescribe compliance with the following standards:³²⁷
- (a) AS 3000 (Electrical Installations) (Wiring Rules);
 - (b) AS 3011 (secondary batteries installed in buildings);
 - (c) AS 3017 (Electrical installations – Verification guidelines);
 - (d) AS 3100 (Approval and Test Specification – General Requirements for Electrical Equipment);
 - (e) AS 4777.1:2016 (Grid Connection of Energy Systems via Inverters) and AS 4777.2:2020 (Grid Connection of Energy Systems via Inverters);
 - (f) AS 5033 (Installation and Safety Requirements for Photovoltaic Arrays);

³²¹ Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) 4.3, 4.4, 4.5, 4.7, 4.8, 4.9, 6.

³²² Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) ss 4.6, 6.

³²³ Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) 16.

³²⁴ Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) ss 4.4, 4.7.

³²⁵ Western Power, *Technical Rules*, (Document, 1 December 2016).

³²⁶ Western Power, *Distribution Customer Connection Requirements*, (Document, May 2021).

³²⁷ Horizon Power, *Basic EG Connection Technical Requirements* (Document, 14 December 2021).

- (g) AS 5139 (Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment);
 - (h) AS 60947.6.1:2015 (Low-voltage switchgear and controlgear Part 6.1: Multiple function equipment— Transfer switching equipment); and
 - (i) AS IEC 62619:2017 (Safety Requirements for lithium cells and batteries).
- 5.113 The Horizon Power Technical Rules prescribe compliance with the following standards:³²⁸
- (a) AS 61000.3.6:2020 (Electromagnetic compatibility (EMC) Limits - Assessment of emission limits for distorting loads in MV and HV power systems);
 - (b) AS TR IEC 61000.3.7:2012 (Electromagnetic compatibility (EMC) Limits - Assessment of emission limits for the connection of fluctuating installations to MV, HV and EHV power systems);
 - (c) AS 61000.4.7:2012 (Electromagnetic compatibility (EMC) Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto);
 - (d) AS 3000 (Electrical installations) (known as the Australian/New Zealand Wiring Rules);
 - (e) AS 4777 (Grid connection of energy systems via inverters);
 - (f) AS 2067:2016 (Substations and high voltage installations exceeding 1 kV a.c.);
 - (g) AS IEC 60479.1:2022 (Effects of current on human beings and livestock General aspects);
 - (h) AS 4853:2012 (Electrical hazards on metallic pipelines);
 - (i) AS 1768:2021 (Lightning protection);
 - (j) AS 2344:2016 (Limits of electromagnetic interference from overhead a.c. powerlines and high voltage equipment installations in the frequency range 0.15 MHz to 3000 MHz); and
 - (k) AS 1359.102.1-1997 (Rotating electrical machines - General requirements Methods for determining losses and efficiency – General).
- 5.114 The Western Australian Service and Installation Requirements prescribe compliance with the following standards:³²⁹
- (a) AS 3000 (Electrical Installations) (Wiring Rules);
 - (b) AS 2067:2016, concerning requirements for the design and erection of high voltage installations;
 - (c) AS 4777 (Grid Connection of Energy Systems via Inverters);
 - (d) AS 7000:2016, concerning the procedures for overhead line design; and
 - (e) AS 5139 (Electrical Installations – Safety of Battery Systems for use with Power Conversion Equipment).
- 5.115 The *Electricity Regulations 1947* (WA) prescribe compliance with the following standards:
- (a) AS 3190:2016, concerning approval and test specific for residual current devices;³³⁰ and

³²⁸ Horizon Power, *Horizon Power Technical Rules* (Document, 2 September 2022).

³²⁹ Western Power, *Western Australian Service and Installation Requirements* (Document, 2021).

³³⁰ *Electricity Regulations 1947* (WA) reg 12A.

- (b) AS 4741-2010, concerning the measurement of voltage on the neutral conductor of a consumer's installation.³³¹
- 5.116 Based on our interpretation of the Regulations, installers have primary responsible for ensuring such compliance.
- 5.117 The *Electricity (Licensing) Regulations 1991* (WA) prescribes compliance with the following standards:
- (a) A person shall carry out electrical work in accordance with the requirements of:³³²
- (i) AS 3000:2018, known as the Australian/New Zealand Wiring Rules;³³³
 - (ii) AS 3008.1.1:2017, concerning selection of cables - Cables for alternating voltages up to and including 0.6/1kV — Typical Australian installation conditions;
 - (iii) AS 3011.1-2019, concerning the installation of vented secondary batteries permanently installed in buildings;³³⁴
 - (iv) AS 3011.2-2019, concerning the installation of sealed secondary batteries permanently installed in buildings;³³⁵
 - (v) AS 4086.1-1993, concerning the general requirements for secondary batteries for use with stand-alone power systems;³³⁶
 - (vi) AS 4509.1:2009, concerning the safety and installation of stand-alone power systems;³³⁷
 - (vii) AS 4777.1-2016, concerning the installation requirements for grid connection of energy systems via inverters;³³⁸
 - (viii) AS 4777.2-2020, concerning the inverter requirements for grid connection of energy systems via inverters;³³⁹
 - (ix) AS 4777.3-2005, concerning the grid protection requirements for grid connection of energy systems via inverters;³⁴⁰ and
 - (x) AS 5033:2021, concerning the installation of photovoltaic (PV) arrays.³⁴¹
- 5.118 The *WA Electrical Requirements* prescribe compliance with the following standards:
- (a) earthing systems shall comply with the relevant technical standards, including AS 3000:2018 (Electrical installations) (Wiring Rules) and AS 2067:2016 (Substations and high voltage installations exceeding 1 kV a.c.), concerning substations and high voltage installations;³⁴²
- (b) where sources of electricity generation are installed in a consumer's premises, the generator electrical installation shall comply with:³⁴³
- (i) AS 3010:2017, concerning the electrical installation of generating sets;

³³¹ *Electricity Regulations 1947* (WA) reg 243.

³³² *Electricity (Licensing) Regulations 1991* (WA) reg 49(1)(c).

³³³ *Electricity (Licensing) Regulations 1991* (WA) reg 49(1)(a).

³³⁴ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 12A.

³³⁵ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 12B.

³³⁶ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 12C.

³³⁷ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 12D.

³³⁸ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 13.

³³⁹ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 14.

³⁴⁰ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 15; standard now amalgamated as AS/NZS 4777.2:2020.

³⁴¹ *Electricity (Licensing) Regulations 1991* (WA) sch 2 item 16.

³⁴² Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019) s 3.2.

³⁴³ Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019) s 3.3, 3.7, 4.6, 5.

- (ii) AS 4509.1:2009, concerning the safety and installation of stand-alone power systems;
 - (iii) AS 4777.1-2016, AS 4777.1-2020, AS 4777.3-2005³⁴⁴, concerning the grid connection of energy systems via inverters;
 - (iv) AS 5033:2021, concerning the installation of photo-voltaic arrays; and
 - (v) the AS 3000:2007 (Electrical installations) (Wiring Rules).³⁴⁵
- (c) a Service Protection Device for permanent installation with direct connected metering and a maximum demand not exceeding 100A shall be a HRC fuse(s), and shall be manufactured to the requirements of AS 60269.3:2005 (Low-voltage fuses Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications) - Sections I to IV: Examples of types of standardized fuses);³⁴⁶
- (d) consumer high voltage electrical installations must comply with the technical requirements in:³⁴⁷
- (i) AS 2067:2016, concerning requirements for the design and erection of high voltage installations;
 - (ii) the wiring rules in AS 3000 (Electrical installations) (Wiring Rules); and
 - (iii) AS 7000:2016, concerning the procedures for overhead line design.
- (e) PV array DC cables may be installed in the cavity of double-brick walls without enclosure in heavy duty conduit but shall otherwise comply with the general installation and safety requirements in AS 5033:2021 (Installation and safety requirements for photovoltaic (PV) arrays).³⁴⁸

What stage of supply chain do the regulatory requirements apply to?

- 5.119 Regulatory requirements primarily operate at the installation stage, applying to all persons carrying out electrical work.³⁴⁹

Regulator

- 5.120 The regulator in respect of the Western Power Technical Rules and Horizon Power Technical Rules is the Economic Regulation Authority, Western Power and Horizon Power (in their respective areas of control), exercise a number of powers over the network.
- 5.121 The Director of Energy Safety is responsible for administering the *Electricity Act 1945* (WA).

Tools to monitor compliance

- 5.122 In Western Australia, there are a number of tools that can be used to monitor compliance under the Technical Rules, including:
- (a) **Power to enter and inspect, to request special tests:** Western Power and Horizon Power have similar rights to inspect any User facility in an emergency,³⁵⁰ and can request special tests where reasonably necessary to confirm that the security and performance standards of the power system and the quality of service to other Users will not be adversely affected by the connection or operation of a generator's

³⁴⁴ Standard now amalgamated as AS/NZS 4777.2:2020

³⁴⁵ Note that the *WA Electrical Requirements* refer to the 2007 Wiring Rules which have been superseded by AS/NZS 3000:2018.

³⁴⁶ Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019) s 6.2.3.1.

³⁴⁷ Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019) s 7.1.

³⁴⁸ Director of Energy Safety, *WA Electrical Requirements* (Document, August 2019) s 9.5.

³⁴⁹ *Electricity (Licensing) Regulations 1991* (WA) reg 49(1)(c).

³⁵⁰ Western Power, *Basic Embedded Generator (EG) Connection Technical Requirements* (Document, 25 November 2021) s 4.

equipment, or where it believes the generator is not meeting prescribed technical standards.³⁵¹

- (b) **Power to direct output:** Western Power and Horizon Power may direct a generator to operate the generating unit at a particular output, or disconnect a generating unit in specified circumstances (including emergencies, failure to comply with directions, safety).³⁵²

5.123 The Director of Energy Safety has the following tools available to monitor compliance under the *Electricity Act 1945* (WA), through powers afforded to it under the *Energy Coordination Act 1994* (WA):

- (a) **Powers of inspection:** Inspectors may enter, inspect, examine land where they suspect generation, etc. is taking place, including requests for information,³⁵³ and may prohibit use of any thing that is unsafe or does not conform with the legislative requirements, and may disconnect the supply of energy.³⁵⁴

Enforcement

5.124 In accordance with the *Energy Coordination Act 1994* (WA):

- (a) **Offence:** obstruction of an inspector to whom section 16 applies or failure to comply with requirements to provide access, assistance, information, comply with orders.³⁵⁵
- (b) **Penalty:** up to \$50,000 (individual) or \$250,000 (body corporate).

5.125 In accordance with the *Electricity Regulations 1947* (WA):

- (a) **Offence:** failure by a person to anything required under the *Electricity Regulations 1947* (WA), which includes any requirements on a person to comply with standards.³⁵⁶
- (b) **Penalty:** of \$50,000 (for an individual) and \$250,000 (for a body corporate).³⁵⁷

5.126 In accordance with the *Electricity (Licensing) Regulations 1991* (WA), including:

- (a) **Offences:** requirement to carry out electrical work in accordance with AS 3000 (Electrical installations) (Wiring Rules), the *WA Electrical Requirements*, specified standards,³⁵⁸ requirement for electrical installations designed, carried out, supervised to be safe and comply with specified requirements,³⁵⁹ and requirement to notify and prepare electrical safety certificates in relation to notifiable work (being electrical installing work other than specified maintenance and other activities).³⁶⁰
- (b) **Penalty:** and a failure by a person to anything required under the *Electricity (Licensing) Regulations 1991* (WA) commits an offence, subject to a penalty of \$50,000 (for an individual) and \$250,000 (for a body corporate).³⁶¹

5.127 In respect of the various Western Power and Horizon Power technical rules and other requirements outlined above, the key avenue for enforcement is through the connection process and not approving connection if it is not satisfied that the relevant requirements have been complied with.

³⁵¹ Western Power, *Technical Rules*, (Document, 1 December 2016) s 4.1.3.

³⁵² Western Power, *Technical Rules* (Document, 1 December 2016) ss 4.1.3, 4.3.4; Horizon Power, *Technical Rules* (Document, 1 December 2016) ss 4.1.3, 4.3.4.

³⁵³ *Energy Coordination Act 1994* (WA) s 14.

³⁵⁴ *Energy Coordination Act 1994* (WA) ss 18–18C.

³⁵⁵ *Energy Coordination Act 1994* (WA) s 20.

³⁵⁶ *Electricity Regulations 1947* (WA) reg 340.

³⁵⁷ *Electricity Regulations 1947* (WA) reg 340.

³⁵⁸ *Electricity (Licensing) Regulations 1991* (WA) reg 49(1).

³⁵⁹ *Electricity (Licensing) Regulations 1991* (WA) regs 49A–50.

³⁶⁰ *Electricity (Licensing) Regulations 1991* (WA) reg 51–52.

³⁶¹ *Electricity (Licensing) Regulations 1991* (WA) reg 65.

6. Other relevant regulatory frameworks

Electrical Equipment Safety System (EESS)

Overview of regulatory framework

- 6.1 The EESS is a regulatory framework that was developed through a review of electrical equipment safety processes in Australia commissioned by the ERAC.³⁶² The EESS was developed as a product of an independent review into electrical equipment safety systems across Australia, which identified development of the EESS as a means of improving and harmonising electrical safety processes in Australia. The initiative was first adopted by Queensland. Participating jurisdictions sign an Inter-Governmental Agreement which requires them to either apply the *Electrical Safety and Other Legislation Amendment Act 2011* (Qld) in its entirety as part of their jurisdiction pursuant to implementing legislation or introduce their own law on substantially the same terms.³⁶³
- 6.2 Current signatories to the Inter-Governmental Agreement are Queensland, Victoria, Tasmania and Western Australia, implemented by legislation in each of the states except Western Australia.³⁶⁴ Western Australia has signed the Inter-Governmental Agreement but has not passed specific legislation to enact the equivalent of the *Electrical Safety and Other Legislation Amendment Act 2011* (Qld). Notably, Gazette 42 of 2016 implements the requirements of AS 4417.2:2012 (Regulatory compliance mark for electrical and electronic equipment) and this Australian Standard must be read in conjunction with the EESS (amongst other regulatory requirements). Western Australia has committed to adopting the EESS framework into law, however this is yet to occur. In spite of this, the scope of Western Australia's current framework relating to electrical appliances is aligned with the EESS through its application i.e through recognition of successful applications under the EESS framework originating in other states, along with adopting mirrored classes of appliances requiring approval through use of Australian Standard AS 4417.2:2012 (Regulatory compliance mark for electrical and electronic equipment), which is to be read in conjunction with the EESS framework.³⁶⁵ The Northern Territory has passed legislation to enact the EESS framework which will come into effect by notice in the Northern Territory Government Gazette, or otherwise on 1 November 2023 (whichever is earlier).³⁶⁶
- 6.3 The EESS is a regulatory framework aimed at increasing consumer safety when interacting with household electrical equipment. The EESS applies to 'in-scope electrical equipment', being equipment that fits the following requirements:
- (a) low voltage electrical equipment (50V AC to 1000V AC or between 120V DC to 1500V DC); and
 - (b) designed, or marketed as suitable for household, personal or similar use.³⁶⁷
- 6.4 The EESS outlines the responsibilities for registration of 'Responsible Suppliers' (a legally identifiable Australian or New Zealand entity or person who manufacturers or imports in-scope electrical equipment in Australia or New Zealand) and equipment registrations, in a centralised national database (the **National Register**).

³⁶² EESS, 'About the EESS' (Web Page) <<https://www.eess.gov.au/about/about-the-eess/>>.

³⁶³ A copy of the Inter-Governmental Agreement is available at <<https://www.eess.gov.au/wp-content/uploads/2019/06/EESS-Intergovernmental-agreement.pdf>>.

³⁶⁴ Queensland has enacted the *Electrical Safety and Other Legislation Amendment Act 2011* (Qld) to give effect to the EESS. The Victorian equivalent is the *Electricity Safety (Equipment Safety Scheme) Regulations 2019* (Vic). Northern Territory has passed the *Electrical Safety Act 2022* (NT) to adopt the EESS which comes into effect on 1 November 2023. Tasmania has passed the Electricity Safety Bill 2022 (11 of 2022). However, the Electricity Safety Act 2022 (TAS) has not yet come into force. It will come into force by proclamation, with no date yet set.

³⁶⁵ *Electricity Regulations 1947* (WA) reg 322(2); *Electricity Act 1945* (WA) s 33B; Western Australia Government Gazette No. 42 of 2016, 748.

³⁶⁶ *Electrical Safety Act 2022* (NT).

³⁶⁷ EESS, 'In-Scope Electrical Equipment' (Web Page) <<https://www.eess.gov.au/equipment/risk-level-definition/>>.

- 6.5 The EESS regulates in-scope electrical equipment as follows:
- (a) prescribed electrical equipment are grouped into three classes of risk, being: Low (Level 1); Medium (Level 2) (classified as "AU Level 2" in Annex B of AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment)); High (Level 3) (classified as "AU Level 3" in Annex B of AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment));³⁶⁸
 - (b) Responsible Suppliers must be registered and responsible for ensuring the safety of electrical equipment sold onto the Australian market; and
 - (c) products are labelled with a RCM to indicate compliance.³⁶⁹ Equipment that is unable to pass the applicable standards will not receive an RCM and the sale or offering of such equipment is prohibited.
- 6.6 By law in the participating jurisdictions of the EESS, second or subsequent suppliers (i.e. wholesaler, retailer, on-line sellers, electrical contractors) in the supply chain of in-scope electrical equipment must:
- (a) source the equipment from a Responsible Suppliers who is registered on the EESS Registration Database;
 - (b) ensure that equipment is registered on the EESS Registration Database (for Level 2 and 3) against the registered Responsible Supplier; and
 - (c) ensure the equipment is marked with the RCM in accordance with the requirements listed in AS 4417.1 (Regulatory compliance mark for electrical and electronic equipment Use of the mark) & AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment).³⁷⁰

Mandated compliance with applicable standards

- 6.7 The EESS Equipment Safety Rules outline the safety requirements for participants of the EESS, including Responsible Suppliers and Certifiers.
- 6.8 The EESS Equipment Safety Rules requires compliance with the following Australian Standards:
- (a) Australian/New Zealand Standards:
 - (i) AS 3000 (Electrical installations) (Wiring Rules);
 - (ii) AS 3820 (Essential safety requirements for low voltage electrical equipment); and
 - (iii) AS 4417 (Regulatory compliance mark for electrical and electronic equipment) (Marking of electrical products to indicate compliance with Regulations, AS 4417.1 (Regulatory compliance mark for electrical and electronic equipment Use of the mark), Part 1: General rules for use of the mark, and AS 4417.2 (Regulatory compliance mark for electrical and electronic equipment), Part 2: Specific requirements for electrical safety regulatory applications which each relate to the use of the RCM and its placement on electrical and electronic equipment to indicate compliance with applicable regulations).
 - (b) Joint Accreditation System of Australia and New Zealand (i) JAS-ANZ Procedure 15 (General Requirements for Bodies operating Product Certification Systems (identical to IAF GD 5) which sets out the requirements for bodies to become accredited,

³⁶⁸ The Equipment Safety Rules are available at Electrical Regulatory Authorities Council, *Australian/New Zealand Electrical Equipment Safety System* (Equipment Safety Rules) <<https://www.eess.gov.au/wp-content/uploads/2019/04/003-Equipment-Safety-Rules.pdf>>.

³⁶⁹ For more information, see Electrical Equipment Safety System, 'The Regulatory Compliance Mark (RCM) (General)' (Web Page) <<https://www.eess.gov.au/rcm/regulatory-compliance-mark-rcm-general/>>.

³⁷⁰ *Equipment Safety Rules* r 12.

including to ensure that such bodies are competent to carry out the work they undertake.

What stage of supply chain do the regulatory requirements apply to?

- 6.9 The EESS applies to manufacturers, wholesale importers of equipment and suppliers.

Applicable Regulator

- 6.10 The EESS' national body is ERAC, with a Ministerial Oversight Committee comprised of the Ministers from each of the participating jurisdictions.³⁷¹ The responsibilities of the MOC include overseeing the legislative and regulatory framework for the EESS, overseeing funding arrangements, approving changes to the Inter-Governmental Agreement, and overseeing national and policy governance. The MOC appoints a Standing Committee of Officials who are responsible for managing the operation of the EESS, including the National Database, liaising and collaborating with industry and community stakeholders, and reporting and making recommendations to the MOC regarding the EESS and Uniform Equipment Safety Rules, among other matters.³⁷²
- 6.11 The JAS-ANZ is an independent body appointed by the Australia and New Zealand governments to be responsible for accrediting conformity assessment bodies in the fields of certification and inspection. The JAS-ANZ was established by treaty between the Australian and New Zealand Governments on 30 October 1991, as terminated and replaced by treaty in 1998 and is overseen by a governing board of ten members. Six of the members are appointed by the Australian Government, and three by the New Zealand government. The tenth member is the Chief Executive of the JAS-ANZ, who is appointed by the board. The JAS-ANZ reports to the Australian Minister and New Zealand Minister, as defined in the treaty, and provides yearly reports on activities undertaken. The purpose of the JAS-ANZ is to maintain a joint accreditation system that will provide users in Australia and New Zealand confidence that goods and services certified by accredited bodies meet established standards. The JAS-ANZ does not certify that goods and services meet an established standard, but rather accredit the bodies that are to undertake the certification activities.³⁷³

Tools to monitor compliance

- 6.12 The EESS establishes a national registration database. The database contains:
- (a) Contact and other information relating to the Registered Responsible Supplier (local manufacturer or importer), including Responsible Supplier Declarations and Equipment Declarations. This information is recorded on the database but not viewable publicly;
 - (b) Details of in-scope electrical equipment categorised as Risk Level 1 and voluntarily registered by the Registered Responsible Supplier; and
 - (c) Details, including the brand and model number, of in-scope electrical equipment categorised as Risk Level 2 & 3.³⁷⁴
- 6.13 This database allows the regulatory authorities in each participating jurisdiction to access information required for market surveillance, respond to complaints about unsafe electrical equipment and exercise judicial powers when conducting compliance activities.
- 6.14 The EESS provides for a Recognised External Certification Scheme, which is a scheme through which a company can become recognised as a certifier of in-scope electrical

³⁷¹ For more information, see *Electrical Equipment Safety System*, 'Ministerial Oversight Committee (MOC)' (Web Page) <<https://www.eess.gov.au/governance/moc/>>.

³⁷² For more information, see *Electrical Equipment Safety System*, 'Standing Committee of Officials (SCO)' (Web Page) <<https://www.eess.gov.au/governance/sco/>>.

³⁷³ *Agreement with New Zealand concerning the Establishment of the Governing Board, Technical Advisory Council and Accreditation Review Board of the Joint Accreditation System of Australia and New Zealand*, signed 25 March 1998 [1998] ATS 16 (entered into force 30 June 1998).

³⁷⁴ For more information, see *Electrical Equipment Safety System*, 'EESS Registration Database' (Web Page) <<https://www.eess.gov.au/registration/eess-registration-database/>>.

equipment. The recognised certifiers are responsible for verifying compliance documentation submitted by a Responsible Supplier (see section 6.4 above) and issuing a certificate where the product is in compliance. The JAS-ANZ will carry out the assessment of a body that wishes to become a recognised certifier under the scheme. Before a certifier can apply to become recognised under the EESS, they must first hold the JAS-ANZ accreditation. Once they are accredited, they may apply to a regulator under the legislation. Currently, only Queensland is accepting applications, however a body declared as a Recognised External Certification Scheme will be recognised by all participating jurisdictions.³⁷⁵

Enforcement

- 6.15 There are a number of provisions in each participating jurisdiction providing offences for non compliance, including:
- (a) for supplying in-scope electrical equipment that does not meet applicable compliance requirements;
 - (b) failing to produce the required records for in-scope electrical equipment;
 - (c) supplying/offering Level 2 or 3 in-scope electrical equipment without registering such equipment;
 - (d) supplying in-scope electrical equipment without the RCM, applying the RCM to in-scope that does not meet the relevant standard; and
 - (e) providing electrical equipment that is not in-scope unless it meets the prescribed standard and is safe to be connected.³⁷⁶
- 6.16 Penalties for breaching these provisions can range from \$11,095.20 for an individual to \$44,380.80 for a corporation in Victoria. Infringement notices may be issued for 1/10th of the penalty.

New Energy Tech Consumer Code (NETCC)

- 6.17 The NETCC commenced in February 2023 and is administered by the Clean Energy Council.³⁷⁷ The NETCC is aimed at protecting residential and small business customers and sets consumer protection standards for solar, batteries and EV chargers. The NETCC supplements and operates in parallel with the ACL consumer guarantees regime (see sections 4.9 - 4.20 of this Part B above) and the various other regulatory frameworks set out in sections 3 – 5 of this Part B above. The draft NETCC was submitted to the ACCC for authorisation in 2019 and the ACCC granted conditional authorisation of the NETCC until December 2024.³⁷⁸ However, this was extended by the Australian Competition Tribunal to 15 September 2025.³⁷⁹ The consumer protections in the NETCC are wide ranging, including voluntary industry standards in relation to sales and marketing, quotes and contracts, warranties and support, and delivery and installation. Participation in the NETCC program is voluntary. An applicant may become an Approved Seller under the NETCC (and market themselves as NETCC compliant) if they demonstrate that they are able to meet the

³⁷⁵ For more information on the JAS-ANZ Accreditation, see Electrical Equipment Safety System, 'JAS-ANZ Accreditation' (Web Page) <<https://www.eess.gov.au/safety-requirements/certification-general/certifiers/jas-anz-accreditation/>>; Electrical Equipment Safety System, 'Recognised External Certification Scheme (RECS)' (Web Page) <<https://www.eess.gov.au/safety-requirements/certification-general/certifiers/recs/>>.

³⁷⁶ See, eg, *Electricity Safety Act 1998* (Vic) ss 67A, 67B, 67C, 67D, 67E, 67F, 67G, 67H, 67I, 54.

³⁷⁷ For more information, see NETCC, 'About the New Energy Tech Consumer Code program' (Web Page) <<https://www.newenergytech.org.au/about-the-netcc>>. A copy of the code is available at NETCC, *New Energy Tech Consumer Code* (September 2020) <<https://assets.newenergytech.org.au/uploads/New-Energy-Tech-Consumer-Code.pdf>>.

³⁷⁸ See the final determination at ACCC, Determination on application for authorisation AA1000439 (2019) <<https://www.accc.gov.au/system/files/public-registers/documents/AA1000439%20-%20New%20Energy%20Tech%20Consumer%20Code%20-%20Final%20Determination%20-%20PR.pdf>>.

³⁷⁹ Application by *Flexigroup Limited (No 2)* [2020] ACompT 2 (Deputy President O'Bryan, Member Walker and Member Eilert).

requirements of the NETCC and are committed to ongoing compliance. The NETCC website provides a search function to find Approved Sellers by location and product/service type.

- 6.18 Amongst the various requirements to become an Approved Seller, sellers are required to ensure that any products are delivered and installed in accordance with "all applicable safety standards, manufacturer's specifications, relevant Australian Standards, Energy Network standards and good industry practice...".³⁸⁰ No specific Australian Standards are referenced in the NETCC, so relevant Australian Standards are to be read in the context of applicable jurisdictional requirements.
- 6.19 It is yet to be seen how the NETCC will be enforced in practice. However, the Clean Energy Council has general powers which include undertaking regular compliance audits and reviews of systems, policies and procedures, mystery shopping, assessing customer satisfaction, analysing customer complaints and investigating repeat instances. Under the NETCC, the Clean Energy Council must also develop and publish a Complaints Procedure setting out a process for an allegation of breach under the NETCC. The Clean Energy Council may investigate complaints and determine remedial action or sanctions as appropriate if a signatory has breached the NETCC. These powers include the ability to require the signatory to rectify issues that gave rise to the breach and train staff to minimise likelihood of repeat breaches, amongst others.³⁸¹

³⁸⁰ Clean Energy Council, 'New Energy Tech Consumer Code' (Web Page, September 2020) ss 31–2 <<https://assets.newenergytech.org.au/uploads/New-Energy-Tech-Consumer-Code.pdf>>.

³⁸¹ Clean Energy Council, 'New Energy Tech Consumer Code' (Web Page, September 2020) <<https://assets.newenergytech.org.au/uploads/New-Energy-Tech-Consumer-Code.pdf>>.

Glossary

All italicised terms have the meaning given to that term in the NER or NER (NT) as applicable.

| Term | Meaning |
|--|---|
| ACCC | Australian Competition and Consumer Commission |
| ACL or Australian Consumer Law | <i>Competition and Consumer Act 2010</i> (Cth) sch 2 (<i>Australian Consumer Law</i>) |
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| AER | Australian Energy Regulator |
| ARENA | Australian Renewable Energy Agency |
| CEC | Clean Energy Council |
| CER | Consumer energy resources |
| CER Act | <i>Clean Energy Regulator Act 2011</i> (Cth) |
| DER | Distributed energy resources |
| DER Technical Standards Final Determination | The final determination dated 25 February 2021 available at: https://www.aemc.gov.au/rule-changes/technical-standards-distributed-energy-resources |
| DNSP | Distributed network service provider |
| EESS | Electrical Equipment Safety Scheme |
| Equipment Safety Rules | The Equipment Safety Rules issued by ERAC titled 'Australian / New Zealand Electrical Equipment Safety System (Equipment Safety Rules)' available at: https://www.eess.gov.au/wp-content/uploads/2019/04/003-Equipment-Safety-Rules.pdf |
| ERAC | Electrical Regulatory Authorities Council |
| ESB | Energy Security Board |
| JAS-ANZ | Joint Accreditation System of Australia and New Zealand |
| LRET or Large-scale Renewable Energy Target | The Large-scale Renewable Energy Target established under the RE Act |
| MOC | Ministerial Oversight Committee |
| NEM | National Electricity Market |
| NER | National Electricity Rules |
| NER (NT) | National Electricity Rules – Northern Territory |

| | |
|--|--|
| NERL | National Energy Retail Law |
| NERR | National Energy Retail Rules |
| NETCC | New Energy Tech Consumer Code |
| OEM | Original equipment manufacturer |
| RE Act | <i>Renewable Energy (Electricity) Act 2000</i> (Cth) |
| RE Regulations | <i>Renewable Energy (Electricity) Regulations 2001</i> (Cth) |
| RCM | Regulatory Compliance Mark |
| SRES or Small-scale Renewable Energy Scheme | The Small-scale Renewable Energy Scheme established under the RE Act |
| STC | Small-scale Technology Certificates |

Contacts

Melbourne



Aylin Cunsolo

Partner, Melbourne

+61 3 9617 4594

aylin.cunsolo@bakermckenzie.com

Baker McKenzie delivers integrated solutions to complex challenges.

Complex business challenges require an integrated response across different markets, sectors and areas of law. Baker McKenzie's client solutions provide seamless advice, underpinned by deep practice and sector expertise, as well as first-rate local market knowledge. Across more than 70 offices globally, Baker McKenzie works alongside our clients to deliver solutions for a connected world.

bakermckenzie.com

© 2023 Baker McKenzie. All rights reserved. Baker & McKenzie International is a global law firm with member law firms around the world. In accordance with the common terminology used in professional service organizations, reference to a "partner" means a person who is a partner or equivalent in such a law firm. Similarly, reference to an "office" means an office of any such law firm. This may qualify as "Attorney Advertising" requiring notice in some jurisdictions. Prior results do not guarantee a similar outcome.