



13 August 2021

Mr Garry Carroll
Restore Solutions Pty Ltd
by email: garry@restoresolutions.com.au

Dear Garry,

ELECTRICAL SAFETY COMPLIANCE OF ELECTRICAL EQUIPMENT

I refer to your request for a general explanation of the electrical safety compliance requirements applicable to electrical equipment sold in Australia.

In Australia, legislation which governs the supply chain is state based. The legislation is similar in all States and Territories of Australia. I will herein refer to the Queensland legislation which is essentially mirrored with corresponding law in the other States and Territories.

1. The Queensland Electrical Safety Act 2002 (the **Act**) is the current overarching legislation applicable to purchase/import/supply of electrical equipment. The following sections of the Act are relevant.
2. Section 31 of the Act titled "*Obligation of designer of electrical equipment*" states:

"A designer of electrical equipment or an electrical installation has an obligation to ensure that—

(a) the electrical equipment or installation is designed to be electrically safe; and

(b) if the designer gives the design to another entity who is to give effect to the design, the design is accompanied by information about the way the electrical equipment or installation must be used and installed to ensure the equipment or installation is electrically safe."

3. Section 32 of the Act titled “*Obligation of the manufacturer of electrical equipment*” states:

“(1) A manufacturer of electrical equipment has an obligation to ensure that—

(a) the processes followed for the manufacture of the electrical equipment ensure that the electrical equipment, when made, will be electrically safe; and

(b) the electrical equipment, when made, is electrically safe.

(2) Without limiting subsection (1)(b), the obligation includes ensuring that the electrical equipment, when made, is tested and examined to ensure it is electrically safe.”

4. Section 33 of the Act titled “*Obligation of importer of electrical equipment*” states:

“(1) An importer of electrical equipment has an obligation to ensure that the electrical equipment is electrically safe.

(2) Without limiting subsection (1), the obligation includes ensuring that the electrical equipment—

(a) is designed to be electrically safe; and

(b) is tested and examined to ensure it is electrically safe.”

5. Section 36 of the Act titled “*Obligation of installer of electrical equipment or electrical installation*” states:

“A person who installs electrical equipment or an electrical installation has an obligation to ensure that—

(a) the way the electrical equipment or installation is installed is electrically safe; and

(b) the processes followed for installing the electrical equipment or installation ensure that, when installed, it will be electrically safe; and

(c) after the electrical equipment or installation is installed, the person tests and examines it to ensure it is electrically safe.”

6. The above-mentioned obligation statements in the Act refer to electrical equipment being ‘electrically safe’. The associated Electrical Safety Regulation and Australian Standards provide an understanding of ‘electrically safe’.

7. The Queensland Electrical Safety Regulation 2013 (the **Regulation**) applies at the time of sale of electrical equipment. Section 191 of the Regulation titled “*sale of electrical equipment prohibited*” is relevant and states:

“A person must not sell an item of electrical equipment to which the safety criteria in AS/NZS 3820 (Essential safety requirements for electrical equipment) apply unless the item of electrical equipment complies with the safety criteria as in force at the later of the following—

(a) on 5 October 1998;

(b) when the item was manufactured or imported.”

8. “AS/NZS3820” referred to above is the Australian Standard AS/NZS3820 titled “Essential safety requirements for electrical equipment” (the **Essential Safety Standard**). Section 4.2 of the Essential Safety Standard sets out general safety criteria as follows:

“Electrical equipment shall comply with the following criteria:

(a) Persons and domestic animals shall be adequately protected against danger of physical injury or other harm which might be caused by direct contact or indirect contact. ...

(b) Operation of the electrical equipment shall not result in temperatures, arcs or radiation (including microwave emissions and magnetic fields) that would cause a danger. ...

(c) Persons and domestic animals shall be adequately protected against non-electrical dangers caused by the electrical equipment that are revealed by experience.

NOTE Examples of potential dangers are sharp edges, unexpected starting or stopping of the equipment, failure to stop if a dangerous situation arises, chemical, fire or explosion hazards that might arise from operation of the equipment, instability, vibration, falling or ejected objects.

(d) Insulation shall be suitable for foreseeable conditions. ...”

9. Section 5 of the Essential Safety Standard provides guidance on compliance as follow:

*“A supplier shall demonstrate compliance... to the **relevant standard** with test reports or in lieu of test reports, certificates issued by an Australian or New Zealand regulatory authority or an entity recognised by the Australian or New Zealand regulatory authority ...”.*

10. The 'relevant standard' is defined as the Australian product safety standard for the type of electrical equipment (of which there are 100s covering all common types of equipment), or if there is no Australian standard for the type of equipment, the IEC standard for the type of equipment.
11. By way of clarification, the Essential Safety Standard is a generic electrical safety standard specified by the legislation and advises that compliance is met by showing compliance to the relevant product safety standard with a laboratory test report or Australian approval certificate.
12. In other words to comply, a supplier is required to possess a valid 'laboratory test report' (this can be an overseas test report) or an 'Australian certificate of approval' demonstrating compliance of the electrical equipment to the applicable product safety standard (the product safety standard applicable in Australia).
13. It is important to understand that **all** electrical equipment intended for connection to mains electricity supply, is required to comply with the above requirements of the legislation. This is irrespective of whether the equipment is commercial, industrial or domestic use equipment.

Note: There is a common misbelief in the industry that there are no compliance requirements for commercial electrical equipment. Such a belief is simply incorrect.

14. In addition to the above, '**household and personal use equipment**' require further compliance procedures in accordance with the Electrical Equipment Safety Scheme (EESS), as required by Part 7 of the Regulation. Such equipment is required to be registered on the EESS database.
15. Further, equipment listed in Annex B of AS/NZS4417.2 as "Level 3" (high risk) equipment must be covered by an 'Australian certificate of approval' (a test report alone is not sufficient). Annex B of AS/NZS4417.2 includes a wide range of electrical equipment including (but not limited to) the following which may be relevant to your industry:
 - Fans, room heaters, air-conditioners, control and conditioning devices, floor polisher/scrubbers, liquid heating appliances, outlet devices, portable tools, vacuum cleaners, and water heaters.
16. The listed Level 3 equipment also include some electrical 'components' possibly used with or fitted to equipment/machines including the following:
 - Supply plugs, supply cords, ELV power supply units/battery chargers, cord-line switches, socket-outlets, wall switches and building cables.

The above is a concise explanation of the legislation and standards applicable to electrical equipment sold in Australia. Penalties apply for non-compliance and regulators have powers under the legislation to enforce product recalls.

Non-compliance presents significant liability on a supplier of electrical equipment. In the event of a safety issue arising with electrical equipment sold by your company, non-compliance could leave your company open to costly civil recovery legal action and/or regulatory action.



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Managing Director