

Does your product comply with the Safety Requirements based on the risk level?

Essential Safety Criteria

Legislation of participating jurisdictions in the EESS aims to ensure electrical equipment manufactured or imported into Australia is electrically safe.

Primary duties of care require a person conducting a business or undertaking to ensure the business is conducted in a way that is “electrically safe.” This includes making sure the electrical equipment used, designed, manufactured, imported and supplied is also “electrically safe”.

“Electrically safe” for electrical equipment, for example, as defined in Queensland legislation is:

- **electrically safe** means, for electrical equipment or an electrical installation, that all persons and property are **free from electrical risk** from the equipment or installation.
- **free from electrical risk**, for a person or property, means that—
 - (a) electrical risk to the person or property has been eliminated, so far as is reasonably practicable; or
 - (b) if it is not reasonably practicable to eliminate electrical risk to the person or property, the risk has been minimised so far as is reasonably practicable.

The term “reasonably practicable” is structured on a risk management. The term “reasonably practicable”, for example, in Queensland legislation is defined as:

- **reasonably practicable**, in relation to a duty **to ensure electrical safety**, means that which is, or was at a particular time, reasonably able to be done in relation to ensuring electrical safety, **taking into account and weighing up all relevant matters including—**

(a) the likelihood of the hazard or the risk concerned happening; and

(b) the degree of harm that might result from the hazard or the risk; and

(c) what the person concerned knows, or ought reasonably to know, about—

(i) the hazard or the risk; and

(ii) ways of eliminating or minimising the risk; and

(d) the availability and suitability of ways to eliminate or minimise the risk; and

(e) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk.

The joint Australian and New Zealand Standard *AS/NZS 3820 Essential safety requirements of electrical equipment*, **is one part of the framework used by** Electrical Safety Regulatory Authorities to ensure suppliers of electrical equipment are aware of the requirements to ensure equipment they supply is **electrically safe** and meets the **safety criteria**. This applies to all electrical equipment irrespective of the Electrical Equipment Safety System (EESS).

The requirements to meet the safety criteria is a starting point of a supplier to ensure the equipment is electrically safe, however, it may not be everything a supplier will need to do. Suppliers should address all the risks of the equipment to ensure is electrically safe.

AS/NZS 3820 prescribes outcome-orientated safety criteria for electrical equipment. Compliance with the safety criteria can generally be demonstrated by compliance to the **relevant standards**. However, *AS/NZS 3820* acknowledges that such compliance with the safety criteria may not be recognised if:

- there is a shortcoming in the product Standard
- there is an inappropriate application of the product Standard
- there is a failure to comply with good engineering practice as referred to in Clause 1 of *AS/NZS 3820*.

*In relation to **relevant standard**, for example, as defined in Queensland legislation is:*

(1) The relevant standard for electrical equipment is— means:

(a) if there is a Standards Australia or joint Standards Australia and Standards New Zealand standard that applies specifically to the type—that standard together with AS/NZS3820 (Essential safety requirements for electrical equipment); or

(b) if there is not a Standards Australia or joint Standards Australia and Standards New Zealand standard that applies specifically to the type and there is an IEC standard that applies specifically to the type—the IEC standard together with AS/NZS3820; or

(c) if neither paragraph (a) nor (b) applies—then AS/NZS3820.

(2) In this section—

IEC standard means an International Electrotechnical Commission standard.

AS/NZS 3820 also indicates that at times, more than one or more standards may apply to an item of equipment. Furthermore, claimed compliance to a relevant standard or standards may not be valid if the equipment is involved in incidents where it has failed due to design or manufacturing failures, etc.

The supplier of electrical equipment should have sufficient technical documentation (it can be in the form of technical construction/compliance file) that demonstrates the conformity of the electrical equipment to the requirements of *AS/NZS 3820*. It must, as far as relevant for such an assessment, cover the design, manufacture and operation of the electrical equipment, in English, and must include (but not limited to):

- (a) a general description of the electrical equipment including photographs
- (b) conceptual design and manufacturing drawings and schemes of components, subassemblies, circuits
- (c) descriptions and explanations necessary for the understanding of said drawings and schemes and the operation of the electrical equipment
- (d) a list of the standards applied in full or in part, and descriptions of the solutions adopted to satisfy the safety aspects of this standard
- (e) results of design calculations made, examinations carried out
- (f) test reports
- (g) application and details of routine tests applied if any.

Note: The above safety criteria apply to all electrical equipment irrespective of the Electrical Equipment Safety System (EESS). For In-Scope electrical equipment additional requirements will apply that must be met prior to sale.

Specific product safety standards to achieve compliance with *AS/NZS 3820* can be purchased from [SAI Global](#).

Note: Applicants for a certificate may need to engage the services of a consultant (who meets the definition of a Suitably Qualified Person in the Equipment Safety Rules) to assist them in compiling appropriate documents required to make an application for certification. This may be necessary where the applicant for certification is not aware of the

requirements or technical detail of information required to be supplied to obtain a certificate