

Marine Information Bulletin

Queensland regulated ships – electrical standards and licences

Updated 21 July 2022

Purpose

This Marine Information Bulletin covers the standards applying to electrical installations on Queensland regulated ships and work that must be performed by appropriately licensed electrical workers. Boat owners are reminded that they must engage the services of an electrical contractor for any mains voltage (230V or 240V) work on their boats.

Definitions

Electrical contractor licence: A licence issued by the Electrical Safety Office authorising a person to conduct a business or undertaking that includes the performance of electrical work.

Electrical work licence: A licence issued by the Electrical Safety Office authorising an individual to perform electrical work. An **electrical mechanic licence** authorises the holder to perform all electrical work and an **electrical fitter licence** authorises the holder to perform all electrical equipment work.

Electrical work: Work at voltages above extra-low voltage, work on cathodic protection systems and work at extra-low voltage in hazardous locations. Electrical work includes testing and supervising electrical work.

Voltages: **Extra low voltage (ELV)** means voltage of 50 Volts or less alternating current (AC) RMS or 120 Volts or less ripple-free direct current (DC). **Low voltage (LV)** means voltage greater than extra low voltage but not more than 1000 Volts AC RMS or 1500 Volts ripple-free DC.

Questions

What are my responsibilities regarding the electrical installation on my boat?

Under the *Transport Operations (Marine Safety) Act 1994* owners and other persons involved with boats have a general safety obligation regarding the condition

of boats, including the condition of a boat's electrical installation.

Low voltage electrical installations and electrical equipment on boats in Queensland must comply with the requirements of the *Electrical Safety Act 2002 (ESA)*.

The ESA provides that only licensed electricians may perform electrical work. A licensed electrician must ensure that electrical work is in accordance with **Australian/New Zealand Standard 3000** known as the **wiring rules (AS/NZS 3000:2018)**.

How can I meet my responsibilities regarding the electrical installation on boats?

Complying with the electrical standards and ensuring that electrical work on boats is performed by a licensed electrician is a way for owners and other persons involved with boat's electrical systems to meet their general safety obligations.

What standards apply to electrical installations on boats?

The electrician you employ must ensure that the low voltage installation complies with the wiring rules.

Provisions in AS/NZS 3000:2018 apply to marinas and boats registered in Queensland—7.8.2.4 *Electrical installations in marinas and recreational boats* shall comply with AS/NZS 3004. Note 2 of clause 7.8.2.4, refers to *National Standard for Commercial Vessels – Part C Construction – Subsection 5B Electrical Edition 2 (NSCV Part C 5B)*.

AS/NZS 3004:2014 Electrical installations – Marinas and recreational boats – Part 2: Recreational boat installations specifies requirements for the design, construction and installation of electrical systems in boats registered in Queensland that have a length of up to 50 metres and are designed for use on inland waters or at sea.

Another related standard is the NSCV C 5B, published by the National Marine Safety Committee in 2005. This is a commercial vessel standard that is also suited to electrical installations on boats registered in Queensland. This standard provides additional requirements and variations to AS/NZS 3000 necessary to reflect the requirements of the marine industry and the particular environment on boats, while satisfying the fundamental safety requirements of section 1 of AS/NZS 3000.

Will the electrical installation on an imported boat comply?

Imported boats complying with IEC/ISO standards, classification society rules or other known standards will comply with the fundamental safety requirements of section 1 of AS/NZS 3000. Compliance with section 1 of AS/NZS 3000 is mandatory and if there are issues of conflict between these other standards and AS/NZS 3000 (for example, cable colour codes in low voltage installations of American built boats), if not resolved under AS/NZS 3000: 3.8 will require resolution on a case by case basis by Maritime Safety Queensland in consultation with the Electrical Safety Office before acceptance for compliance.

Any person selling an imported boat, including an import agent, must ensure that the electrical equipment on board complies with Queensland legislation.

Household and similar type electrical equipment which includes such items as circuit breakers, switches, safety switches, refrigerators and microwave ovens must be registered on the Electrical Equipment Safety System register. See www.eess.gov.au.

What about maintenance and repairs to the electrical installation on a boat?

Maintenance and repairs to low voltage electrical installations on boats is electrical work and may only be performed by a licensed electrician.

Further information

Marine safety legislation is available on the Maritime Safety Queensland website at www.msq.qld.gov.au.

Copies of the *Electrical Safety Act 2002*, the *Electrical Safety Regulation 2013*, *Codes of Practice* and other publications regarding obligations for electrical safety are available as downloads from the Electrical Safety Office website (www.worksafe.qld.gov.au/your-industry/electrical) or call 1300 650 662.

Australian Standards are available from SAI Global Ltd. SAI Global can be contacted by phone on 13 12 42, by email at <mailto:sales@sai-global.com> and their website is www.saiglobal.com.

For further information contact your local Maritime Safety Queensland office:

Airlie Beach	4841 4500
Bundaberg	4132 6600
Cairns	4052 7400
Gladstone	4971 5200
Hervey Bay	4194 9600
Mackay	4944 3700
Mooloolaba	5373 2310
Brisbane	3632 7500
Gold Coast	5585 1810
Townsville	4421 8100

Other Marine Information Bulletins about the safe operation of boats are on Maritime Safety Queensland's website at www.msq.qld.gov.au