



Setting Standards for Safer Boating

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the Standards and Technical Information Reports.

ABYC E-11 July, 2008

Electrical Division Standard

Electrical Project Technical Committee

ABYC E-11

AC AND DC ELECTRICAL SYSTEMS ON BOATS

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This list represents the membership at the time the Committee was balloted.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This Standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This Standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All inquiries regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at comments@abycinc.org.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

REQUEST FOR INTERPRETATIONS

Upon written request the Electrical PTC will render an interpretation of any requirement of the Standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.

E-11 AC and DC Electrical Systems on Boats

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**NOTE: GREY SHADING INDICATES AN AC ONLY REQUIREMENT.
LACK OF SHADING INDICATES GENERAL OR DC ONLY REQUIREMENTS.**

E-11 AC and DC ELECTRICAL SYSTEMS ON BOATS

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for all systems and associated equipment manufactured and/or installed after July 31, 2009.

11.1 PURPOSE

These standards are guides for the design, construction, and installation of alternating current (AC) electrical systems on boats and of direct current (DC) electrical systems on boats.

NOTE: *The United States Coast Guard has promulgated mandatory requirements for electrical systems in Title 33, CFR 183 Subpart I, Section 183. Refer to the CFR for current federal requirements.*

11.2 SCOPE

These standards apply:

11.2.1 to alternating current (AC) electrical systems on boats operating at frequencies of 50 or 60 hertz and less than 300 volts, including shore powered systems up to the point of connection to the shore outlet and including the shore power cable and,

11.2.2 to direct current (DC) electrical systems on boats that operate at potentials of 50 volts or less.

EXCEPTION: *Any conductor that is part of an outboard engine assembly and does not extend beyond the outboard engine manufacturer's supplied cowling.*

11.3 REFERENCED ORGANIZATIONS

ABYC - American Boat & Yacht Council, Inc., 613 Third Street, Suite 10, Annapolis, MD 21403. Phone: (410)990-4460, Fax: (410)990-4466. Website: www.abycinc.org

[ABYC A-1, Marine Liquefied Petroleum Gas \(LPG\) Systems](#)

[ABYC A-3, Galley Stoves](#)

[ABYC A-16, Electric Navigation Lights](#)

[ABYC A-22, Marine Compressed Natural Gas \(CNG\) Systems](#)

[ABYC A-28, Galvanic Isolators](#)

[ABYC A-31, Battery Chargers and Inverters](#)

[ABYC E-2, Cathodic Protection](#)

[ABYC E-10, Storage Batteries](#)

[ABYC H-2, Ventilation of Boats Using Gasoline](#)

[ABYC H-24, Gasoline Fuel Systems](#)

[ABYC H-33, Diesel Fuel Systems](#)

[ABYC T-5, Safety Signs and Labels](#)

[ABYC TE-4, Lightning Protection](#)

[ABYC TH-22, Educational Information About Carbon Monoxide](#)

[ABYC TH-23, Design, Construction, and Testing of Boats in Consideration of Carbon Monoxide.](#)