ABYC S-31 July, 2017

Electrical Division Standard

Electrical Project Technical Committee

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ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn.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 S-31

ENVIRONMENTAL CONSIDERATIONS FOR ELECTRONIC SYSTEMS AND COMPONENTS INSTALLED ONBOARD BOATS

ELECTRICAL PROJECT TECHNICAL COMMITTEE

Ward Eshleman, Vice Chair

Denis Bonneau	Wm Brian Criner	Robert Macias
Larry Budd	Charles Game	Thomas Marhevko
Nigel Calder	Robert Green	Vinod Mehta
Po Chang	Clyde Head	Aaron Meyer
Jay Check	Roger Jarman	Paul Michalczyk
Pete Chisholm	Wayne Kelsoe	Dave Potter
James Coté	John Lach	Ray Toth
	Ralph Lambrecht	

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.

S-31 ENVIRONMENTAL CONSIDERATIONS FOR ELECTRONIC SYSTEMS AND COMPONENTS INSTALLED ONBOARD BOATS

Table of Contents

S-31 ENVIRONMENTAL CONSIDERATIONS FOR ELECTRONIC SYSTEMS AND COMPONENTS INSTALLED ONBOARD 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 boats and associated equipment manufactured and/or installed after July 31, 2018.

31.1 *PURPOSE*

This document is intended for the qualification of electronic systems and electronic components for use onboard boats.

31.2 *SCOPE*

This document, or any specific section thereof, applies when referenced or specified in any ABYC standard. Applicable pass/fail criteria and testing levels are dictated by the referencing standard.

31.3 *REFERENCES*

The following references form a part of this standard. Unless otherwise noted, the latest version of the referenced standards shall apply.

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

E-11, *AC & DC Electrical Systems on Boats*

31.3.2 CFR - Code of Federal Regulations and other government publications. May be obtained from the Superintendent of Documents, United States Government Information, PO Box 371954, Pittsburgh, PA 15250-7954. Phone: (202) 512-1800. Fax: (202) 512-2104. Website: www.access.gpo.gov. An excerpted edition of the CFR is also available from ABYC, Inc.

33 CFR 183

31.3.3 IEC - International Electrotechnical Commission, 3, rue de Varembé, P.O. Box 131 CH - 1211 GENEVA 20 Switzerland, Phone: +41 22 919 02 11 Fax: +41 22 919 03 00 Website: www.iec.ch

CISPR12, *Vehicles, boats, and internal combustion engine driven devises – Radio Disturbance Characteristics*
EN 60945, *Maritime Navigation and Radiocommunication Equipment and Systems*
IEC 60068, *Environmental Testing*
IEC 60092, *Electrical Installations on Ships*
IEC 60533, *Electrical and Electronic Installations in Ships*
IEC 61000, *Electromagnetic Compatibility (EMC)*

31.3.4 Lloyd's Register – 71 Fenchurch Street, London EC3M 4BS, England. Phone: +44 (0) 20 7709 9166. Fax: +44 (0) 20 7488 4796. Website: www.lr.org

Lloyd's Register, *Type Approval System Procedure TA01 – 2002*

31.3.5 SAE - Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (724) 776-4970. Fax: (724) 776-0790. Website: www.sae.org

SAE J1113-2, *Electromagnetic Compatibility Measurement Procedures and Limits for Vehicle Components (Except Aircraft)--Conducted Immunity, 15 Hz to 250 kHz--All Leads*

31.4 *DEFINITIONS*

For the purposes of this standard the following definitions apply.