

Meeting Report
ABYC Electrical Project Technical Committee
Seattle, Washington
January 8, 2019

Highlights of the ABYC Electrical PTC meeting

1. Ongoing Projects

- International update – ABYC encourages manufacturers to join the US TAG, which reviews all ISO small craft standards.
 - ISO has combined AC and DC standards following an ABYC project and a new standard.
 - ABYC maintains a library of global standards from throughout the world.
- Machinery space temperatures - Will try to standardize the engine room temperatures used across all ABYC standards. Most ABYC standards use 50C while ISO uses 60C.
- S-31, Environmental Considerations for Electronic Systems and Components Installed Onboard Boats, Consensus ballot comments – Resolved the inconsistencies within the standard regarding Electromagnetic compatibility tests. Comments concerning changes to the Insulation resistance test and Field strength immunity levels will be submitted as future comments.
- Test location for high amperage testing – There are no known test facilities conducting high current, low voltage testing for Class D fuses (125V, 20,000 amps). Might have possible test locations at IMANNA, at a battery manufacturer, at Univ. Texas, and at a military test facility.
- Reverse polarity requirements – Will look to review the requirements in 120/240 systems, and ELCI ratings.

2. TE-XX, High Capacity Batteries

- This new standard is much needed in the marine industry. This standard started for Li-Ion batteries and has evolved into a high capacity battery standard. The next step after this standard might be development of a separate standard for only Li-Ion batteries.
- The draft is ready for a comprehensive review by industry experts and by the Electrical PTC.
- Next action: Call for Comments to the PTC in a 45 day time period.

3. E-2, Cathodic Protection

- Redefined “noble” as a descriptor applied to materials having corrosion potentials toward the positive end of the galvanic series.
- Redefined open-circuit potential as a voltage difference of an electrode measured with respect to a reference electrode or another electrode when no current flows to or from it.
- Deleted reference to half cell reference electrodes.
- Added a Note: Some propeller shafts and propulsion drives are intentionally isolated from the small craft’s primary cathodic bonding system, and must be individually protected with separate cathodic protection systems.
- External mounted hull anodes do not provide effective cathodic protection to interior surfaces of seawater piping systems.
- Iron sacrificial anodes may be used to protect copper based metals.
- Magnesium sacrificial anodes shall not be used on vessels operating in seawater.
- Impressed current systems shall have a means to warn for operation over or under protection.
- Established a research project to determine if the -200mv current for cathodic protection for seawater is applicable in fresh water.
- In Table I, Galvanic Series of Metals, and Table II, Range of Cathodic Protection, will add a column for Zn reference cells.
- Combined the Purpose and Scope into a single Scope statement.
- Next action: Cathodic protection subcommittee will begin work but will not hold up progress of the standard. Next action for the document will be a review and ballot for publication.

4. TE-4, Lightning Protection

- Removed the use of a whip type antennae as an air terminal.
- The air terminal should be the highest point of the boat.
- The zone of protection of a temporary mast should be located to include protection of onboard personnel.
- Where practical, lightning protection conductors should not be routed directly adjacent to other electrical conductors.
- No bend of a primary conductor should form an angle of less than 90 deg.
- Propeller shafts do not provide reliable electrical continuity to the boat's bonding systems.
- An E-11 subcommittee will investigate surge protection and might be applicable for marine electronics.
- Next action: PTC recommended that the document be forwarded for Ballot for Publication.

5. New Business

- The Engine and Powertrain PTC requested a joint Task Force with the Electrical PTC to review the increased installations of portable generators on boats.
- RCD for 100amp service – Might be addressed in the ELCI section of E-11. No product is available to the industry that meets the ABYC standard (trip in 100ms). Current available product trips in 300ms. A subcommittee was formed to review this topic and develop a technical amendment. Due Mar 1, 2019.
- Can the E-11 Ampere Interrupting Capacity for Marine Batteries chart be extended from 32v up to 60v? Can this chart be extrapolated to 36v/48v? Follow the manufacturer's instructions until E-11 is updated.

6. The next meeting of the ABYC Electrical PTC is scheduled for a webinar to address received comments from TE-XX, E-2 and TE-4 during spring 2019.

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