



National Equipment Auditors Manual 2017-2021
Information for Categories 1 & 2 Auditors



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1.0 THE NATIONAL EQUIPMENT AUDITORS SCHEME

1.1 The National Equipment Auditors Scheme (NEA Scheme) was developed to provide a national system of safety equipment auditing for boats racing in Australian Sailing (AS) Special Regulations (SR) Category 1 and 2 events. The objective is to produce consistency of equipment auditing, and portability of completed audit forms between Clubs and States.

1.2 The NEA Scheme provides for the accreditation of persons as National Equipment Auditors (NEAs) for the primary purpose of Category 1 and 2 safety equipment auditing on behalf of clubs, using the National Regulation Equipment Audit Forms developed and maintained within the Scheme. An NEA may also carry out audits for Categories 3 to 7.

1.3 The NEA Scheme was created under Australian Sailing Policy document COM 14-2021. An NEA should become familiar with this Policy and how it is implemented. The Policy is attached as Appendix A.

1.4 Australian Sailing Policy COM 14-2021 sets out the requirements to be met for accreditation by an NEA. An NEA is required to sign the Code of Conduct (Code) as a condition of accreditation. This Code was introduced as Australian Sailing Policy document COM 15-2021 and is attached as Appendix B. If you have not already signed this Code, you will be asked to do so as part of your accreditation.

1.5 Persons who are currently accredited for Category 3 to 7 audits may upgrade to become an NEA for the purposes of Category 1 and 2 audits.

Persons who are not currently State accredited may apply for accreditation as an NEA provided they meet the requirements of the Policy . Refer to Appendix A

1.6 The 2017-2021 Special Regulations can be found on the following link:
<http://www.sailing.org.au/sport-services/safety/special-regulations/>

2.0 ABOUT THIS MANUAL

2.1 This manual is designed to assist NEAs when auditing on behalf of their representative club under the Australian Sailing Special Regulations 2017-2021.

2.2 The Regulation Equipment Audit Forms designed for use by the NEAs for Categories 1 and 2 do not include all the regulations in the AS Special Regulations 2017-2021. This does not absolve the Person in Charge and crew from complying with all regulations. The form covers the regulations to be checked by an NEA. A small number of boxes in the ECF are for the Person in Charge to initial confirming compliance as they are not items an NEA can determine.

2.3 Special Regulations SR2.02.2 "Inspection and Monitoring" limits the responsibility of an NEA to SR2.03 "General Requirements", Section 3 Part 2 "Fixed Equipment", Sections 4 "Portable Equipment & Supplies", and Section 5 "Personal Equipment".

2.4 If an NEA finds something which they believe to be not in accordance with the Section 3 Part 1 regulations, they should report such to the Club or Organizing Authority for further action by that body. It is not regarded as within the competency of NEAs to make judgments for regulations in Section 3 Part 1 "Structural Features, Stability".

Please note that in the regulations "**shall**" and "**must**" are mandatory, "**should**" and "**may**" are permissive. (SR1.03.2)

2.5 The Australian Sailing Special Regulations 2017-2021 commence on July 1, 2017. This manual will be amended and updated accordingly if Amendments or Interpretations are issued by Australian Sailing.

An NEA is responsible for remaining up to date with the following Australian Sailing documents:

- Amendments to the Australian Sailing Special Regulations 2017-2021.
<http://www.sailing.org.au/sport-services/safety/special-regulations/amendments/>
- The Australian Sailing Special Regulations 2017-2021 Summary of Changes (Appendix A).
- Interpretations of the Australian Sailing Special Regulations.
<http://www.sailing.org.au/sport-services/safety/special-regulations/2013-2016-special-regulations-interpretations/>

Interpretations of these Special Regulations issued by Australian Sailing shall be considered to be part of the regulations and will be dated and displayed on the Australian Sailing website.

AS Special Regulations Categories 1 and 2 Section 1: Fundamentals and Definitions

Definitions Added:

<i>LH</i>	Hull length as defined by the Equipment Rules of Sailing.
<i>Primary Launch</i>	Month and year of first launch of the first boat of the production series or first launch of a non-series boat.
<i>Trailable boat</i>	For the purpose of these regulations a trailable boat is a monohull ballasted boat, or a multihull which can be transported on the public road system on the same trailer used to launch and retrieve it without the assistance of external equipment or detachment from the towing vehicle.

Definitions Removed:

<i>LOA</i>	Length overall not included pulpits, bowsprit, bumpkins, etc. Changed to LH above.
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ABBREVIATIONS

Additional abbreviations:

EPFS	Electronic Position Fixing System
ERS	Current Equipment Rules of Sailing
HMPE	High- Modulus Polyethylene
MMSI	Maritime Mobile Service Identifier

Section 2

Application & General Equipment

2.03 General Requirements

2.03.1(a)-(e) Not only must the equipment be on board but it must function correctly and meet the requirements.

Example: A pump out toilet with the inlet and outlet opening in the hull sealed does not function properly and is not fit for the purpose.

This regulation is an important fall back regulation. It is referred to as the 'fit for purpose rule'. If an NEA has any doubt about a piece of equipment, this is the final test to be applied.

2.03.2 Heavy Items

Heavy items must be secured from movement should the boat be knocked down.

An NEA must be aware that the regulation also applies to flooring. Is it secured? Are the floor boards considered as heavy? Even if not heavy, do the floor boards have sharp corners that could cause injury if they became loose in a knock down?

2.04 Crew Experience

Crew experience is not part of the audit. Refer SR 2.02.2

Section 3 Part 1

Structural Features, Stability

Structural features and stability are not part of the audit. Refer SR 2.02.2

Section 3 Part 2 Fixed Equipment

3.06 Exits

3.06.1 (a)(ii) Australian Sailing can give dispensation for yachts without an exit forward of the mast. However, if it is for an individual Club/Organising Authority's policy as to whether to accept any non-conforming boat even if Australian Sailing dispensation has been granted.

3.06.1(c) Yachts with Age Date from 7/2010 must have hatch clearance diameter of 450mm. For a square or rectangular exit, the measurement is NOT taken on the diagonal 3.06.1(d).

This regulation introduces dimensions in compliance with ISO 9094 for yachts with Age Date on or after 07/2014. The regulation is specific to circular and other shaped exit hatches.

3.06.3 Multihulls: Each hull which contains accommodation shall have at least two exits.

3.06.4 and 3.06.5 Multihulls: These regulation cover escape hatches.

3.06 Hatches, Companionways & Storm Boards

3.07.1 By Australian Sailing Interpretation No. 5 2009-2013 this regulation also applies to windows. The new regulations do not specify 'windows'. An NEA should continue to apply that amendment however.

3.07.1 (b) There is an addition of the following regulation: "Hatches, windows and ports that do not conform with 3.07.1 (a) are permitted if clearly labelled and used in accordance with the following instruction "NOT TO BE OPENED AT SEA"

3.07.2 Hatches or ports that open to the interior are to be above the water when heeled to 90°.

Only two non-conforming hatches per side less than 0.071m² may be openable and are to be kept shut whilst racing. Some owners may have to immobilise the latches of additional or larger windows.

It has been found that a number of overseas boats do not comply with this regulation. If an NEA has doubt as to whether the ports etc. will be under water when heeled 90° ask the Owner to provide a designer's or builder's diagram of the water level on the boat when heeled. This diagram is NOT the same as a down flooding analysis. A 50-foot imported boat was found to have several windows of non-complying size below water level. Boats with narrow side decks should be suspect.

Non-conforming ports can be made acceptable by a number of methods including, for example, the use of storm boards or battens fitted over the port or window either externally or on the interior side of the port, or cable ties or screws holding latches in the closed position.

Lessons for the auditor

1. Take a tape measure
2. Check the hatches and ports
 - First look forward of beam max anything opening inwards (rare to find one larger than .071) – strictly speaking this is the only scenario when the sign gets to be used (sadly as it would be a better solution for the rest of the rule)
 - Then check what might go below the water at 90 degrees
 - Then check of those which go below, which ones are larger than .071 to be closed off
 - Then check of those which go below, how many small ones there are to close off (any more than 2 per side).

It is a complicated rule from a check perspective.

3. Work with the Person in Charge to make simple acceptable solutions

3.07.3 Yachts with a hatch sill below the local sheer line² are permitted, provided that they can be fitted with a washboard to bring the height to sheer line². Access to the cabin is still necessary when the blocking device is in place.

Storm boards have to be secured to the boat by the lanyard at all times (whether in use or not).

2 The longitudinal curve of the rail or decks, which shows the variation in height above the water or freeboard throughout the vessel's entire length. McGraw-Hill Dictionary of Scientific and Technical Terms, 6th edition, published by The McGraw-Hill Companies

3.07.4 Companionway hatches (the sliding or hinged horizontal component) are to have a latch to prevent it being accidental opened by a wave or crew falling against it. It must be able to be secured in position without the washboards in place or with the washboards in place.

The main companionway hatch blocking devices must be able to be secured to stop it/them falling out. This device is separate from the lanyards. The securing device is to keep the washboard in place and the lanyards to prevent the boards being lost overboard.

Whatever the method used it must be capable of being operated from both inside and outside the boat. It is against the law in most States for an exit locked (as opposed to closed) while at sea.

3.08.8 Multihulls – minimum drain size after allowance for screens shall be 20cm² per m³ of cockpit

3.09 Seacocks

Seacocks & Plugs - this refers to through hull fittings and they require some form of valve and some form of closing the opening. 3.09.1(a) provides for exceptions for propeller shaft, log, speed indicators, depth finders and the like.

Softwood or rubber tapered plugs are required for each opening, which must be capable of closing the hole should the entire fitting disintegrate. These need to be fastened to the valve or stowed near the fitting so as to be ready for immediate use. Attachment to the fitting is the preferred method.

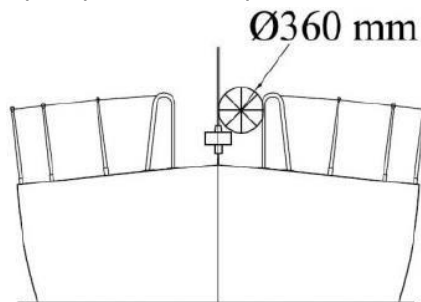
Soft wood plugs are better for they swell as they get wet giving a better seal. Note that 'rubber' is a generic term and any soft pliable substance can be used in the plug so long as it will remain in place once inserted. Such type plugs are commercially available.

3.11 Mast Step

Some method of stopping the mast heel from moving out of the mast step is required. This only applies to keel stepped masts and is to stop the heel jumping out of the base and swinging around inside the cabin in the case of a broken rig or rigging damage. You need to judge if the method used is sufficient, e.g., bolted to the base, tied to the hull etc.

3.12 Pulpits, stanchions, Lifelines

SR 3.12(a) (ii & iii) A bow pulpit may be open provided the forward gap or the opening between the pulpit and any part of the boat does not exceed 360mm. The reference to, the forestay in or forward of the gap has been removed
SR 3.12(a) (iv) Provided a single post provides adequate termination for lifelines, it is acceptable as a pulpit.



Any material may be used for stanchions and pulpits. The previous ban on carbon fibre has been removed. Remember the 'fit for purpose' rule. Although no Australian Standard or International Standards Order is referred to, the pulpit/pushpit or stanchion must withstand a force of 55kgs applied to the top of it. If in doubt, ask the Owner to supply documentary evidence from the designer or manufacturer certifying compliance.

The lifelines are to be uncoated stainless wire. The wire may be sleeved if the sleeving is loose. The purpose is to permit air to flow over the wire. A clear sleeve is not mandatory but desirable. A number of overseas boats are imported with non-conforming lifelines with PVC coatings. Also note that although rope (e.g. Dyneema) are permitted overseas for lifelines, only stranded wire is acceptable in Australia under 3.12.6(a).

Grade 316 stainless steel wire is recommended (SR

3.12.6(c) 3.12.6(b) clarifies coated/uncoated lifelines.

3.12.6(e) Wire diameter requirements are based on LH. Note that the conversions of imperial to metric as shown are not exact conversions. Be firm on the slack in lifelines. Deflection should be no more than 50mm

between stanchions. While most of the port & starboard stanchions comply with the distance rule (2.20m) be aware that on a lot of the big beam boats with open transoms that the stern lifelines fixed between the port and starboard stern pulpits sometimes exceed this rule and need to be checked. *Height above working deck on these boats is 600mm above the side decks, not the cockpit floor.*

Also be aware that the intermediate lifelines (lower) sometimes exceed the vertical opening rule (380mm-see 3.12.5) and that many overseas boats arrived with lower diameter wire than required.

Note that step down stern pulpits (pushpits) do not comply and a top lifeline may need to be rigged behind the helmsman.

Note that 'pelican hooks' are used to close openings in a lifeline system, the sliding collar should be secured in place by a method which will not degrade in seawater immersion. Binding with self-amalgamating tape or similar is acceptable.

3.12.6 Lifeline minimum diameters, required materials, specification

3.12.6(d) Lanyard closures in lifelines are to be replaced annually. Also note the regulation refers to the gap to be closed not the length of the lanyard. Note wear or moss as signs of non-replacement.

If the gap is greater than 100mm the problem can be resolved by inserting a shackle onto the wire or pulpit to reduce the gap the lanyard is required to close.

3.12.4 Note that Multihulls have a different set of requirements for lifelines, stanchions and pulpits.

3.14 Toe Rail or Foot-stop

A 25mm toe rail from abreast the mast around the foredeck is required. 20mm is accepted for boats constructed before 1981.

3.14.2 A toe rail is not required on multihulls

3.15 Toilet

The toilet is required to be securely installed, note 'securely installed' is not defined in regulation 1.03.1. An NEA should only accept the toilet if permanently installed otherwise it is doubtful that it is fit for the purpose. Also under regulation 2.3 it must be able to be operated to satisfy the function test.

3.16 Bunks

Vessels that seek Category 3 to 7 certification shall have enough bunks for 50% of the crew & *suitable for use at sea*. Bunks must have lee cloths or be hauled up to an angle to prevent the occupant from rolling out.

3.16.1 Bunks securely fastened and sufficient for at least half the crew shall be provided

3.17 Galley

The Australian Gas Standard is no longer referenced – no certificate required. But note installations are to be made by qualified gas fitters by most State law. This is an Owner's responsibility.

3.17.3 Gas may only be used for cooking

3.17.4(b) Gas detectors are required only where there is a permanent pilot light.

The stove must be secured and able to be operated in a seaway. Non gimbaled stoves do not comply. Stoves fitted athwartships must be gimbaled to compensate for both heeling and pitching. All stoves must have a fuel shut-off valve. This valve should be accessible without having to reach over the stove in case there is a fire on the stove.

Gas stoves require a sign.” REMEMBER TURN OFF GAS AT BOTTLE” (3.17.4)

The regulations permit a heating appliance as an alternative to a stove. A microwave oven is acceptable in place of a gas/fuel stove.

Gas canisters of 225gm capacity are acceptable use with camping type stoves below. Spare canisters need to be stored in an enclosed compartment draining overboard as for LPG cylinders. The canister must be fitted to gimbles to be operated in a seaway. Be aware that the ACCC has recalled lunchbox style butane cookers due to the risk of explosion. An NEA could provide advice to the Person in Charge to look into this further.

3.18 Water Tanks and water

Boats must have one tank dividing the water into two compartments or two tanks. If there is a leak 1/3 of the water must remain so you will have to judge if this can be achieved. 2.5 litres of water per crew member per hundred miles is the minimum requirement.

Some yachts use water containers or bottled water rather than tank water, which must be secured and not fly around the cabin if the boat is knocked down. *However, currently, permanent tanks must be installed (Cat1/2)* although tanks must be permanently installed there is no requirement for the ship's water to be carried in them.

Amendment to 3.18 Emergency drinking water- this has now been amended to at least 1 litre per crew member in addition to that required by clauses 3.18.2 and 3.18.3 shall be carried in a dedicated container or containers. This deletes the previous requirement of 9 litres overall.

3.19 Handholds

These may be permanently installed handles or can be rope lines through the boat. Edges of the cupboards under the side decks are not acceptable and they are usually out of reach when standing in the middle of the cabin.

3.20 Bilge Pumps & Buckets

Two manual pumps are required to be securely fitted to the boat with permanently fitted discharge pipes. There must be a handle for each pump and each needs to be secured to prevent loss. They need to work with all hatches, cockpit seats and companionways closed. One pump must be capable of operating from above deck and the other below deck.

Many times these are never checked, good idea to ask when was it last used and demonstrate it in use

Buckets with lanyards must be 8 litre capacity, and of *sturdy* construction, *particularly handles*. Plastic handles may not be fit for purpose.

3.21 Compass

Ensure that it is visible from the helming position. The spare compass should be capable of being fixed in a position that it can be used from the helming position. Electronic Compasses are not permitted as the sole means of navigation.

The main compass and spare are to be “magnetic”, independent of any power supply, and permanently installed (3.21.1)

Note the requirement for a deviation card prepared specifically for that boat.

3.23 Navigation Lights

Sails must not mask Nav lights and the lights must not be below deck level. Check correct wattage for incandescent bulbs. New generation LED lights are accepted if multiple source and covering the

required angles.

The regulation aligns with the Collision Regulations in that navigation lights need only be carried and displayed when required. Although it is usual in production yachts to have these lights permanently installed this is not the requirement.

Spare bulbs must be carried, with exception of lamps with multiple LED array

3.24 Engines, Generators, Fuel

Read this regulation in full. There are many requirements to be met and there is a minimum fuel requirement of 8 hours running and in addition charging batteries for the duration of the race.

3.24.7 A generator is optional but if installed must meet the regulation's requirements.

3.24.8 Most tanks require a valve/stop cock fitted directly to the tank that can be operated should a fuel line let go. The exception is a tank which cannot leak if the fuel line fractures – be aware of the possibility of siphoning from tanks which have top entry fuel lines. A stop cock on top of fuel tank is required if siphoning is possible after fuel line fracture.

3.25 Marine Radio

3.25.1 A permanently installed HF and VHF are required as a default for Categories 1 and 2. However, 3.25.1(a) provides an exemption for Category 2 where VHF facilities exist along the entire course length in which case the HF need not be carried if noted in the Notice of Race.

3.25.1 (a) (ii) All new HF transceivers shall be DSC capable

3.25.1 (b) (iii) All new permanently installed VHF transceivers shall be DSC capable

Where permanently installed, DSC HF/VHF transceivers shall be programmed with an assigned MMSI (unique to the boat), and where there is permanently installed GPS, be connected to a GPS receiver, and be capable of making distress alert calls as well as sending and receiving a DSC position report with another DSC equipped station.

3.25.1 (d) A satellite phone is recommended. The satellite phone should have coverage of the race area, and be connected to the main power or have a spare battery

3.25.2 Requires a waterproof handheld VHF to be carried. 3.25.6 requires that handheld to have a maximum rated output power of not less than 5W.

3.25.3 An HF radio must be able to tune to the various distress frequencies. 2182 kHz is not referred to by the regulations.

3.25.3, 3.25.4 For VHF a masthead antenna is mandatory for all boats. Height of mast is no longer a reference. Permanently installed VHF transceivers shall have a maximum rated output power of not less than 25W. Note there is no ban on aereals inside rope backstays.

Regulations 3.25.3 to 3.25.8 inclusive contain detailed specifications and requirements for testing. This maybe beyond the experience of an NEA. Therefore, it is best to have the Owner present a Radio Test Form to assist.

The requirements of Training and the radio operator's qualifications in 3.25.9 cannot be audited by an NEA as these persons and qualifications may change from race to race. This has been removed from the form.

3.26 Batteries

Experience has shown that although some batteries have venting holes in their caps they are in fact 'sealed batteries' for the regulation. If in doubt, ask the Person in Charge to supply a manufacturer's statement as to compliance. The key is that liquid electrolyte cannot escape if the battery is turned over as in a knockdown.

3.28 Hull identification

The size of registration numbers may vary from State to State but must be at least 50mm.

Section 4

Portable Equipment & Supplies

4.1.1 Sail Numbers

These are required to comply with the size and positioning in RRS 77 and Appendix G of the Racing Rules. In particular the numbers must be issued or permitted by the yacht's MYA.

4.1.2 Separate Sail Numbers:

Sail numbers on a separate cloth are required so the boat can be identified from the air when no sails are set. While this number can be painted on the deck but boats must still carry a separate piece of material with sail number on. The numbers must be of the same size as the numbers on the mainsail.

4.03 Jackstays, clipping points and static safety lines

4.03.1(a) Jackstays shall extend far enough aft so that crew can clip on without leaving the cockpit. Clipping points must also be arranged so that crew can clip and unclip to the jackstay from below deck. Jackstays can be webbing, uncoated stainless wire or spectra rope. The jackstay must be separate, that is one for each side of the boat. If one continuous line around the boat were to fail, the whole system is lost.

Strong clipping points are required for positions that are occupied for a long period.

Note 4.03.1(a) and 4.03.2(a) for the strength and manner of the attachment/anchor points for jackstays and for the clipping points.

4.03.2 Clipping points must be capable of handling 2/3rds of crew independent of the jackstays. Stanchion bases are not strong clipping points unless they are through bolted or welded to the deck and have a position for clipping. You must check for wear and tear. Webbing or spectra should not be left on deck permanently.

4.04 Fire Extinguishers

Two fire extinguishers of a minimum rating each of 10BE of dry powder or equivalent shall be onboard. Note that two 5B (E) are NOT acceptable as one 10B (E).

Fire Blankets are only compulsory where there is any form of cooking facility with an open flame. It may be prudent to recommend a boat carries a fire blanket for other types of fire even if the heating appliance has no open flame.

Extinguishers should be serviced in accordance with the manufacturer's instructions. Usually this requires that qualified service agents should service the unit and tag it. The current regulations give recommendations for servicing and recommend 6 monthly checks and an annual service by a competent person 12 months servicing is detailed on the ECF.

4.05 Anchors

Two anchors are required. Both the Primary and Secondary anchor must meet the size requirements of either Table 2 or 3 whichever Table provides for the lesser size.

Ensure that they are tied down and cannot fly around in a knockdown thereby complying with 2.03.2(b).

A fisherman type anchor is not recommended due to the difficulty of stowage and lack of holding power. Light weight anchors are acceptable provided they have a holding power equivalent to the Tables in the regulation. If in doubt, the Owner will need to produce documents from the manufacturer as to the brand's holding power.

Demountable second anchors are acceptable provided primary anchor is carried assembled.

Note: For multihulls, owners are recommended to consider selecting an anchor and accompanying rode that is one size bigger, compared to a monohull of similar length overall

4.06 Spotlights and Flashlights

A watertight, high-powered spotlight, suitable for searching for a person overboard at night and for collision avoidance with spare batteries and bulbs (if they can be replaced) is now required.

Three flashlights are required for Cat 1, Two for Cat 2. They must be water resistant and floating

Spare batteries and bulbs (if they can be replaced) are required.

4.07 Medical Kit and Manual

Two manual editions are permitted by 4.07.1 for Category 1. However, several editions are permitted for Category 2 by 4.07.2. Pay particular attention to the dates as the Ship Captains Medical Guide must be the 21st Edition or later.

N.B. 4.07.9 states "Alternate pharmaceuticals in equivalent amounts and having similar action to those stated are acceptable". Accordingly other brand names are acceptable.

Check expiry dates, particularly prescription items.

The regulation does not require how S8 drugs are to be stored. It is the Owner's responsibility to comply with State Law as to how and where they are stored and how access to the drugs is controlled. The current regulations have prescription items drugs required identified with a double asterisk. Items with a triple asterisk (***) are only required if in the Notice of Race.

Each ECF has all of the contents of the medical kit listed for easy of auditing the contents.

4.08 Foghorn

Accept any instrument designed to produce a loud noise. Mouth blown trumpet types are acceptable.

4.09 Automated Identification System (AIS)

**** Amendment 1st July 2015**

Radar reflectors are replaced by Automated Identification System (AIS) in Category 1. AIS is mandatory in Category 1 and recommended for Category 2.

4.10 Charts, Piloting Equipment & Books

Must have paper charts, not just electronic.

Must have International Collision Regulations, the “Australian Sailing Racing Rules of Sailing” and the current “Special Regulations Part 1”. These may be hardcopy or electronic, with the exception for open boats which do not require copies onboard.

4.10.1(b) Charts shall include likely ports of refuge.

4.10.1(c) Either List of Lights or charts which detail the characteristics of lights visible from the race area are acceptable.

4.11 GPS

All boats must have permanently installed GPS, and spare. The second is to be a handheld GPS with spare batteries. Are there spare batteries for this unit?

Phones, tablets and similar are not acceptable as the spare GPS.

4.11.3(a) A yacht shall be equipped with an EFPS (e.g. GPS) capable of recording a man overboard position within 10 seconds and monitoring that position

4.14 Emergency Steering

An emergency tiller is only required if the normal method of steering is something other than a tiller direct to the rudder stock e.g. wheel or hydraulic steering. The emergency tiller must be demonstrated that it fits and can be used effectively.

All boats are required to have some other method of steering in event of rudder loss and you may require the boat to demonstrate the method they intend to use. Note that hatch boards on the end of spinnaker poles are difficult if not useless on modern boats. For the use of drogues refer to Special Regulations Advisory Appendix F

4.15 Tools and spare parts

This rule also requires tools, spare parts and a bosun's chair to be carried. A climbing harness may substitute for a bosun's chair.

Sufficient tools and spare parts for the boat are to be carried. Tools should include something to disconnect or sever the standing rigging.

A sharp knife shall be located in or near the cockpit, and needs to be “sheathed and restrained”.

4.16 Boat's Name

The boat's name is required on all equipment that is capable of floating. This includes lifejackets, cushions, fenders, floorboards, lifebuoys, life slings, dan buoys, flare container, first aid kit, etc.

Be particular on this rule as it is amazing the stuff that floats after a boat has foundered and some of the gear

floats for hundreds of miles before it is located. For personal lifejacket's the owners name should be used, preferably with a telephone number of an emergency contact.

4.17 Retro-reflective Tape

If a standard does not require reflective material on a lifejacket it is now recommended by this regulation. This will not usually be of consequence in cat 1 and 2 audits.

4.18 EPIRBs

EPIRBs are straightforward requiring at least one GPS capable 406 MHz beacon. The total number shall be at least equal to the number of liferafts. Check the expiry date and check that they are registered to the boat. An auditor may ask for a copy if the EPIRB registration as AMSA no longer issues registration stickers.

Check test circuit before accepting the beacon to ensure it passes the battery test.

Note that the primary EPIRB must be **(4.18.3(a))** "stored in a dry, well-marked location near the companionway" – other EPIRBs may be packed in liferafts (4.18.4).

Often additional EPIRBs are hired specifically for events and are not owned or on board at the audit. In this case, the number of EPIRBs should be detailed within the Regulation Equipment Audit form in an obvious manner (eg 1 plus 1 hire) and the expiry date of a boat owned EPIRB detailed on the front page and/or with the indication of hire (e.g. 1/7/18 plus Hire) so that the OA/Club can check the hire equipment prior to the event.

4.19 Liferafts: construction, equipment packaging and stowage, including servicing and inspection

The Australian Sailing Rules book outlines quite extensively the construction, minimum equipment required for each liferaft and stowage. It is important to note that evidence shows that packaged life rafts are vulnerable to serious damage when dropped or when subjected to the weight of a crew member or heavy object. Damage can be caused internally by the weight of the heavy steel CO₂ bottle abrading or splitting neighboring layers of buoyancy tube material

4.19. 3 (a) each life raft shall be packed either in:

- (i) a rigid container securely stowed on the working deck, in the cockpit or in an open space; or
- (ii) a rigid container or valise securely stowed in a dedicated weather tight locker containing life raft and abandon ship equipment only which is readily accessible and opens onto the cockpit or working deck or transom.

An NEA must read these regulations in detail particularly as to Construction, Equipment, Packing and Stowage, and Launching, and Servicing and Inspection. Grab Bags and contents are all recommended.

Often liferafts are hired specifically for events and are not owned or on board at the audit. In this case, the number of liferafts should be detailed within the Regulation Equipment Audit form in an obvious manner (e.g. Hire or 1 plus 1 hire) and the expiry date of a boat owned liferaft detailed on the front page and/or with the indication of hire (e.g. Hire or 1/7/18 plus Hire) so that the OA/Club can check the hire equipment prior to the event.

Importantly the NEA should check that the stowage/attachment points/cradle are available at the time of audit to restrain and stow the liferaft in accordance with regulations 4.19.2 and 4.19.3.

For equipment requirements for USL coastal liferafts, refer to Section 7 Appendix A.

4.20 Grab Bag

A yacht is recommended to have for each life raft a grab bag. The grab bag should have inherent floatation, at least 0.1 m² area of fluorescent orange colour on the outside, should be marked with the name of the yacht, and should have a lanyard and clip.

Grab bags and contents are recommended

4.21 Lifebuoys

A lifesling is not to have a drogue attached, refer 4.21.1(a). This because a lifesling works and is deployed differently to a lifebuoy. Refer to Special Regulations Advisory Appendix D.

The colour of the items is mandated as rescue colours in the yellow –red range. White lifebuoys are not acceptable.

4.22 Pyrotechnics (Flares)

Need to be stored in waterproof container. Check dates, with the earliest expiry date of flares to be noted.

4.23 Heaving Line

The length is 15-25 metres and it must be a floating line with a buoyant object at one end. It must be readily accessible to the cockpit. Don't accept a line from underneath a bunk or elsewhere. It might be wise to check if it works before passing it.

4.24 Storm & Heavy Weather Sails

If the boat has a foil it must have an alternate method of attachment to the forestay for storm jibs and heavy weather jibs because the bolt rope can pull out of the foil. There is no recommended method so satisfy yourself that it will work. If you have any doubt have them put it up.

The storm trysail must be capable of being sheeted independently of the boom with area not greater than 17.5% x (mainsail luff length x mainsail foot length) or mainsail reefing to reduce the luff by at least 50%. No exotic material can be used. Remember that these sails are used in bad conditions and you must satisfy yourself that the system will work when movement about the boat is difficult and hazardous.

Sheets attached permanently to the Storm Jib and the Trysail are no longer required.

If boats have furling headsails an inner forestay may be required for storm headsails.

These sails must be of a highly visible colored material (e.g., Dayglow pink, orange or yellow), or have a highly visible patch on each side equal to 20% of the area of the sail & in the upper half of the sail. Sails purchased after 7/2005 must be completely coloured

Reef points in heavy weather jibs are not permitted.

4.25 Drogue, Sea Anchor

The term "*drogue*" generally means a device dragged from the stern of a vessel which continues to make steerage way through the water but at reduced speed. The term "*sea anchor*" generally means a device streamed from the bows of a vessel practically halted in the water by the action of the sea anchor

The most common form of sea anchor for yachts is the "parachute" anchor developed from aviation parachutes. Specialist manufacturers have accumulated much data to demonstrate the effectiveness of the device which can enable a vessel to take seas bows-on, reduce drift to the order of one knot, and resist capsize. There are a number of styles of drogue which range from small parachutes to drag devices which have the water flow through them.

A drogue (for deployment over the stern), or alternatively a sea anchor or parachute anchor (for deployment over the bow) are recommended for Cat 1, 2 & 3. Australian Sailing Special Regulations Appendix F. Provides further information on drogues and sea anchors.

4.26 Retrieval of crew from the water

Crews should be able to demonstrate the method they will use for MOB retrieval. Consider that the patient is unconscious and is a dead weight, whatever method used needs to be able to cope with this weight. Many

Persons in Charge are not aware of Special Regulations Advisory for parbuckles and hoisting rigs, as simple methods (Australian Sailing Special Regulations Appendix D).

4.27 Distress Sheet

A standard orange sheet 1.8 m x 1.2 m with a black "V" or black square above a black circle, with lanyards attached shall be carried.

4.28 Stowage Chart

A durable Stowage Chart detailing the location of the principal items of safety equipment must be displayed in the main cabin. The object of the chart is for a one point, easy and quick identification of the where the equipment is stowed. Multiple labels through the boat are not a substitute for this regulation but are also desirable.

Section 5

Personal Equipment

5.01 Life Jackets

One lifejacket per person plus at least 1 spare are required. Each must have a buoyancy rating of 150N or level 150 or higher. The regulation provides examples of Australian and international standards which comply and the additional equipment to be attached and worn. Mae West over the head type are not permitted.

Ensure they are in good condition and stowed in a position so that they can be easily accessed. If crew supply their own safety equipment, such as lifejackets or personal EPIRBs they must be present at the Equipment audit and laid out for the auditor to check.

In addition to at least one spare lifejacket as required if inflatable lifejackets are carried, at least one gas inflatable jacket spare cylinder and, if appropriate, a spare auto activation head.

Inflatable lifejackets must be checked annually or as prescribed by the manufacturer (there are a few brands with longer service intervals). Note that some Clubs, e.g., CYCA in NSW will not accept self-serviced inflatable lifejackets even where the manufacturer permits such servicing. An NEA should make sure the Person in Charge has checked the Notice of Race on this point.

Inflatable lifejackets must have a current service certification. An NEA is not responsible to check that the inflatable works. If there is no current service certification the item should be rejected.

It is strongly recommended that lifejackets be fitted with a splashguard/sprayhood (5.01.1(e))

5.02 Safety Harnesses and Safety Lines (tethers)

Harnesses and tethers need to comply with AS2227 or equivalent overseas standard (e.g.EN1095 or ISO 12401) and shall be branded with the standard authority's mark.

A harness should be fitted with a crotch strap or thigh straps if separate to the lifejacket but this is not detailed in the regulation.

If harnesses are incorporated into a personal lifejacket, the standard must be labelled on the lifejacket. There must be one harness and one safety line (tether) not more than 2 m in length for each crew, 5.02.1(a)

5.02.2 Additional tether requirements

There are additional requirements for 30% of the crew who must be able to carry a short tether and long tether. This requirement can be achieved in three ways:

- A 1 metre long tether used in conjunction with the standard 2m safety line (this is additional to the 1 per crew requirement of 5.01.1), or
- A 2 metre tether with a third mid-point snap hook (this 3 hook tether can be counted within the 1 per crew requirement of 5.01.1), or
- A twin line being attached to the common point on the harness, one being not more than 1m and the other not more than 2m long (this 3 hook tether can be counted within the 1 per crew requirement of 5.01.1)

Twin lines are a single safety line arrangement with three snap hooks. The centre hook is designed to be clipped to the harness. The other two hooks provide safety lines of not more than 1m and not more than 2m in length

Harnesses and lifejackets must be compatible to the wearer (5.02.3). This will be difficult for an NEA to check but some yachts have the wearer's name or number on them to personalise the use and compatibility.

5.03 Personal Lights

Personal lights (1 per crew) must be strobe or SOLAS compliant.

5.05 Personal Locator Beacons (PLBs)

PLBs must be GPS capable transmitting on 406MHz, and like EPIRBs, registered with the relevant national authority (AMSA for Australian beacons).

All PLBs shall be within battery life and registered with the relevant national authority (in Australia, AMSA). This is an area where many Persons in Charge don't regularly check their battery date, let alone know where to find it on the device.

AMSA are no longer issuing stickers of registration- it is recommended the boat should carry a copy of each registered PLB with current updated crew details.

If this information is not available, it should be listed on the Regulation Equipment Audit Form as a defect so that the OA/Club can have it complied with prior to the event.

Often PLBs are hired specifically for events and are not owned or on board at the audit. In this case, the number of PLBs should be detailed within the Regulation Equipment Audit form in an obvious manner (e.g. 10 hire or 3 plus 7 hire) and the earliest expiry date of boat owned PLBs detailed on the front page and/or with the indication of hire (e.g. 10 Hire or 1/7/18 plus Hire) so that the OA/Club can check the hire equipment prior to the event.

Section 6 Training

An NEA does not audit crew training.

It is recommended that crews should practice safety routines at regular intervals including the drill for man overboard recovery.

Refer to Australian Sailing Special Regulations APPENDIX D – Man over Board for examples of recovery techniques.

General Comments

During an audit you may receive all sorts of reasons for a boat failing to meet its Equipment audit requirements. Make the point that it is the responsibility of the Person in Charge and the crew to meet the safety standards and the Person in Charge signs the declaration as such. Be fair but firm on them meeting the minimum required standard.

Keep this in mind when you complete a Regulation Equipment Audit Form.

It is suggested that the Person in Charge and at least one other crew person are on board for the Equipment audit, and that a range of questions are directed at the crew person to see if they are also aware of the location and use of the safety equipment. They can also help hoist sails, demonstrate man overboard retrieval etc. if necessary.

The requirements of dealing with Persons in Charge as an NEA and resolving Disputes are set out in the NEA Code of Conduct.

It is your responsibility to send the Regulation Equipment Audit Form to the respective club or organizing authority you are representing. Do not leave the completed form with the owner.

Check with the Club/OA which has appointed you to carry out the audit that you are properly covered by insurance. It is especially important that such cover include Professional Indemnity cover for negligent advice or actions by which the Person in Charge, crew or boat suffers injury or damage for which you may be made liable at law. It is important, however, to understand that the Person in Charge signs the form to take responsibility for all parts of the safety which you as an auditor have checked.

Frequently Asked Questions

This manual refers to many problems that have arisen in the past and have been dealt with. There are of course many questions that as an NEA you may have.

At the accreditation seminar there will be the opportunity to ask questions. After accreditation if you have any questions or problems that need resolution the first course of action is to refer such to the Senior NEA for your State, who may in turn approach Australian Sailing for an official interpretation. Please refer to the NEA Policy document and Code of Conduct.

Acknowledgments

Include the following:

ORCV

Australian Sailing

Australian Sailing - NSW

office NEA Working Party

References

Australian Sailing Amendments

Australian Sailing Interpretations

ORCV information Handbook for Safety Auditors

Australian Sailing Racing Rules of Sailing 2017-2021 Special

Regulations Part 1 Australian Policy COM 14-2021

Australian Sailing Policy COM 15-2012

APPENDIX A

The following link is a summary of the changes to the Special Regulations for 2017-2021:
<http://www.sailing.org.au/wp-content/uploads/2017/06/AS-SR-2017-2021-Summary-of-Changes.pdf>

KRA / NUMBER	
POLICY	COM.14.2021
TITLE:	National Equipment Auditor Scheme
KRA:	
RELATED POLICIES:	
RESPONSIBILITY:	Head of Safety, Rules and Representation
DATE CREATED:	1 September 2013
DATE LAST REVIEWED:	January 2021
NEXT REVISION DATE:	August 2023
DRAFTED BY:	Glen Stanaway
APPROVAL:	National Safety Committee
ATTACHMENTS:	

This policy provides requirements for the appointment of National and Club Equipment Auditors (NEA and CEA) who may audit the equipment carried by a racing yacht against the requirements of the Australian Sailing Special Regulations (SR). The scheme will provide a system for Organising Authorities to nominate NEAs to audit boats for Category 1 and 2 races, and CEAs for other Category races.

1. The National Safety Committee (NSC) will oversee the implementation of this Policy
 - 1.1. Minor changes or interpretations to this Policy may be approved by the NSC
 - 1.2. Significant changes or interpretations shall be approved by the Australian Sailing Board
2. Australian Sailing will:
 - 2.1. Develop education resources which may be updated on a periodic basis to reflect amendments to the Special Regulations or changes in auditing practices
 - 2.2. Administration resources to facilitate the accreditation process
 - 2.3. Auditing resources to be used by the EA
 - 2.4. Identify and appoint Senior National Equipment Auditors
3. The NEA scheme shall be administered by Australian Sailing in accordance with this Policy, including:
 - 3.1. Delivery of EA training
 - 3.2. Authorising assessors for NEA nominees
 - 3.3. Seeking nominations from affiliated Clubs
 - 3.4. Accrediting EAs including:
 - 3.4.1. NEAs to perform Category 1 to 7 equipment inspections
 - 3.4.2. CEAs to perform Category 3 to 7 equipment inspections
 - 3.5. Identification and appointment of a Senior NEA
4. Each Senior NEA is nominated for the following purposes:
 - 4.1. Support Australian Sailing in recruitment and training of NEAs and CEAs
 - 4.2. Facilitate periodic discussion between EAs in the Senior NEA's region
 - 4.3. Act as a primary contact point for Clubs on auditing matters
 - 4.4. Act as a liaison between other EAs in the given region and Australian Sailing

5. Australian Sailing shall maintain a National Equipment Auditor committee (NEAC) of which all Senior NEAs shall be members.
 - 5.1. The NEAC chair may be appointed from the NSC
 - 5.2. The NEAC will meet by periodic teleconferences or face to face meetings as determined by Australian Sailing in consultation with the NEAC chair.
 - 5.3. Regional committees or workshops may be held on a region by region basis as determined by the Senior NEA in consultation with Australian Sailing.
6. EAs may be accredited for up to four years from the date of appointment.
7. For first appointment as an NEA, nominees shall:
 - 7.1. Be a member of an affiliated Club and Australian Sailing
 - 7.2. Have participated in Category 1 or 2 races
 - 7.3. Attend a NEA seminar
 - 7.4. Pass the NEA exam
 - 7.5. Be successfully assessed by Australian Sailing performing a Category 1 or 2 audit
 - 7.6. Agree to abide by the NEA Scheme's Code of Conduct
8. For reappointment as a NEA, nominees shall:
 - 8.1. Be a member of an affiliated Club and Australian Sailing
 - 8.2. Have conducted eight Category 1, 2 or 3 audits in the last four years
 - 8.3. Agree to abide by the NEA Scheme's Code of Conduct
9. For first appointment or reappointment as a CEA, nominees shall:
 - 9.1. Be a member of an affiliated Club and Australian Sailing
 - 9.2. Attend a CEA seminar
 - 9.3. Pass the CEA exam
 - 9.4. Agree to abide by the NEA Scheme's Code of Conduct
10. Organising Authorities may require an audit to be completed by an EA and it is recommended that this be included in the Notice of Race
11. The boat owner or person in charge shall provide a copy of the completed audit form if required by a Notice of Race

National Equipment Auditor Code of Conduct

This policy provides a Code of Conduct for Equipment Auditors (EA) accredited in accordance with the National Equipment Auditor Scheme.

1. ACCREDITATION

- 1.1. An EA is accredited under an Australian Sailing Policy COM.14.2021 Equipment Auditor Scheme which all EAs should familiarise themselves with.
- 1.2. A National Equipment Auditor (NEA) is accredited to perform Category 1 to 7 equipment audits.
- 1.3. A Club Equipment Auditor (CEA) is accredited to perform Category 3 to 7 equipment audits.
- 1.4. Accreditation provides for interstate portability of the Equipment Audit Form (EAF) for all Categories.

2. STATUS

- 2.1. An EA is accredited by Australian Sailing to act in accordance with Australian Sailing's policies and procedures to inspect compliance with the Special Regulations.
- 2.2. When conducting an equipment audit, the EA must act in accordance with the rules, dress codes and legal requirements of the Club/OA and this Code of Conduct.

3. EA PRESENTATION & CONDUCT

- 3.1. An EA must dress appropriately for the conditions and circumstances, owner's expectations, and meet the safety requirements of the audit location.
- 3.2. An EA has the role of confirming that an owner has demonstrated compliance with the Australian Sailing Special Regulations at the time of the audit.
- 3.3. An EA must act in a cooperative and helpful manner with the owners or crew.

4. AUDITS

- 4.1. An EA must apply full and conscientious attention when completing an audit as the signed Equipment Audit Form (EAF) may be used by a Club/OA as evidence of a boat's compliance with the relevant Australian Sailing Special Regulations at the time of the audit.
- 4.2. An EA must have a thorough knowledge of the Australian Sailing Special Regulations and update their knowledge of Interpretations and Amendments issued by Australian Sailing from time to time.
- 4.3. Prior to conducting an audit, the EA shall check if the audit is required for a specific race. If so and if the race documents are available, the EA shall be familiar with the Notice of Race or Sailing Instructions to the extent of the additional items of equipment which are required for the race.
- 4.4. Where defects or omissions of equipment are discovered during the audit, the EA should not complete the full audit and may hand a noncompliance list to the owner. The owner may arrange with the EA a time to complete the audit.
- 4.5. The EAF issued by Australian Sailing is to be used for the audit. It is the responsibility of the EA to fully and accurately complete the form.
- 4.6. The Equipment Audit must be carried out in the presence of the owner or the owner's representative.
- 4.7. EAs should not finalise another EA's incomplete audit or review another EA's EAF.

5. EA & CLUBS

- 5.1. The EA is subject to the direction of the Club/OA but acts independently as to the meaning and compliance by an owner with the Australian Sailing Special Regulations.
- 5.2. The EA shall report a noncompliant or incomplete audit to the Club/OA.

6. EA & OWNERS

- 6.1. An EA has no independent right to board a boat and does so only at the invitation of the owner or owner's

representative present.

- 6.2. If the invitation is declined or withdrawn during an audit, the EA shall leave the boat immediately and may report the audit as declined.
- 6.3. It's the owner's responsibility to have the boat prepared for audit with equipment laid out, all paper certificates of compliance with Standards available, and sufficient crew to facilitate a prompt and orderly audit. The owner must have pre-checked and completed the ECF. If the boat is not presented to the EA's satisfaction, or equipment is not on board, the EA should allow a reasonable time for the boat and equipment to be presented. If not presented within that time the EA should note the audit as declined or incomplete.
- 6.4. A role of the EA is also to help and guide the owner to achieve compliance. The EA's skill, knowledge and experience may be used to help an owner to achieve compliance.

7. DISPUTES

- 7.1. Where a dispute arises as to the meaning of, or compliance with, an Australian Sailing Special Regulation which cannot be satisfactorily resolved to the owner's satisfaction, the dispute is to be referred to Australian Sailing so as to achieve a consistent and national application of the resolution.
- 7.2. Any party may refer the matter to Australian Sailing for an Interpretation in accordance with SR 1.01.5 and Policy COM.13.2016 Determining and Issuing Interpretations to the SR.
- 7.3. The EA must not complete the ECF until the dispute is resolved or may choose to report the Audit as incomplete, noncompliant or declined.