

Australian Transport Council

National Standard
for
Recreational Boat Safety Equipment

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FOREWORD

This standard has been developed by the NMSC in response to public demand for nationally consistent safety equipment standards for recreational boats.

In developing this standard a review was undertaken of the safety equipment requirements imposed through legislation by marine authorities around Australia. It was found that while there was a good deal of commonality between jurisdictions, there were also some significant discrepancies.

In October 1999 a series of workshops were held around Australia with key stakeholders to identify issues associated with safety equipment requirements. The comments received at these workshops lead the NMSC to undertake a hazard analysis. This highlighted the range of hazards that could result from operating a recreational boat, the type of emergency response that was required, and in turn the type of safety equipment that would facilitate the emergency response.

A discussion paper outlining this approach and recommending a minimum set of required safety equipment for recreational boats was released for public comment in December 2000.

The discussion paper identified the following 3 main reasons for carrying safety equipment:

- a) To assist in preventing the boat from foundering.
- b) To enhance the personal safety of the occupants.
- c) To provide a means of distress alerting.

Additionally there are 3 major factors that determine the occurrence of marine incidents, accidents and emergencies, these being—

- i) human;
- ii) technical; and
- iii) environmental factors.

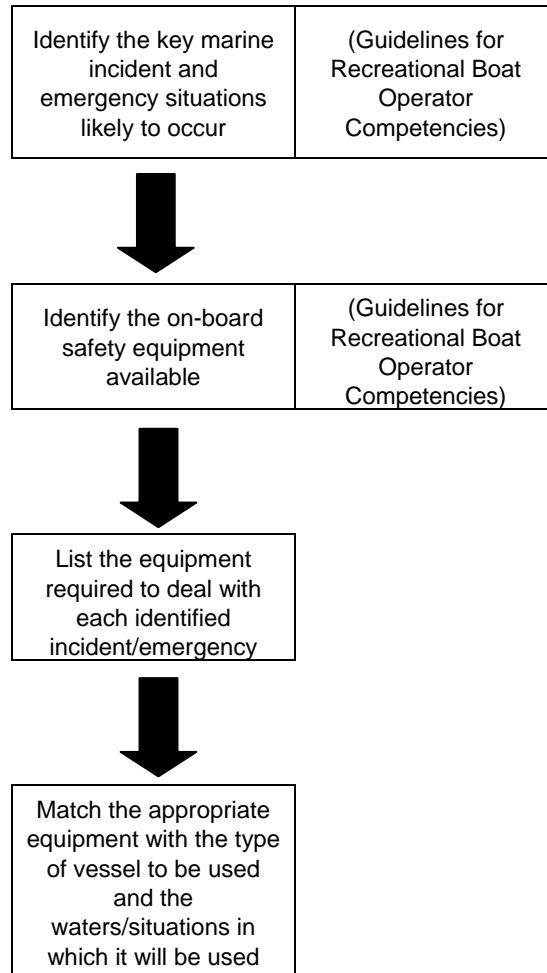
Human factors may include the knowledge, skill and experience of the operator and other persons on board. Engine and equipment failure are considered to be key technical factors, while weather and swell conditions, and the presence of offshore bars and reefs, are environmental factors that may influence the occurrence of marine incidents.

In view of the foregoing, the major aim of establishing minimum safety equipment requirements for recreational boats is to increase the likelihood of the occupant(s) surviving an incident or accident and to assist in preventing or surviving an emergency situation.

Given the aforementioned reasons for carrying safety equipment; the aim of developing legislative requirements relating to carrying safety equipment; the factors that can lead to the occurrence of an incident; and the input

from the 1999 nationwide consultations, a framework for a national standard was developed. The process by which this framework was developed is presented in Figure 1.

Figure 1 — Process used to develop framework for a National safety equipment standard



This standard was released for public comment on 22 September 2001, along with the draft Regulatory Impact Statement (RIS). Public comments were received until the end of February 2002. A reference group comprising industry and government met in April 2002 to review the public comment and provide recommendations to the NMSC. The NMSC accepted the recommendations of the reference group on 11 June 2002 and the draft Standard and RIS were revised accordingly. One of the recommendations of the group was that the standards for PFDs should be reviewed. Accordingly an issues paper on PFD standards was released for public comment on 1 December 2002. The public comment was reviewed by a reference group on 15 April 2003 and recommendations made to NMSC. NMSC approved this version of the standard on 6 August 2003.

The Office of Regulation Review provided an assessment of the final RIS in 2004. The Australian Transport Council (ATC) endorsed this document for publication in May 2004.

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CHAPTER 1 GENERAL

1.1 SCOPE

This standard specifies the minimum safety equipment required to be carried onboard a recreational boat, as well as the standard that the equipment should meet, and the standard for the care and maintenance of that equipment.

1.2 APPLICATION

This standard applies to all recreational boats, except racing shells, surf rescue boats, surf skis or surfboards.

NOTE: This standard may be applicable to vessels other than recreational boats if expressly referred to by the applicable standard or legislation.

1.3 OBJECTIVE

The objective of this standard is to minimise hazards associated with the use of recreational boats by ensuring that recreational boats carry a specified minimum set of safety equipment.

1.4 TERMINOLOGY

For the purposes of this standard, the terms in Table 1 apply as defined.

Table 1 — Context for terminology used in the National Standard for Recreational Boat Safety Equipment

Term	Context of usage
shall	Indicates that a requirement expressed in a prescriptive Clause is mandatory for the purposes of compliance with this standard.
should	Advisory only. The term is used to highlight safety issues that should be considered and addressed if necessary in order to fulfil safety obligations.

1.5 REFERENCED DOCUMENTS

The following documents are referred to in this Standard. Any document referenced in this Part should be considered to be the latest revision of the document including amendments.

NATIONAL MARINE SAFETY COMMITTEE

National Standard for Commercial Vessels

Part C—Design and Construction

Section 7: Equipment

Subsection 7A—Safety Equipment

The National Marine Guidance Manual

Guidelines for Recreational Boat Operator Competencies

STANDARDS AUSTRALIA

AS 1499—*Personal flotation devices — Type 2*

AS 1512—*Personal flotation devices — Type 1*

AS 1799.1—*Small pleasure boats code Part 1 — General requirements for powerboats*

AS 2092—*Pyrotechnic, marine distress flares and signals for pleasure craft*

AS 2198—*Anchors for small boats*

AS 2259—*General requirements for buoyancy aids*

AS 2260—*Personal flotation devices — Type 3*

AS/NZS 4280—*406 MHz satellite distress beacons*

AS/NZS 4330—*121.5 and 243.0 MHz emergency position indicating radio beacons (EPIRBs) including personal EPIRBs*

AS/NZS 4415—*Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands – Technical characteristics and methods of measurement*

STANDARDS NEW ZEALAND

NZS 5823—*Specification for Buoyancy Aids and Marine Safety Harnesses and Lines*

CANADIAN GENERAL STANDARDS BOARD

CAN/CGSB-65.11-M88—*Personal flotation devices*

CAN/CGSB-65.15-M88—*Personal flotation devices for children*

UNDERWRITERS LABORATORIES

UL 1180—*Fully Inflatable Recreational Personal Flotation Devices*

EUROPEAN COMMITTEE FOR STANDARDIZATION

EN 396—*Lifejackets and personal buoyancy aids—Lifejackets—150 N*

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO 12402—*Personal flotation devices*

INTERNATIONAL MARITIME ORGANIZATION

International Convention for the Safety of Life at Sea (SOLAS)

Regulations for the Prevention of Collision at Sea (Col Regs)

1.6 DEFINITIONS

For the purposes of this standard the following definitions shall apply:

Hazard—

a thing or state of a thing that has the potential to cause death, injury, illness or environmental damage.

inland waters—

Means any navigable water that is not tidal, for example: a river, dam, lake or creek. Where a river becomes tidal, only the non-tidal section will be classed as inland waters.

inshore waters—

any open stretch of water extending laterally along the coast up to and including 2 n miles seaward from the coast. It also includes bar entrances and waters designated as partially smooth waters or equivalent by each State/Territory marine authority.

normative—

mandatory for the purposes of compliance with this standard.

NOTE: A normative provision of this standard becomes mandatory in law if specified as such by enabling legislation of a state or territory jurisdiction.

offshore waters—

open water more than 2 n miles seaward from the coast.

partially smooth waters—

are waters designated partially smooth by the legislation of each State or Territory. They are defined as waters where the significant wave height does not exceed 1.5 metres from trough to crest for at least 90 per cent of the time.

NOTE: Examples of partially smooth waters include parts of bays (eg: Botany Bay and Moreton Bay); ports (eg: Port Phillip and Port Augusta); areas of water between the mainland and islands (eg: Kangaroo Island, Rottneest Island); and inland waters (eg: lower reaches of the River Murray).

personal flotation device (PFD)—

a buoyancy aid which is worn on the body to assist a person to float in the water.

PFD type 1—

a personal flotation device which is intended to maintain the wearer in a safe floating position. It is intended for use aboard pleasure boats in waters where early rescue may be expected.

PFD type 2—

a personal flotation device intended to assist flotation during short-term immersion in sheltered waters during daylight hours. It is intended for use aboard pleasure boats and when participating in water sports such as canoeing, sailboarding, waterskiing and the like.

PFD type 3—

a personal flotation device intended for use in supervised situations where the wearer is at risk of short term immersion in sheltered waters during daylight hours. It is intended for use in water sports or as clothing for special situations where assistance is immediately at hand.

recreational boat—

a boat used solely for pleasure and recreation that it is not used:

- a) for a commercial purpose; or
- b) in connection with a business.

smooth waters—

are inland waters and any other waters designated as smooth by the legislation of each State or Territory. They are defined as waters where the significant wave height does not exceed 0.5 metres from trough to crest for at least 90 per cent of the time.

Tender—

a boat operating on smooth and partially smooth waters to carry people and goods from the shore to a boat, or between boats.

1.7

ABBREVIATIONS

ACA—

Australian Communications Authority

HIN—

hull identification number

NSCV—

National Standard for Commercial Vessels

PFD—

personal flotation device

SOLAS—

International Convention for the Safety of Life at Sea

CHAPTER 2 MINIMUM SAFETY EQUIPMENT TO BE CARRIED

2.1 SCOPE

This Chapter specifies the minimum safety equipment to be carried onboard recreational boats in different operating conditions. The standard that this equipment shall meet is specified in Chapter 3.

2.2 OBJECTIVE

The objective of this chapter is to provide boats that operate in smooth, inshore and offshore waters with certain key items of safety equipment to substantially reduce the risks associated with recreational boating, either by reducing the likelihood or consequence of hazards.

2.3 REQUIRED EQUIPMENT

The recreational boats listed in Table 2 shall carry and conform to the requirements specified in Table 2

All other recreational boats shall carry as a minimum the equipment specified in Table 3, for the specified area of operation.

Table 2 — Table of safety equipment requirements for specified recreational boats

Type of recreational boat	Safety equipment requirement
Personal Watercraft (PWC)	A PFD Type 1, 2 or 3 shall be worn by each person when operating on smooth or inshore waters.
Sailboard	A PFD Type 1 shall be worn by each person when operating on offshore waters.
Canoe / Kayak	A PFD Type 1, 2 or 3 shall be worn by each person when operating within 400 m of the nearest shore. A PFD Type 1 shall be worn by each person when operating more than 400 m from the nearest shore.
Tender	A PFD Type 1, 2 or 3 shall be worn by each person when operating on smooth or inshore waters. A PFD Type 1 shall be worn by each person when operating on offshore waters.
Sailing boat less than 6 m in length not fitted with engine.	The following equipment shall be carried onboard: a) A PFD Type 1, 2 or 3 for each person on board. b) A bailer, or bilge pump.
	A PFD Type 1, 2 or 3 shall be worn by each person on board when sailing on smooth and inshore waters. A PFD Type 1 shall be worn by each person when sailing on offshore waters. A bucket or bailer shall be carried unless the boat is constructed with permanently enclosed hull(s).

2.4 ADDITIONAL EQUIPMENT

The operator of a recreational boat should undertake a safety assessment of the particular boat and its intended operation. In addition to the safety equipment carried in accordance with this standard, the boat should carry any other additional safety equipment that may be appropriate to control risks to acceptable levels.

Table 4 provides a list of additional safety equipment that should be considered. This list is informative and should not be considered to be exhaustive.

NOTE: Jurisdictions may specify additional safety equipment requirements in legislation for specific areas of inland waters operation due to climactic or cold-water conditions. Boat owners should check with their marine authority for advice on special requirements before boating on inland waterways.

Table 3 —Table of required safety equipment for recreational boats

Item	Quantity	Area of operation - Waters		
		Smooth	Inshore	Offshore
Anchor with chain and/or line	1	✓	✓	✓
Bilge pump or bailer (B1)	(B2)	✓	✓	✓
Compass	1	—	—	✓
Distress Signal —orange smoke hand-held	2	—	✓	✓
Distress Signal —red hand-held distress flare	2	—	✓	✓
Distress Signal—red star parachute distress rocket	2	—	—	✓
EPIRB (a)	1	—	—	✓
Fire bucket	1	✓	✓	✓
Fire extinguisher (F1)	(F2)	✓	✓	✓
Marine radio	1	—	—	✓
Navigation lights (N1)	(N2)	✓	✓	✓
Paddles or oars/rowlocks	(P1)	✓	✓	✓
PFD 1	(P)	—	✓	✓
PFD 1, 2 or 3	(P)	✓	—	—
Waterproof/buoyant torch	1	✓	✓	✓

KEY

✓ Required — Not required

(a) 121.5 / 243 MHz frequencies will not be in use after February 2009.

(B1) Bilge pump (electric or manual) shall be provided on boats with covered bilges or closed under-floor compartments other than airtight void spaces. For other boats, a bailer shall be carried.

(B2) Bilge pumps shall be capable of draining each compartment of the boat other than airtight void spaces. This may require more than one bilge pump to be fitted.

(F1) Fire extinguishers shall be provided on all boats with an electric start motor, gas installation or fuel stove.

(F2) The number of fire extinguishers shall be appropriate for the accessibility to potential sources of fire and the size of the boat.

(N1) Navigation lights are required from sunset to sunrise and in restricted visibility.

(N2) Quantity and type of Navigation lights fitted are to be in accordance with the Regulations for the Prevention of Collision at Sea (as amended).

(P) A PFD shall be carried for each person onboard the boat.

(P1) Oars and paddles shall be carried on boats under 6 m in length unless a second means of propulsion is fitted.

Table 4 — Additional recommended safety equipment for recreational boats

Item
<ul style="list-style-type: none">• Appropriate chart• Bilge alarm (with inboard engine)• Boarding ladder
<ul style="list-style-type: none">• EPIRB in liferaft (where carried)• Fire blanket• First-aid kit
<ul style="list-style-type: none">• GPS and plotter• Inflatable PFD – refer to (a) below• Lifebuoy and line
<ul style="list-style-type: none">• Liferaft and / or dinghy – refer to (c) below• Oars, paddles or other alternative means of propulsion• Personal strobe light
<ul style="list-style-type: none">• Sea anchor / drogue• Signalling mirror• Tool kit
<ul style="list-style-type: none">• Tow rope• Upgrade to PFD1 – refer to (b) below• V-Sheet
(a) An inflatable PFD may encourage wearing of the device in potentially hazardous situations of normal operation.
(b) A more buoyant lifejacket may be required where early rescue is not reliable, i.e. Coastal or SOLAS.
(c) A dinghy that is relied upon for the purposes of safety equipment should be arranged with arrangements to support the weight of persons on board in the event of swamping.

CHAPTER 3 STANDARDS FOR SAFETY EQUIPMENT

3.1 SCOPE

This Chapter specifies minimum standards for normative items of safety equipment specified in this standard.

3.2 APPLICATION

This Chapter applies to the safety equipment for recreational boats specified in Table 2 and Table 3.

3.3 OBJECTIVE

The objective of this Chapter is to ensure that safety equipment carried onboard a recreational boat is suitable for the purpose for which it is to be used.

3.4 STANDARD OF EQUIPMENT

To comply with this standard, safety equipment carried in accordance with Table 2 and Table 3, shall meet the standards specified in Table 5, and Clause 3.5.

Table 5 — Standard for required items of recreational boat safety equipment

Item of Minimum Equipment	Minimum Standard Required
Anchor with chain and /or line	<p>The anchor with chain and/or line shall be suitable for the purpose of securing the boat given the boat's size, weight and the area of operation.</p> <p>The chain and/or line shall be of sufficient strength and durability for the purpose and is to be securely attached to both the anchor and the boat.</p> <p>Where applicable, the anchor should comply with AS 2198.</p>
Bailer and lanyard	<p>A bailer shall be suitable for bailing water from the boat and shall have a lanyard (rope) securely attached to prevent loss from the boat. The bailer shall be readily accessible and shall not used for any other purpose.</p> <p>A fire bucket carried in accordance with this standard, may double as a bailer provided it satisfies the above requirements.</p>
Bilge Pump	<p>Required for boats with covered bilges or closed under-floor compartments other than airtight void spaces. The pump or pumps shall be capable of draining each compartment of the boat. They may be either manual or power operated, and shall have a strainer fitted to the suction pipe. The strainer shall be of a sufficiently small mesh size to prevent choking of the pump.</p>
Compass	<p>Liquid damped with rotating card showing the cardinal points.</p>
EPIRB	<p>An Emergency Position Indicating Radio Beacon (EPIRB) suitable for marine use, that can transmit on either 121.5/243 MHz or 406 MHz and conforms to Australian Standard AS/NZS 4330 or AS/NZS 4280 respectively.</p> <p>Any 406 MHz EPIRB shall be properly registered with the Australian Maritime Safety Authority (AMSA).</p> <p>Note: 121.5/243 MHz frequencies will not be in use after February 2009.</p>

(continued...)

Table 5 cont.

Item of Minimum Equipment	Minimum Standard Required
Fire bucket with lanyard	<p>The bucket shall be suitable collecting water for use in case of fire of solid combustibles. The bucket shall be manufactured from waterproof and robust material, and shall be designed so as not to collapse, distort or lose the handle when full of water. The bucket shall not be used for any other purpose, apart from being used as a bailer, and shall be readily available at all times.</p> <p>The bucket shall have a lanyard (rope) attached, which is of sufficient length and strength to allow the bucket to be cast over the side and retrieved full of water.</p>
Fire extinguisher	<p>Fire extinguishers carried shall be of a type suitable for the type(s) of fuel carried on board the boat, as specified in AS 1799.1. They shall be designed and manufactured in accordance with an Australian Standard specification for portable fire extinguishers.</p> <p>Extinguishers shall be stowed, so as to be readily accessible in the case of fire.</p>
Marine Distress Flares <ul style="list-style-type: none"> • Red hand-held distress flare • Orange smoke hand-held distress signal • Red-star parachute distress rocket 	<p>Marine distress flares shall be designed and manufactured in accordance with the provisions of AS 2092 as they relate to red hand-held distress flares, orange smoke hand-held smoke signals, and red star parachute distress rockets.</p> <p>The marine distress flares shall not exceed the manufacturer's expiry date.</p>
Marine radio	<p>A 27 MHz, HF or VHF marine radio transceiver approved by the Australian Communications Authority (ACA).</p> <p>In addition, for boats operating within the coverage area of VHF service, the VHF transceiver shall be of the international maritime type complying with AS/NZS 4415.</p> <p>In addition, for boats operating outside the coverage area of VHF service, at least one of the following options (in descending order of capability) shall be selected by the operator based on the availability of services in the area of operation:</p> <ol style="list-style-type: none"> 1. GMDSS compatible Inmarsat C terminal. 2. MF/HF transceiver (non-DSC) plus marine satellite telephone. 3. Mobile telephone service (satellite, CDMA or GSM) appropriate for use in the marine environment. <p style="margin-left: 20px;">Note: This option is for boats that may operate occasionally outside of VHF range as the minimum equipment needed to provide distress and safety communications. It is not considered as capable an option as Options 1 and 2 above.</p> 4. Class 1 MF/HF transceiver complying with GMDSS Sea Area A3 requirements as per provision iv/10.1.2 of the SOLAS Convention. <p style="margin-left: 20px;">Note: This option is normally only available to larger boats than can satisfy higher transmitter power and antenna performance requirements.</p>
Navigation lights	<p>Navigation lights are to be positioned and perform in accordance with the provisions in the Annexes to the International Collision Regulations.</p>

(continued...)

Table 5 cont.

Item of Minimum Equipment	Minimum Standard Required
PFD	<p>A personal flotation device (PFD) Type 1, Type 2, or Type 3, as specified in Table 2, is to be carried for each person on board the boat and is to be the correct size for the intended wearer.</p> <p>The type of PFD carried shall be appropriate to the type of activity, area of operation and the likelihood of rescue. In selecting a PFD due consideration shall be given to the conditions for which it was designed. The conditions for which a PFD is suitable are specified within each of the Australian standards, and recognised standards.</p> <p>Personal flotation devices shall be designed and manufactured in accordance with—</p> <ul style="list-style-type: none"> a) AS 2259, and AS 1512, AS 1499 or AS 2260 as appropriate; or b) SOLAS (for a SOLAS Lifejacket); or c) National Standard for Commercial Vessels Part C Section 7A (for a Coastal Lifejacket); or d) one of the following recognised standards for PFDs, provided it is marked and labelled in English in accordance with the requirements for labelling and marking contained in AS 2259, AS 1512, AS 1499 or AS 2260 as appropriate: <ul style="list-style-type: none"> i. Australian / New Zealand Standards (AS 1512, AS 1499, AS 2260 and NZS 5823 [open waters lifejackets only]). ii. CEN (European) Standards (EN 396). iii. ISO Standards (ISO 12402). iv. Canadian General Standards (CAN/CGSB-65.11-M88, PFDs for adults and CAN/CGSB-65.15-M88, PFDs for children). v. Underwriters Laboratories Standards (UL 1180). <p>Inflatable PFDs that rely solely on oral inflation for buoyancy are not acceptable.</p> <p>A PFD shall be marked to identify that it complies with a recognised standard.</p> <p>NOTE: Manufacturers of PFDs making a Statement of Compliance to Recognised Standards on a product, packaging or promotional material related to that product shall ensure that such compliance is verifiable.</p> <p>Every inflatable PFD shall be serviced—</p> <ul style="list-style-type: none"> i) at intervals of 12 months or such longer intervals as determined by the manufacturer and approved as part of the equipment approval; and ii) at a servicing station approved and accredited to do so by the manufacturer of the inflatable PFD.
Waterproof torch	A water resistant, floating type torch in operational order that is capable of being used to signal.

3.5 REQUIREMENTS FOR THE CARRIAGE, CARE AND MAINTENANCE OF SAFETY EQUIPMENT

All safety equipment carried in accordance with this standard shall be:

- a) located so as to be readily accessible in time of need; and
- b) maintained in accordance with the manufacturer's instructions.

Where the equipment carries a manufacturer's expiry date, the equipment shall not exceed the prescribed expiry date.

NOTE: Safety equipment that does not comply with this clause does not comply with this standard.

Where possible, safety equipment should be marked with personal identification or hull identification number (HIN).
