

Code of Good Practice

Pilot Boats



2nd Edition October 2020

Approved by the Executive

Code of Good Practice – Pilot Boats, 2nd Edition October 2020

As approved by the Executive

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1. Introduction

The primary aim in developing this Code has been to set standards of safety and protection for personnel on pilot boats. The level of safety it sets out to achieve is considered to be commensurate with the current expectations of seafarers and passengers. The Code relates especially to the construction of a pilot boat, its machinery, equipment and stability and to the correct operation of a boat so that safety standards are maintained.

2. Definitions

"Pilot boat" means a vessel employed or intended to be employed in pilotage services; and **"Dedicated pilot boat"** means a vessel used, or intended to be used, solely as a pilot boat. Occasional use of a dedicated pilot boat to carry personnel, mail and/or small quantities of stores to or from ships in the pilotage district may be considered compatible with the vessels use as a dedicated pilot boat.

"NSCV" National Standard for Commercial Vessels

"Domestic commercial vessel" means a vessel that is for use in connection with a commercial, governmental or research activity.

"Sheltered waters" includes smooth waters and partially smooth waters.

"MPT" Marine Pilot Transfer

3. Purpose

The purpose of a pilot boat is for the transfer of personnel at sea to and from the ships and to provide a stable platform for the embarkation and disembarkation once the boat is alongside the ship.

Pilot boats shall be constructed in such a way so as to:

- (i) adequately cope with the sea conditions which can reasonably be expected to exist in the pilotage area.
- (ii) be capable of effecting the transfer, embarkation and disembarkation of personnel safely, in reasonable comfort and without exposing either the personnel to be transferred or the boats' crew to undue stress or fatigue.

4. Survey

A Pilot boat is defined in regard to survey as a domestic commercial vessel.

In Australia, domestic commercial vessels are regulated under the Marine Safety (Domestic Commercial Vessel) National Law Act 2012 (national law act). The national law act underpins the national system for domestic commercial vessel safety (national system). The standards for domestic commercial vessels is defined by the National Standards for Commercial Vessels (NSCV).

A vessel required to be used as a pilot boat should be built, surveyed and licensed to meet the NSCV requirements and additionally meet the specific requirements mentioned in this document.

The survey certificate should also define the area where the pilot boat is suitable to operate and the type of operation.

5. Manoeuvrability

A pilot boat shall:

- (i) be highly manoeuvrable with adequate reserve power to safely manoeuvre alongside ships under way.
- (ii) have excellent sea-keeping qualities suitable for operating in the maximum sea, swell and wind conditions, including any port specific requirements e.g. large tidal ranges and crossing bars which can reasonably be expected in the pilotage area during continuous pilotage operations.
- (iii) be able to safely manoeuvre to 'bowl the bow in' to aid in keeping the boat alongside a ship ensuring stability for MPT. Conversely the boat must be able to easily and quickly, peel away from a ships side at boarding speeds.
- (iv) have ample manoeuvrability for man overboard situations and search and rescue.

6. Construction

- (i) A pilot boat hull shall:
- a. have a design of hull structure and construction to provide strength and service life for its safe and effective operation, to withstand the sea and weather conditions encountered in its area of operation.
 - b. be built with adequate strengthening to absorb heavy impacts when coming alongside ships underway during MPT.
 - c. have a suitable fendering system to cushion heavy impacts when coming along side ships underway. The fendering should be along the gunwhales and extend partially onto the transom. The fendering system should not rely solely on tyres.
 - d. recommended – have a proven self-righting capability to ensure the safety of the crew in heavy weather, if operating outside sheltered waters.
- (ii) A pilot boat's external deck shall:
- a. have the pilot transfer position forward of the wheelhouse
 - b. have good all-round visibility from the pilot boats Master's operating seated position.
 - c. have adequate visibility from the conning seated position of the foredeck and pilot ladder. The height of the safety rails should not obstruct the view from pilot boats Master's conning position.
 - d. have adequate visibility from the pilot boats Master's operating seated position so that the Marine Pilot can be seen from the time of leaving the foredeck of the pilot boat to when they enter the cabin and visa versa.
 - e. have normal means of access(door) from the cabin to the outside deck. The access should not be a forward-facing access.
 - f. have a continuous deck from the access to the foredeck, clear and free of obstructions with a minimum of 750mm and ideally 900mm between the gunwhale and superstructure. The deck should have a non-slip surface with sufficient camber to disperse water over the side of the boat. Suitable illumination for the passage of the Marine Pilot from the cabin to the foredeck.

7. Equipment – outside the cabin

A pilot boat's external fittings shall include:

- (i) a high-quality searchlight which is permanently mounted and capable of rotating to illuminate the ships side forward, astern and on both sides of the boat. The search light should be capable of illuminating the pilot ladder, a ship draught marks and the sea area around the boat for search and rescue.
- (ii) recommended – a thermal imaging camera for search and rescue and to identify wildlife, flotsam and debris in the water ahead of boat.
- (iii) external navigation lights and sound signal apparatus as required by the international collision regulations.

- (iv) signage "PILOT" marked on the upper deck superstructure in large text greater than or equal to 300mm high.
- (v) capacity to anchor the boat and retrieve the anchor cable.
- (vi) a radar mast on top of the superstructure or cabin.
- (vii) fittings to mount a lifebuoy on the foredeck and near the main cabin access door or doors.
- (viii) fittings to mount a life-raft.
- (ix) fittings to mount an EPIRB
- (x) Windscreen wipers with freshwater washer supply suitable for use in rough weather. Truck wipers are not suitable.
- (xi) have an efficient, uninterrupted/continuous safety rail system from the cabin access to the foredeck, both from the port and starboard sides of the vessel. The system should have a clip-on harness traveller which moves freely and without adjustment over the full length of the safety rail. The rail system should be attached to the boat's structure and the clip-on safety harnesses should be designed, constructed, installed, tested and maintained to appropriate personal protective equipment standards, to the satisfaction of the Certifying Authority.
- (xii) The clip-on lanyard which connects the Marine Pilot to the traveller on the safety rail should be at a length to not allow the Marine Pilots torso to reach the edge of the pilot boat and not have fall-arrest mechanism in its make-up.
- (xiii) Rescue retrieval equipment should be provided as follows: -
 - a. transom steps and/or ladder or equivalent side ladder or scrambling net.
 - b. at least 2 buoyant lifelines of not less than 18 metres in length. Each of the lifelines should have a quoit, or similar efficient throwing device, of appropriate weight secured to one end.
 - c. a long aluminium body hook to pull a person to the boat and the retrieval mechanism.
 - d. floodlights or spotlights suitably positioned to assist the search for a person in the water and to illuminate the recovery area.
 - e. a stern platform complete with propeller guard. The arrangement should enable the person to be retrieved in the horizontal position, in order to manage an exhausted person, an unconscious person or to reduce the risk of heart failure associated with hypothermia. (note a quick release side ladder complete with mechanical means to hoist a person from the sea may be used where a stern platform cannot be fitted)
 - f. Recommended, a second set of vessel operating controls adjacent to the recovery position if the position is not visible from the normal operating position.
 - g. The quality of materials, design and workmanship of construction of the mechanical means of retrieval should ensure that it can be rapidly deployed and will operate efficiently in an emergency. The efficiency of the equipment should be ensured by regular maintenance and testing.
 - h. all ladders and outside fittings such as overside steps or booms etc. should be of suitable materials, design and workmanship. Such equipment should be rigged onboard and inspected at regular intervals.
 - i. the arrangements should be provided to protect a person in the water from injury by the propeller(s). When it is impractical to fit a guard to the propeller(s), consideration should be given to alternative measures

- such as the fitting of a drop-down gate/ladder to screen the propeller(s) or operational procedures which include the means to stop the propeller(s) immediately. (The arrangements should be approved by the Certifying Authority for the pilot boat).
- j. rescue retrieval equipment should be demonstrated by functional tests carried out under controlled safe conditions, to the satisfaction of the Certifying Authority. The functional tests should include a simulation of the pilot boat in the minimum manned condition with only the pilot boat Master and Deckhand onboard and in the event when the Deckhand falls overboard.
 - k. It is recommended that competent harbour authorities (or the pilotage provider, in the absence of a competent harbour authority) require man-overboard retrieval exercises to be conducted by each pilot boat crew 6 monthly.

8. Equipment – inside the cabin

A pilot boat's internal Cabin fittings shall include:

- (i) high quality impact-absorbing fittings and seating for both crew and pilots to allow comfortable access to all necessary controls and operational equipment required to be used by both crew and pilots, suitable for the intended operating speed.
- (ii) for boats operating outside of sheltered waters, individual shock absorbent seating with headrests, footrests and movable armrests should be provided for all members of the Crew and the Marine Pilots to be carried. Seat belts should be provided for the safety of seated passengers and crew, particularly in the event of boat capsize and self-righting. Recommended the seat belts should be a 4-point harness system.
- (iii) noise suppression to meet the relevant Department of Occupational, Health, Safety and Welfare specifications and should not exceed 78 db in the wheelhouse for new boats.
- (iv) air-conditioning (heating and/or cooling) which can also be used for demisting, controls at the conning position.
- (v) navigation equipment including an echo sounder; radar(recommended ARPA function on radar), a GPS chart plotter(suitably large screen, with a dimmer and AIS overlay for ship identification, event marking and search and rescue), recommended, an class "A" AIS transponder, a steering compass, and 2 VHF radios.
- (vi) a steering auto pilot to assist with multiple tasks potentially required by the coxswain.
- (vii) main engine monitoring gauges at conning position should include engine RPM, oil pressure, water temperature, exhaust temperature and engine voltage.
- (viii) recommended an external hands-free 2-way audio communication system from conning position to the foredeck.
- (ix) recommended engine space monitoring video link, to allow for monitoring at the conning position.

- (x) recommended – a suitably large independent thermal imaging camera and monitor with dimmer, at the conning position.

9. Equipment – in the engine compartment

Equipment should include:

- (i) the main engine(s) should not be a petrol engine.
- (ii) recommended - a remote monitoring video camera.
- (iii) fire detection and alarm system, monitored from the conning position.
- (iv) emergency bilge pumps required by NSCV should be operable from the conning position.
- (v) all machinery should be managed by a planned maintenance system to ensure safety and reliability.

10. Manning

A pilot boat should be manned by a minimum of 2 qualified persons, namely a pilot boat Master and a Deckhand who have completed the required inductions as per the pilot service's Safety Management System and can assist the Marine Pilot when embarking or disembarking.

The Maine Pilot Service, a competent harbour authority, and managing agent(s) of the pilot boat should be satisfied as to the competence and fitness for duty of these persons.

Qualifications and training of:

- (i) pilot boat Master is recommended to have suitable AMSA qualification for operating the vessel. Minimum qualification of Master 5
- (ii) pilot boat Master should be trained to manoeuvre a pilot boat on and off a ship's side in a range of weather and swell conditions. Recommend competency of a pilot boat's Master's be assessed or checked and documented 2 yearly.
- (iii) deckhand is recommended to have completed Elements of Shipboard Safety Course which includes a Survival at Sea Course.
- (iv) both pilot boat's Master and Deck hand should be trained in the IMO Resolution A.1045(27) "Pilot transfer arrangements and IMO Resolution A.1108(29)(IMO Pilot Ladder Poster), so that problems and non-compliance of this standard identifiable by the boat crew.
- (v) recommended – boat crew hold a First Aid Certificate issued by an approved training provider. The course should include managing fractures, compound fractures, blood loss, EAR and CPR, use of bandages, haemostatic dressings, tourniquets, shock management and pain management.
- (vi) recommended a defibrillation training course if this equipment is on board.
- (vii) recommended a oxy-resuscitation course if this equipment is on board.
- (viii) The pilot boat's Master should be familiar with the boat's Stability Guidance Booklet as per NSCV.

11. Safety Equipment

The safety equipment shall include the following:

- (i) as per NSCV.
- (ii) any additional equipment can be assessed by a risk assessment and implemented by the pilot service.

12. First Aid Equipment

The first aid equipment shall include the following:

- (i) as per NSCV.
- (ii) any additional equipment can be assessed by a risk assessment and implemented by the pilot service.

It is recommended, the following first aid equipment to be added to the NSCV first aid equipment.

- (i) Israeli Bandage (Trauma wound dressings).
- (ii) Quik Clot's (Hemostatic dressings).
- (iii) SOF Tourniquets -Medical grade tourniquet designed to stop catastrophic bleeds, like amputations or severe crush.
- (iv) Quik lite (Portable stretcher).
- (v) a defibrillator.
- (vi) blanket(s) suitable to manage shock and hypothermia.

It is recommended that an additional risk assessment should be conducted if the voyage back to the boat harbour is greater than 30 minutes. In this risk assessment the following should be considered as additional equipment needed:

- (i) oxy-resuscitation kit.
- (ii) pain management medication.

It is also recommended that a risk assessment is undertaken to work out how the injured person is transferred off the pilot boat into an ambulance or helicopter. Conducting a drill with local paramedics will highlight what deficiencies exist and or what is required to establish an effective procedure.

13. REFERENCES

- (i) Marine Safety (Domestic Commercial Vessel) National Law Regulation 2013
- (ii) National Standard for the Administration of Marine Safety SECTION 4 SURVEYS OF VESSELS august 2011
- (iii) National Standard for Commercial Vessels – Part A -Safety Obligations – April 2005
- (iv) National Standard for Commercial Vessels – Part B -General Requirements – January 2018
- (v) National Standard for Commercial Vessels – Part C – Design and construction – subsection 7A safety equipment, June 2016
- (vi) National Standard for Commercial Vessels – Part C – Design and construction – section 4 fire safety, January 2018
- (vii) Aj Bryant’s Presentation at the AMPI 2019 Conference on First Aid for Pilot Boat Crews and Marine Pilots, from the National First Aid Training Institute.