

Construction, operation and inspection of Houseboats



Commercial Marine Services | **FACT SHEET**

This Fact Sheet provides information about the requirements for the Construction, Operation and Inspection of Hire and Drive Houseboats in South Australia.

Introduction

The term “houseboat” means:

- a vessel that has facilities for overnight accommodation; and
- all the living facilities are on or above the deck of the vessel; or
- Although not all the living facilities are on or above the deck of the vessel, the vessel is designed and constructed as a river boat, providing living facilities similar to that provided in a residential building.

A ‘hire and drive houseboat’ means a houseboat that is, or is to be, hired out and operated by a person other than the owner of the houseboat or an employee or agent of the owner.

Operation

Persons who conduct the business of hiring out commercial houseboats must hold a hire and drive licence,

issued by Department of Planning, Transport and Infrastructure (DPTI), to conduct that business.

Persons who own a commercial houseboat but have a licensed agent to organise the hiring out of their houseboat, do not require a licence. The licence number of the person who conducts the business of hiring out a commercial houseboat must be displayed on each side of the houseboat in letters a minimum of 150mm high.

Construction

Certificates of Inspection issued by the department in regard to hire and drive houseboats ensure that vessels meet the requirements of the Harbors and Navigation Act 2 1993 and Regulations 2009, the Uniform Shipping Laws (USL) Code and relevant standards in respect to construction, machinery installation, lifesaving equipment and other safety requirements.

In particular, houseboats are to comply with the Harbors and Navigation Regulations 2009, Schedule 8, ‘Structural and Equipment Requirements for Hire and Drive Houseboats,’ included in this Fact Sheet as Attachment 1 (refer page 2).

Please see Attachment 3 for more information on inspection intervals for newly constructed hire and drive houseboats.

Gas Installations

All gas installations are to comply with ASNZS 5601 (Part 1 and 2). These requirements are in addition to those listed in Attachment 1 (refer page 7). A Certificate of Gas Compliance is to be obtained from a qualified gas fitter and a copy forwarded to the department.

For further information

call: 08 8348 9543
email: DPTI.CMSSurvey@sa.gov.au
visit: www.dpti.sa.gov.au/marine/survey



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Department of Planning,
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Electrical Installations

A Certificate of Electrical Compliance is to be obtained from a qualified electrician and a copy forwarded to the department.

Sewage Systems

Sewage systems are to be constructed in accordance with the Environment Protection Authority, 'Code of Practice for Vessels on Inland Waters'. See Attachment 2. These requirements are in addition to those listed in Attachment 1.

Swim Deck

A swim deck must not exceed 1.8 metres in length.

Generators

Generators are not to be located on the swim deck.

Windows

Window glazing is to comply with AS1288, 'Glass in-Selection and Installation'. It is highly recommended that unless specifically permitted otherwise by AS1288, that all glazing is laminated or toughened safety glass.

Further Information

The information contained in this document is intended to provide owners, operators, builders etc, of the general requirement for Hire and Drive Houseboats as required by DPTI only.

For additional information please telephone (08) 8348 9543 between 9am to 5pm Monday to Friday.

Alternatively you can address correspondence to the Principal Marine Surveyor, Commercial Marine Services by facsimile on (08) 8115 5536 or post to:-
DPTI

Commercial Marine Services
P.O. Box 2526
Regency Park
SA 5942

Submission of Plans

Prior to construction of a new vessel, one (1) complete set of all plans must be forwarded to the department, together with the Application for Initial Survey form, the initial survey fee and the plan approval fee. The plans must be in at least one of the following formats (listed in order of preference):-

- 1) Electronic (to be e-mailed):-
 - i) AutoCAD 2008 compatible DWG;
 - ii) DXF;
 - iii) PDF;
- 2) Paper (to be posted)

Plans require:

- general arrangement of the vessel
- pontoons showing material type and size, stiffening of bulkheads and shell
- fuel tanks
- cross members, size and spacing and method of attachment to the pontoons
- house construction showing all support beam and girder sizes
- Machinery installations

Inspection

Application for the Inspection of a houseboat should be made to:-

DPTI
Commercial Marine Services
P.O. Box 2526
Regency Park
SA 5942

The application should be made on the department Application for Initial Survey of a Commercial Vessel Form and be accompanied by the prescribed fee.

The vessel must be inspected during construction after which a 2-year Certificate of Inspection may be issued. The vessel will then be inspected biennially on a slipway.

In addition to the above fees additional charges may be made for:

- any expense incurred by the Surveyor, which may include transport, sustenance, and/or accommodation
- Overtime arising if surveys have to be performed outside normal hours.



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ATTACHMENT 1 – Harbors and Navigation Regulations 2009

Schedule 8 – Structural and equipment requirements for hire and drive houseboats (Part 10)

Length, size and speed

1 Subject to subclause (2), a hire and drive houseboat:-

- (a) must not exceed 20 metres in length
- (b) must not exceed 8.5 metres beam
- (c) must not be a boat that is permitted (under its certificate of inspection) to carry more than 12 persons while underway
- (d) must not have a potential speed of more than 10 knots.

2 A hire and drive houseboat:

- (a) in respect of which a certificate of inspection issued under the Act was purportedly in force immediately before the commencement of these regulations
- (b) that was, immediately before that commencement, available for hiring out by its owner in the course of carrying on a business of hiring out boats for operation by hirers
- (c) may exceed 20 metres in length.

Pontoons

- 1
- (a) pontoon must be constructed of steel, marine grade aluminium alloy, or fibreglass or other suitable material approved by the CEO.
 - (b) if the material of which a pontoon is constructed is less than 3mm thick, it must be approved by the CEO as having adequate structural strength.
 - (c) a pontoon must be of adequate strength to support the fixed house that it is designed for and must be suitably stiffened in both the transverse and longitudinal directions.
 - (d) a pontoon must be subdivided into transverse bulkheads of watertight construction spaced not more than 1.2 metres apart.
 - (e) a transverse bulkhead must be suitably stiffened.
 - (f) each pontoon must be provided with brackets or other effective arrangement for attaching the deck structure supporting the fixed house.
 - (g) all compartments in a pontoon are to be air tested to a pressure of 3.5 kPa to ensure that all external joints and bulkheads are watertight, and the test must be evidenced by a test record sheet that gives full details of the test, signed by the person carrying out the tests on behalf of the pontoon manufacturer.
 - (h) a metal plate bearing the manufacturer's name, the date of manufacture and an identification number must be permanently affixed near the aft end of each pontoon so as to be clearly visible and protected from accidental damage.

Decks

- 1
- (a) the deck of a hire and drive houseboat that has a mono-hull must be of sufficient strength to permit the fixed house to be adequately fitted to it.
 - (b) the deck of a hire and drive houseboat that is constructed of pontoons must be constructed of timber or metal beams of sufficient strength to take the static and wind loads of the fixed house.
 - (c) where the spacing of transverse beams exceeds 600mm between centres, the size of the beam must be correspondingly increased.
 - (d) cross bracing for the deck beams must be provided.

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- (e) any area of open deck must be capable of supporting the maximum number of persons that the houseboat is permitted to carry while underway.
- (f) the perimeter of all decks must be fitted with horizontal rails:
 - (i) extending at least 850mm above the deck and spaced not more than 250mm apart
 - (ii) capable of withstanding a horizontal thrust equivalent to 300 kg or an alternative barrier that provides, in the opinion of the CEO, adequate protection against the risk of a person falling from the deck. www.dpti.sa.gov.au/marine/survey
- (g) any access gate in the rails or other barrier must be designed and constructed so as to only open inwards and must be fitted with a device designed and constructed to prevent a child from opening the gate.
- (h) all decks must have a non-slip surface suitable for wet conditions.

Steps and ladders

1 Any steps or ladders:

- (a) must have an angle to the vertical of not less than 15°
- (b) must have a width of at least 600mm
- (c) must have steps that:
 - (i) have a depth of at least 200mm
 - (ii) are not more than 250mm apart
 - (iii) have a non-slip surface.

Fixed house

- 1
- (a) the side frames, internal frames and house top beams must be constructed of timber or metal and of a size to meet standard house specifications.
 - (b) the floor of the house must be constructed of water resistant particle board or marine grade plywood effectively fastened to the deck beams.
 - (c) the internal house framing must be welded or bolted to the deck beams and be weather-tight.
 - (d) weather-tight external cladding must be fitted on the sides and ends of the house and the internal linings and ceilings must be of low flame spread materials.
 - (e) floors of toilet and wash places must be covered with ceramic tiles or equivalent waterproof materials.
 - (6) windows, glass doors and wooden doors must meet house construction standards.

Visibility

1 A hire and drive houseboat must be constructed so as to allow the greatest possible visibility for the person operating the boat.

Freeboard

- 1
- (a) when a hire and drive houseboat is fully loaded (including all fuel that may be carried on the boat) the height of the top of the deck above water level at the lowest point must be:
 - (i) for a boat that is 6 metres or less in length, not less than 400mm
 - (ii) for a boat that is 20 metres or more in length, not less than 600mm
 - (iii) for a boat that is more than 6 metres but less than 20 metres in length, not less than a distance determined by interpolation.

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(b) where a hire and drive houseboat is constructed of pontoons, the freeboard required by subclause (1) must be such that allows the pontoons to have a reserve buoyancy of at least 25% of the total volume of the pontoons.

Stability

1 A hire and drive houseboat must comply with the following elementary stability test:

When a number of persons equal to the maximum number that the boat is permitted to carry while underway are on one side of the uppermost deck at its extreme breadth from the centreline of the hull:

- (a) the angle of heel must not exceed 7° from the upright
- (b) the freeboard of the hull on the heeled or immersed side, measured from the inclined waterline to the intersection of the edge of the main deck line and sheer line of the main hull at its lowest point, must not be less than 25% of the freeboard in the upright condition when fully loaded.

Structural fire protection

1 A hire and drive houseboat must be constructed so as to minimise fire hazards and in particular:

- (a) the engine compartment must be lined with non-combustible material
- (b) if the sides of the engine compartment adjoin any other compartment and are not made of steel, the sides must be constructed (in accordance with Section 5F of the USL Code a material that, after exposure of one side of the material to fire for 30 minutes, the average temperature of the side not exposed to fire does not rise more than 139°C above the original temperature
- (c) the cooking area must be protected by non-combustible material or fire resistant material
- (d) there must be no combustible material within 750mm above the stove
- (e) if the stove is located within 300mm of combustible material, it must be protected as required by Section 5F of the USL Code
- (f) all exposed surfaces of the lining of accommodation areas must be of low flame spread material and the lining must be constructed as required by Section 5F of the USL Code
- (g) two smoke detectors, or such greater number as the CEO may, in a particular case, direct, must be installed in appropriate positions in accommodation areas.

Engines

- 1 (a) if a hire and drive houseboat is propelled by an inboard engine, the engine must operate on fuel that has a flash point of not less than 60°C.
- (b) the engine must be provided with such instrumentation as is necessary to ensure its satisfactory operation.

Exhaust systems

- 1 (a) exhaust pipes and silencers must be constructed of steel, copper or other suitable material approved by the CEO.
- (b) exhaust pipes and silencers must either be water cooled or effectively insulated.
- (c) exhaust pipes must be constructed so that any back flow of water cannot enter the engine manifold.
- (d) any part of an exhaust pipe that passes through an accommodation area must be enclosed in a gas tight casing.

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Ventilation of machinery spaces

1 The engine compartment and any other area housing machinery must be adequately ventilated and, in particular, the volume of air flow must be sufficient to provide air for aspiration of the machinery when running at full power and additional air to provide adequate cooling (see AS2387).

Fuel tanks and fuel systems for engines and generators

- 1 (a) the following requirements apply to fuel tanks and fuel systems used in connection with an engine or a generator.
- (b) a fuel tank must be:
 - (i) soundly constructed from carbon steel, stainless steel, copper, marine grade aluminium alloy, or, if the fuel to be contained in the tank has a flash point above 60°C, glass reinforced plastic
 - (ii) designed and constructed for a working pressure of not less than 20 kPa
 - (iii) tested:
 - (a) in the presence of a Surveyor to ensure paragraph (b) is complied with.
- (c) if a fuel tank is installed independently of the hull, the tank and fuel system must, in addition, comply with the following requirements:
 - (i) the tank must be securely installed in such a position that it is clear of the engine and the exhaust pipes and that ensures that any fuel spilled during filling of the tank will not come into contact with hot machinery
 - (ii) the tank supports and fastenings must be insulated from the tank by non-abrasive and non-absorbent material
 - (iii) a shut-off valve or cock must be fitted at each tank outlet line and only metal pipes and fittings may be used between the tank and the shut-off valve or cock
 - (iv) if the fuel has a flash point of less than 60°C:
 - (a) all elements of the fuel system must be electrically bonded
 - (b) if the tank has a capacity of more than 30 litres, the fill pipe must extend to within 50mm of the bottom of the tank
 - (c) if the tank has a capacity of more than 10 litres, fuel outlet must be by means of a siphon tube extending to within 12mm of the bottom of the tank
 - (v) if the fuel has a flash point of 60°C or more, the fill pipe need only be taken to the top of the tank and the outlet may be fitted on the side or end of the tank
 - (vi) the tank must be vented with a pipe that is fitted with a corrosion resistant anti-flash gauze (usually formed into a cone and inserted inside the vent pipe ensuring that there is good metal to metal contact with the pipe) that does not reduce the open area of the pipe
 - (vii) if the tank is a portable fuel tank fitted in connection with an outboard engine, the fuel lines must be of heavy duty synthetic rubber suitable for carrying fuel and fitted with bayonet type fittings which, when disconnected, automatically shut off the fuel from the tank
 - (viii) fuel pipes that are flexible must:
 - (a) be as short as possible
 - (b) be constructed of metal braided reinforced material with a synthetic rubber inner tube suitable for carrying fuel (although if the fuel pipe is not in the engine room or area and it is impracticable for the pipe to be constructed as required by this paragraph, the pipe may be constructed in an alternative manner approved by the CEO)

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- (c) be capable of withstanding 2.5 minutes of exposure to free burning kerosene while containing fuel.
- (ix) fuel pipes that are not flexible must be constructed of seamless metal
- (x) if the tank contains fuel for use in a generator:
 - (a) the tank must be installed in such a manner that it is not possible to overfill the supply tank of the generator
 - (b) if the tank may not be of sufficient capacity for a period of hire of the boat—a fuel transfer pumping and piping system or gravity feed system must be installed to ensure that fuel does not have to be decanted by the hirer into the tank

Additional fuel

1 If fuel is carried on a hire and drive houseboat otherwise than in fuel tanks associated with the engine or a generator, the following requirements apply:

- (a) the fuel (which must have a flash point under 60°C) must be stored in a flammable liquids cabinet designed and constructed in accordance with AS1940
- (b) the cabinet must be located so that there is no ignition source within 3 metres
- (c) the cabinet must be vented and gauze flash arresters fitted to the vents
- (d) if the cabinet is on an open deck, it must be shaded by a structure to protect it from excessive temperature
- (e) the quantity of additional fuel must not exceed 120 litres
- (f) the fuel must be stored in containers of a type approved by the CEO.

Shipside valves and pipes

- 1
- (a) all water inlets or points of discharge below the waterline must be fitted with metal valves or cocks secured directly to the hull.
 - (b) the valves or cocks must be readily accessible and provided with permanently attached handles or hand wheels as a means of opening and closing them.
 - (c) any flexible pipes over 25mm bore below the waterline must be fitted with two corrosion resistant pipe clips at each end.

Electrical installations

- 1
- (a) the following requirements apply in addition to other laws applying to electrical work and fittings.
 - (b) switchboards, distribution boards and fuse boxes must not be located within 1.5 metres (or such lesser distance as is approved by the CEO in a particular case) of equipment which may give off flammable vapours such as fuel tanks, gas cylinders and batteries.
 - (c) all electrical circuits supplying power outlets with alternating power voltage above 32 volts must be fitted with earth leakage circuit breakers that comply with AS3190.
 - (d) all circuit breakers, switches, fuses, and alarms, designed, constructed or adapted for use in an emergency must be labelled as such.
 - (e) Navigation lights must be on a separate electrical circuit with each light individually fused or fitted with an overload circuit breaker.
 - (f) batteries must be of sufficient capacity for their intended service and must be contained in a tray that is not less than 100mm deep and lined with lead, fibreglass or other acid resistant material.
 - (g) if a battery is located on an open deck, it must be fully protected from the weather

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- (h) starter leads for an inboard engine must be:
- (i) as short as is compatible with the safe storage of the batteries
 - (ii) taken directly to the starter through the starting relay contacts with the relay mounted directly on or adjacent to the starter motor.
- (i) the insulation resistance between conductors installed on a hire and drive houseboat and the conductors and earth, with all fuses in place, all circuit breakers closed and all consuming devices disconnected, must be tested (with a 500 volt insulation tester arranged to indicate resistance in Ohms or, if there is any risk of damage to the installation, a low voltage tester) to ensure that the resistance is not less than 1 000 000 Ohms.
- (j) The electrical system must be tested to ensure that all earth continuity conductors and earthing leads are connected to the frame of the boat and to the pontoon structure or hull.

Liquefied petroleum gas installations

- 1 (a) the following requirements apply in addition to other laws applying in relation to liquefied petroleum gas.
- (b) an appliance with a continuous burning pilot light or other continuous flame device:
- (i) must not be installed below the main deck
 - (ii) must be fitted with a device that automatically shuts off the gas in the main supply line to the appliance if the pilot light or continuous flame is extinguished.
- (c) a gas heater without a flue is not permitted in an area where a person may sleep on a houseboat unless permitted by the Office of the Technical Regulator.
- (d) an enclosed area containing a gas appliance must be ventilated as follows:
- (i) if the area provides accommodation other than for sleeping or cooking:
 - (a) there must be two vents (in addition to any opening windows or other required vents) fitted on opposite sides of the area
 - (b) the lower edge of one vent must not be more than 150mm above the floor
 - (c) the upper edge of the other vent must not be more than 300mm below the ceiling
 - (d) if the lower vent is in the floor, it must be located where it is unlikely to be covered
 - (e) the vents must be of the following sizes:
 - (i) if the area contains a refrigerator:
 - if the refrigerator has a capacity of less than 100 litres, 325 square centimetres
 - if the refrigerator has a capacity of 100 litres or more but less than 200 litres, 450 square centimetres
 - if the refrigerator has a capacity of 200 litres or more, 650 square centimetres
 - (ii) if the area does not contain a refrigerator:
 - if the area is less than 4 metres in length, 240 square centimetres
 - if the area is 4 or more metres, but less than 5 metres in length, 300 square centimetres
 - if the area is 5 metres or more in length, 360 square centimetres

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- (ii) in any other case:
 - (a) the door to the area must be suitably louvered
 - (b) there must be two vents in the area as follows:
 - (i) the vents must have a clear area of at least 325 square mm per megajoule per hour of gas input to all appliances within the area
 - (ii) the vents must be at least 50mm high and 100mm wide
 - (iii) the lower edge of one vent must not be less than 75mm above the top of the highest draught diverter relief opening of the gas appliances in the area
 - (iv) the lower edge of the other vent must not be more than 100mm above the floor of the area.
- (e) the area within one metre of a liquefied petroleum gas cylinder must be clear of flammable material (including paper and oily rags).
- (f) a liquefied petroleum gas cylinder:-
 - (i) must be secured vertically in position with valves uppermost by fastenings designed and constructed to withstand a load, in any direction, equal to four times the weight of the cylinder when full
 - (ii) must be stored so that there is no source of ignition within a cone shaped area around the cylinder, with the radius of the base of the cone being 1.5 metres, the base of the cone and the base of the cylinder being in the same horizontal plane and having the same centre point, and the height of the cone being 1 metre greater than the height of the cylinder, but excluding that part of the cone shaped area that is above a horizontal plane that is 500mm above the topmost part of the cylinder (i.e. the tip of the cone)
 - (iii) must be positioned so that the valves are more than 1 metre horizontally from any window or opening into a structure and more than 150mm below any window or opening into a structure or, if positioned closer, must be fitted with a non-combustible baffle
 - (iv) must be stored in an area:
 - (a) that is constructed of fire resistant material or is lined with fire resistant material
 - (b) that is vapour proof to accommodation areas
 - (c) in which no electrical equipment or appliances are installed.
- (g) if copper pipes are used for liquefied petroleum gas:-
 - (i) the pipes must be secured with clips fitted at least each 1 metre if the pipe is vertical and at least each 400mm if the pipe is not vertical
 - (ii) the material of which the clips are constructed must be compatible with copper pipe so that corrosion is not caused
 - (c) suitable grommets must be fitted to protect the pipe where it passes through a structure.

Accommodation and associated facilities

- 1
 - (a) headroom in accommodation areas must be at least 1.9 metres.
 - (b) passageways that are less than 4.5 metres in length must be at least 600mm wide.
 - (c) passageways that are 4.5 metres or more in length must be at least 800mm wide.
 - (d) there must be at least two avenues of escape (one of which may be a readily accessible opening window with a clear opening of at least 460mm vertically and 410mm horizontally) from all accommodation areas.
 - (e) doors to enclosed areas must be capable of being opened from inside the area without the use of a key.
 - (f) each sleeping area must be provided with a vent with an open area of not less than 80 square centimetres per bunk located in the area, in addition to any opening windows.

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- (g) bunks must be:
 - (i) at least 1.9 metres long
 - (ii) at least 600mm wide
 - (iii) at least 600mm apart.
- (h) if bunks are placed on top of each other:
 - (i) there must not be more than two bunks on top of each other
 - (ii) there must be at least 600mm separating the bottom bunk from the top bunk.
 - (iii) a toilet compartment must not be less than 700mm square.

Sewerage system

1 A hire and drive houseboat must be fitted with a sewerage system that complies with the following requirements (also see Attachment 2:

- (a) the sewage holding tank must have a capacity of at least 180 litres
- (b) the pipe connecting the toilet pan to the tank must be at least 75mm in diameter and the outlet pipe, the flushing pipe and the air pipe must each be at least 40mm in diameter
- (c) if the sewage tank is suspended between the pontoons, the tank must be protected against damage by floating debris
- (d) any other laws applying in relation to a sewerage system.

Lifesaving appliances

- 1 (a) a hire and drive houseboat must carry on it the following lifesaving appliances:
 - (i) one 750mm lifebuoy painted in a highly visible colour with not less than 30 metres of 12mm buoyant line attached
 - (ii) a number of coastal type lifejackets or personal flotation devices equal to the maximum number of persons that the boat is permitted to carry while underway.
- (b) a lifebuoy required to be carried on a hire and drive houseboat must comply with Section 10 of the USL Code.
- (c) a personal flotation device required to be carried on a hire and drive houseboat must comply with AS 1499, 1512 or 2260.

Fire appliances

1 A hire and drive houseboat must carry on it the following fire appliances:

- (a) two 4.5 kg dry chemical powder fire extinguishers; or
- (b) one 4.5 kg dry chemical powder fire extinguisher and one 3 kg carbon dioxide fire extinguisher; or
- (c) one 4.5 kg dry chemical powder fire extinguisher and one 9 litre foam fire extinguisher; and
- (d) in all cases, two buckets each of not less than 9 litres capacity and fitted with a lanyard of not less than 2 metres.

Radio equipment

1 A hire and drive houseboat must be fitted with either radio equipment that is capable of communication with the owner or a mobile phone provided by the owner.

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Navigation lights

1 A hire and drive houseboat must be fitted with lights so as to enable compliance with Section 17 of the USL Code.

Miscellaneous equipment

1 A hire and drive houseboat must be fitted with the following equipment:

- (a) a sound signalling device, being a power-operated (by electricity or otherwise) horn, whistle, siren or klaxon
- (b) an electric signalling torch
- (c) a first aid kit of a common proprietary brand including at least the following items:-
 - I. adhesive plaster
 - II. antiseptic cream
 - III. antiseptic solution
 - IV. bandages
 - V. cotton wool
 - VI. crepe pressure bandage
 - VII. dressings
 - VIII. finger stall
 - IX. first aid pamphlet
 - X. gauze
 - XI. safety pins
 - XII. scissors
 - XIII. splinter forceps
 - XIV. splinter probe.

ATTACHMENT 2 – Waste Water Requirements

Houseboats are to be fitted with a sewage system that complies with the Environment Protection Authority (Water Quality) Policy 2003 and the Code of Practice for Vessels on Inland Waters 2003. Some requirements are summarised below.

Toilet Waste Management

- A suitable toilet must be fitted to all vessels that are:
 - a commercial passenger vessel six metres or more in length
 - contain a galley
 - contain one or more bunks
 - are capable of being used over night.
- The toilet and waste system must be constructed and installed in a way that ensures that discharge from the system can only occur by pumping out at an authorised waste disposal facility.
- Low flush marine style toilets are preferred for fixed installations. Conventional toilet systems, if used must have cisterns of the 'dual flush' or low volume/capacity type.
- All pipe work must be sewer grade quality PVC, be joined using solvent welding techniques and securely fixed to the vessel structure.

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- All outlet and flushing pipes are to be a minimum of 40mm diameter, terminate with a 40mm Treloar, Kamlock fitting at a height above the deck 150mm higher than the top of the lowest toilet pan.
- Vent pipes are to be a minimum diameter of 25mm and terminate to atmosphere a minimum of 300mm above the top of the lowest toilet pan. A sewer cap with an insect screen is to be fitted on the outlet end of the breather pipe.
- Holding tanks must be constructed from non-corrodible material and shaped internally to be self-cleansing and must be braced and strapped securely to prevent any movement.
- Holding tanks must have an outlet (suction) pipe at one end and a flushing pipe at the other end to enable the tank to be flushed with fresh water during the pumping out operation.
- No fittings, which could allow for the escape of any waste from the system shall be installed along the pipe work, other than by pump-out from the outlet pipe.
- Holding tanks are to be located as high above the water as practicable (preferably 200mm) and have a deflector plate fitted 300mm in front of the tank
- Discharge from the toilet pan is to enter the holding tank through the top.
- All exposed pipes are to be protected from ultra violet rays.
- Garbage grinders must not be fitted on ANY vessels.

Grey Water Management

Houseboats must be fitted with a grey water management system. This can include use of a treatment system or containment system that is discharged into land-based wastewater collection system.

Further information

For more details, the 'Code of Practice for Vessels on Inland Waters' may be viewed on the following website:- <http://www.epa.sa.gov.au/>

ATTACHMENT 3 – Plan Approval and Vessel Inspections for Hire and Drive Houseboats

Some requirements are summarised below.

Plan Approval Process

1. Clients to submit one (1) copy of plans to Commercial Marine Services, DPTI.
Note: Any construction work using the unapproved plans at this stage will be at the owners/ builders own risk. DPTI may require substantial alterations to structures to reflect the standard achieved in the approved drawings.
2. DPTI Naval Architect undertakes plan approval and subsequently approves or advises that alterations to the plans and required as appropriate.
3. DPTI distributes copies of the stamp approved plans to:
 - a) the vessel owner
 - b) the vessel builder
 - c) the DPTI vessel file.

For further information

call: 08 8348 9543
email: DPTI.CMSSurvey@sa.gov.au
visit: www.dpti.sa.gov.au/marine/survey



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Vessel Inspections

1. A DPTI Marine Surveyor is to sight examples of open pontoons and fuel tanks before being closed to check for scantlings, welding, workmanship and adherence to the approved plans.
2. A DPTI Marine Surveyor to witness pressure testing of:
 - a) completed pontoons to 350mm head on a manometer or 3.5kPa using an equivalent approved method
 - b) completed fuel tanks to 2.5 metre head on a manometer or 20kPa using an equivalent approved method.

Surveyor is to complete DPTI test record sheet for pontoons and fuel tanks.

3. The DPTI Marine Surveyor is to check completed chassis for scantling, welding, workmanship and adherence to approved plans.
4. The DPTI Marine Surveyor to check house and roof framing before cladding of frames and ceiling for scantlings, construction details, plumbing and electrical wiring, workmanship and adherence to approved plans.
5. Final out of water survey – vessel to be at least 80% complete with all under deck installations complete. DPTI Marine Surveyor to check for Environmental Protection Authority (EPA) waste water system compliance and complete the EPA compliance form. As well as fuel tank(s), piping and fuel emergency shut off valves, motor(s) installation, gas lines and venting under floor.
6. Final in water survey – vessel to be 100% complete. DPTI Marine Surveyor is to sight and check vessel and all safety equipment. Copies of the electrical and gas compliance certificates, fire extinguisher receipts or current service certificates and OTR gas heater exemption should be on hand for the Surveyor.
7. Stability – DPTI Marine Surveyor is to perform a stability test and check freeboard against allowable limits. This test requires the client to supply equivalent persons to the vessels approved passenger loading (number of sleeping berths on vessel). The vessel's spa to be full if installed. This test takes approximately half hour to one hour. Please note that the CVS Marine Surveyor is not included as a passenger during the stability testing procedure.

The above inspections are the minimum requirement only. Further inspections may be required and will be at the request of DPTI Commercial Marine Services if deemed necessary to satisfy adherence to all the appropriate codes. These codes include, but are not exclusive to, The Uniform Shipping Law Code (USL), Australian Building Code, Harbors and Navigation Act, OHS&W Act and the appropriate Australian Standards.

An additional survey fee may be incurred at the discretion of DPTI for vessels not completed to the appropriate level at the time of the scheduled inspection and where a further visit is required by a DPTI Marine Surveyor.

Notes for Vessel Owners

Owners wishing to conduct and manage the business of houseboat hire themselves and not through an agent, must apply for the following licences through Commercial Marine Services - Survey:

- a) a houseboat hire and drive licence (e.g. HD Number)
- b) a vessel show out licence

General Information

Copies of the following documents will be required by DPTI Commercial Marine Services - Survey:-

- electrical compliance certificate
- gas compliance certificate
- fire extinguisher new receipts or service certificate

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- exemption from Office of Technical Regulator for the use of an unflued gas heater on board (if applicable).

Engines and Genset Installation

- fuel lines, fuel tank breathers and emergency fuel shut offs
- engine guarding (if fence same specs, as for hand rail height/ spacing)
- engine or genset compartment air ventilation
- seacocks type and installation of lines, skin fittings and double metal hose clamp on hoses
- pumping arrangements of open compartments
- vessel steering

EPA Requirements

- suction and flush marked and at the correct size and height above toilet pan
- blackwater tank correct type of insect proof vent and installation of pipes

Construction of Vessel

- house and deck
- handrails type, strength and height
- house ventilation for sleeping compartments at 80 centimetres square per person
- vents for gas appliances i.e. stove, fridge and unflued room heaters as per Australian Standard 5601-2004 Gas Installations
- gas bottle installation and security arrangements
- smoke detectors 10 year type or hard wired and location of units
- navigation lights operation and marking
- signal horn operation and marking
- communications equipment e.g. radio/ mobile phone

Signage

- swim deck signs “swim deck not to be used when engines operating”
- forward and aft if required on sundeck “no access forward/ aft of handrail”
- complying signs from Office of Technical Regulator (OTR) for
 - Flue-less gas room heater
 - Gas cylinder compartment
 - Sign at operational appliances
- location of fuel emergency shut off valves
- signs locating hidden or partially hidden fire extinguishers

Note: Signs can be similarly worded.

Items for Marine Surveyor to sight

- PFD 1 or better life jackets with whistles
- First aid kit as per schedule 8 - *Harbors and Navigation Regulations 2009*
- waterproof torch
- book of instructions as per *Harbors and Navigation Regulations 2009 part 10 division 4 regulation 110*
- Murray River pilot or similar maps
- two 9 litre fire buckets with lanyards
- life buoy with 30 metres of line attached
- required fire extinguishers suitably located.

Further information

Contact the Department of Planning, Transport and Infrastructure:

Commercial Marine Services
Kateena Street, Regency Park SA 5010
P.O. Box 2526 Regency Park SA 5942

Telephone: (08) 8348 9543

Facsimile: (08) 8115 5536

E-mail: DPTI.CMSSurvey@sa.gov.au

This Fact Sheet is provided for information only.

No responsibility will be accepted from the use of the information contained in this fact sheet.

MR 526 11/11



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