

Proposed amendments to Survey Performance Requirements and SOP Inspection checklists related to vessel fuel systems

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Amendments to SPRs for In-construction surveys (MS354)

3. Survey performance requirements

Whenever a surveyor is engaged to provide surveying services for the purpose of supporting 'construction under survey' and providing the associated 'construction report' specified in Rule Part 44 Appendix 1.1.2(b), the surveyor must:

1. Ensure that the builders of the ship are made aware of the hold points required by the surveyor, prior to the commencement of construction.
2. Inspect all strength members (including plate) used in the construction of the ship, to determine whether their critical specifications (materials and dimensions) are in accordance with those approved in the design report for the ship.
3. Detail in the construction report, any equivalence accepted by the surveyor, and the basis for acceptance of the equivalence. For clarity, in this context equivalence exists when a variation to an approved design specification is treated as equivalent to the approved specification for the purpose of design compliance).
4. Inspect, and test where applicable, any construction materials or techniques (eg metal specification, weld details, resin/fibre ratios, fibre types and orientation) identified in the design report as critical to the structural strength of the ship.
5. Inspect, test and measure (as applicable) the dimensions and closure mechanisms for all watertight and weathertight closures on the ship, to determine whether they are in accordance with the design approval.
6. Inspect the dimensions and positions of freeing arrangements; through-deck scuppers; sea chests; overboard vents and valves; and any watertight bulkhead penetrations, to determine whether they are in accordance with the design approval.
7. Visually inspect the locations and dimensions of all means of crew and passenger egress and access, to determine whether they are in accordance with the design approval.
8. Verify that the fixed fire-fighting equipment; fixed lifesaving appliances and launching facilities; communications and navigation equipment; emergency power and lighting arrangements are in accordance with maritime rules relevant to the intended service and operating limits of the ship.
9. Visually inspect that the bilge systems and alarms are in accordance with maritime rules relevant to the intended service and operating limits of the ship.
10. For applicable ships, verify whether main engine (including the maximum power output), gearbox, shafts and propellers are in accordance with that approved for the design.
11. Inspect the main and emergency steering systems (including rudder and water jet assemblies) to determine whether they are in accordance with the design approval.
12. Verify that all hydraulic; lifting; refrigeration; compressed air; ventilation and air conditioning appliances and systems are installed and commissioned by suitably competent persons.
13. If applicable, verify that the ship's electrical system installed is in accordance with the electrical design approved by a design approver recognised for that purpose by the Director.

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14. Inspect and test the main and auxiliary engine fuel systems (as applicable) including tank or tanks and associated piping, fittings and venting arrangements, to ensure the integrity and safety of the fuel system and that the fuel system is in accordance with the design approval.

The construction report must include all verifications, exceptions, conditions and limitations (including features not verified during construction), in a form that enables the information to be readily referenced during future surveys.

In the event that the design report referenced for the in-construction survey does not include references to the minimum specifications of strength members, propulsion shafts, and rudderstocks and pintles (or the maximum allowable diminution from original dimensions of each of those elements), these must be obtained from an appropriately recognised surveyor and included in the construction report.

The requirements in these SPRs complement the standards and requirements specified in the rules. The SPRs do not replace or reduce any responsibility the surveyor has under the rules.

Amendments to SPRs for Initial surveys (MS353)

3. Survey performance requirements

Whenever a surveyor is engaged to provide surveying services for the purpose of issuing a certificate of survey for a ship for the first time, the surveyor must:

1. Review the design report for the ship issued by the design approval surveyor, to determine whether the report:
 - has been issued by a surveyor recognised by the Director to perform design approval surveys of the category applicable to the ship
 - includes the issuing surveyor's attestation that the ship's design is in all respects fit for its intended service and meets all relevant maritime rules and marine protection rules
 - includes the specifications and maximum allowable diminution of all strength members, either by providing the hard numbers or by clear reference to a specific classification society standard or AMSA¹-approved standard
 - identifies any ship features for which design compliance must be verified during construction under survey.
2. Review the construction report for the ship, to determine whether the report:
 - has been issued by a surveyor recognised by the Director to perform in-construction surveys of the category applicable to the ship
 - includes the issuing surveyor's attestation that the ship has been constructed in accordance with the design approved through the ship's design report
 - verifies that any and all material changes to the ship design made during the construction of the ship have been approved by a surveyor recognised by the Director to approve ship designs of the category applicable to the ship
 - confirms that the ship's electrical system installed conforms with the electrical system design approved by a surveyor recognised by the Director for that purpose
 - confirms the design compliance of all features noted in the design report as requiring verification of compliance during construction.
3. From the reviews of the design and construction reports, identify all features of the ship's construction, equipment and systems that require inspection or testing in order:
 - to satisfy the surveyor that the ship is fit for its intended service and operating limits, and
 - to provide baseline data for subsequent surveys of the critical elements of the ship's construction, equipment and systems.

¹ Australian Maritime Safety Authority

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4. Survey, or have the client provide evidence of satisfactory survey of:
 - all those features of the ship identified from the review in item 3 above²
 - the in-water operational efficacy of the propulsion and steering systems by means of sea trials³, and
 - the stability of the ship, taking into consideration:
 - wave height in the operating area, freeboard, engine power and deck loading
 - any major modifications or repairs
 - changes to equipment – new, replaced or relocated
 - the stability book (if applicable) – that the content of the stability book reflects the current configuration of the ship.
5. Produce a survey report that includes:
 - the results of the surveyor's reviews of the design and construction reports
 - the results of any surveys resulting from item 4 above
 - the scope of certification including any conditions or limitations applicable to the ship and its certificate of survey.

The requirements in these SPRs complement the standards and requirements specified in the rules. The SPRs do not replace or reduce any responsibility the surveyor has under the rules.

² Refer to SPRs – In-construction surveys (MS354) for further guidance

³ Refer to SPRs – Periodic surveys of propulsion and steering systems (MS356) for further guidance

Amendments to SPRs for Periodic surveys of propulsion and steering systems (MS356)

3. Survey performance requirements

3.1 General

When surveying the propulsion or steering system of an existing ship, the surveyor must:

1. Ensure that the survey includes all elements specified as being in-scope of the survey as identified by the survey plan for the ship.
2. For each element covered in the survey, review (as available) the ship's design report, construction report and recent relevant survey reports as references for identifying unapproved changes, and new or unresolved defects.
3. In the event that an unapproved modification⁴ is identified, ensure that it is referred for approval to an appropriately recognised surveyor and that the outcome of the referral is recorded in the survey report.
4. When surveying following any modification affecting the design or performance of either the propulsion or steering system, undertake a sea trial or other suitable in-water test of the affected systems.
5. Ensure that the survey plan approved by the surveyor includes an out-of-water survey of the propulsion and steering systems not less frequently than once every five years.
6. Always remain within the bounds of his or her competence, irrespective of the scope of recognition afforded to the surveyor by the Director. Outside those bounds, the surveyor must seek the advice of a recognised expert.

3.2 Propulsion system

At each periodic survey of the propulsion system of a ship, the surveyor must:

7. When conducting a sea trial of the propulsion system, test the effectiveness of the system to provide forward and astern manoeuvrability at a range of power levels.
8. Inspect that the any de-rated engine continues to comply with any power limit approved in the ship's design or construction report.
9. For ships with inboard propulsion systems, during out-of-water surveys inspect that the effective diameter of the tail and intermediate shafts continue to comply with the minimum approved in the design or construction report.
10. During out-of-water surveys, inspect each propeller (including bow thrusters where applicable) for damage, corrosion and secureness of attachment to the shaft.
11. Inspect bearings for each shaft for excessive wear and clearances affecting the soundness of the system.
12. Check that the maintenance plan for the ship includes an appropriate service plan for the propulsion system and that the plan is being followed.

⁴ That is, a modification that has been made to the ship or its equipment, which might affect the ship's fitness for its intended use or operating limits, and which has not been approved by an appropriately recognised surveyor.

13. Inspect and test if necessary, the fuel system including tank or tanks and associated piping, fittings and venting arrangements, to ensure the integrity and safety of fuel systems are being maintained and continue to comply with the approved ship's design or construction report.

3.3 Steering systems

At each periodic survey of the steering system of a ship, the surveyor must:

14. Where applicable, inspect the soundness of the pulleys and wire terminations of any wire steering system and the shafts, bearings and steering boxes of any shaft steering system.
15. When conducting a sea trial of the steering system, test the efficiency of each of the main system and the emergency system at full turn ahead and full turn astern (both to port and starboard for each) at full power.
16. During out-of-water surveys, inspect:
 - rudders for cracking, corrosion, decay and delamination as applicable for the rudder material type, and follow-up with applicable non-destructive testing when the visual inspection indicates the need
 - the rudder stock and pintles for decay or diminution (from whatever cause) that reduces the effective diameter to less than the minimum specified in design approval
 - the rudderstock bearings and rudder pintle bearings for excessive wear and
 - the tiller, quadrant boss, and rudder tubes for corrosion and their fastenings for secureness.

3.4 The survey report

In addition to meeting the requirements prescribed in Maritime Rules Part 44, Appendix 2, clause 1.3, the survey report produced from periodic surveys of hull, decks and superstructure must include:

17. Findings from the survey of each survey element referred to in all relevant maritime rule and these SPRs.
18. Confirmation that corrective actions have been completed for all deficiencies (new or historical) recognised during the survey and designated as requiring correction prior to the ship's departure.
19. A description of all corrective actions (and timeframe for completion) that must be taken by the operator, but have not prevented the ship's departure.
20. Verification that the survey completed was consistent with the operative survey plan, and that the survey plan for future surveys has the approval of the surveyor.

The requirements in these SPRs complement the standards and requirements specified in the rules. The SPRs do not replace or reduce any responsibility the surveyor has under the rules.

Amendments to SOP Inspection checklist for vessels 6 metres or less (MSF282)

2 MACHINERY

Item	Yes	No	NA	Clause	Comments
2.1 Outboard Machinery					
Are the make, installation, and use of the outboard motor to the satisfaction of the AP? Is it secured appropriately?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.1	_____
Is the maximum HP of the outboard motor in compliance with graph 5.5.2?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.2	_____
Is the outboard serviced as per manufacturer's instructions, and are records kept?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.9.2.b	_____
Are spares available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		_____
2.2 Inboard Engines					
Are the type, make and intended use acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.1 & 5.5.3	_____
Is the astern power adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.1	_____
If a petrol engine, is a suitable hydrocarbon gas detector and fixed fire fighting arrangement fitted, and is ventilation provided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.5	_____
Does engine space provide reasonable access for all items of machinery?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.5	_____
Is insulating material non-combustible and protected against flammable substances?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.5	_____
Is the prevention of oil in the engine space catered for in the wooden hulls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.5.6	_____
2.3 Fuel Tanks					
Are portable fuel tanks purpose-built to a recognised standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.1(a)	_____
Are portable tanks adequately secured in a ventilated space for ready jettisoning and any are spills draining overboard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.1(b)	_____
Are fixed fuel tanks manufactured, tested and installed to the requirements of 40D.2D27(4) to (9)? [Note: correction to rule reference]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Is the fixed fuel tank installed in a space adequately vented and fitted with a hydrocarbon gas detection device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Is the fuel system leak free and are hoses fuel resistant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Are the petrol tanks safely vented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Are fuel or gas lines run away from motor and exhaust?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Is there a petrol filling line with spill prevention?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____
Are fuel or gas tanks adequately secured?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.6.2	_____

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2 MACHINERY (continued)

Item	Yes	No	NA	Clause	Comments
2.4 Electrical					
Are electrical systems fitted to minimise risk of fire and shock?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.7.1	_____
Is overload and short-circuit protection provided as required (except engine starting circuits supplied from batteries)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.7.2	_____
Is battery capacity adequate and fitted as per 5.7.3?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.7.3	_____

Risk assessment score made by the Authorised Person (**Excellent = 0 Good = 5 Average = 10 Poor = 15 Unsafe = 20**)

Authorised Person's overall assessment

Draft for Consultation

Amendments to SOP Checklist for recreational dive boats (MSF283)

4 Engine Compartment and Machinery

Item	Yes	No	NA	Clause	Comments
Are there any changes/modifications made acceptable and fit for purpose?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.1/6.2	
Is there adequate ventilation for the engine bay?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2(c)	
Is the engine cover constructed of fire retardant material?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2(e)	
Are the bilges clean?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is engine mounting adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the engine fitted as per manufacturer's specifications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.1(a)	
Is the inboard petrol engine fitted with a gas detection system and fixed fire-extinguishing system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2(c)	
Are thermal and acoustic insulation fitted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2(c)	
Are the motor water and oil leak free?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the exhaust gas system leak free?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the fuel system leak free and are hoses fuel resistant?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Does the motor run smoothly with rapid accelerator response (up and down)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Does the motor start and stop reliably?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is the outboard well mounted with no obvious corrosion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are the petrol tanks safely vented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are fuel or gas lines run away from motor and exhaust?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is there a petrol filling line with spill prevention?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Are fuel or gas tanks adequately secured?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.1	
Have petrol tanks been pressure tested at some time (particularly after repairs to the tank or if there is severe corrosion evident)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is there a gas tank with approval stamp (if applicable)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Is there a gas system containment tank? Is it tested with water and leak free (if applicable)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Authorised Person's overall assessment:	<input style="width: 100px; height: 20px;" type="text"/>				