Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

Survey performance requirements

Periodic surveys of hull, decks and superstructure of steel or aluminium ships

Pursuant to Maritime Rule 44.25(3), and having met the relevant obligations of Maritime Rule 44.25(5) I, Keith Manch, hereby impose the following requirements as to the performance of surveys (survey performance requirements):

Signed at Wellington

This 31st day of October 2018

Keith Manch

Director of Maritime New Zealand

Last updated: October 2018

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In this guide

1. Basis in maritime rules

Survey performance requirements (SPRs) complement maritime rules that require a surveyor to exercise judgement. In the event of any conflict between an SPR and a maritime rule, the rule prevails.

This SPR has its basis in the following rules.

1.1 Rule 44.25

Rule 44.25(3) states that: "*the Director may impose requirements as to the performance of a survey*" and rule 44.25(4) states that "*when undertaking any survey, the surveyor must comply with any requirements imposed by the Director as to the performance of a survey*".

1.2 40-series rules

Maritime Rules 40A.9, 40C.9, 40D.9 and 40E.7 relating to ship construction require that, for all ships: *"The construction of a ship must provide strength for the safe operation of the ship and to withstand the sea and weather conditions likely to be encountered in the intended area of operation, assuming that the ship is operated at its service draught and driven prudently at its maximum service speed"*.

In effect those rules (in combination with others) enable an existing ship that has previously been certified as meeting the above standard to have its certification renewed if, following a structural survey of the ship, a recognised surveyor is satisfied that the ship continues to meet the standard.

1.3 Rule 44.41

Amongst other things, Rule 44.41(2) requires that for a surveyor to issue a certificate of survey for an existing ship, the surveyor must be satisfied that:

a) the hull, superstructure, decks, and valves of the ship are sound and serviceable

b) the steering gear and propulsion system of the ship, if applicable, are sound and serviceable

c) the ship and the ship's equipment are in all respects fit for their intended use and operating limits and meet all applicable maritime rules and marine protection rules.

2. Application

In combination, the 40-series rules and rule 44.41(2) provide an outcome-based standard for the construction of a ship. The scope of periodic (intermediate and renewal) surveys of ship construction covers surveying of the hull, decks, superstructure, machinery and equipment for strength, watertightness, weathertightness, buoyancy and stability.

These SPRs apply to periodic surveys of the hull, decks, superstructure, machinery and equipment of all steel and aluminium-hulled ships.

Recognised surveyors must comply with these SPRs when undertaking such a survey and producing the associated survey report. The SPRs do not include a detailed specification of each test, but expect the surveyor to be capable of performing the tests indicated.

Maritime Rules Part 47: Load Lines includes prescriptive requirements for renewal surveys, focusing on markings and conditions of assignment (specifying requirements relating to sills, coamings, scuppers, discharge and exhaust pipes, freeing port arrangements and other watertightness and buoyancy matters).

As with other prescriptive requirements in the rules, the prescriptive requirements of Part 47 are not included in these SPRs but must be referred to when undertaking a survey of relevant scope.

3. Survey performance requirements

3.1 General

When surveying the hull, deck and superstructure 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 the most recent relevant survey report as references for identifying unapproved changes, and new or unresolved defects.
3. In the event that an unapproved modification[1] is identified, ensure it is referred for approval to an appropriately recognised surveyor and that the outcome of the referral is recorded in the survey report.
4. Investigate and follow up all cracks, fractures and corrosion in hull, keel and integral fuel tanks plating to identify structural weaknesses, using a suitable testing method where visual inspection indicates substantive risk.
5. When checking that the vessel remains fit for purpose with regards to stability, take into consideration:
    - wave height in the operating areas, 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.
6. Ensure that the survey plan approved by the surveyor includes:
    - an out-of-water survey of the hull, including stripping of through-hull valves, not less frequently than once every five years
    - for ships more than 10 years old, perform extensive sample testing for evidence of wastage, cracks or fractures of the hull plate and welds, and inspection of the condition of internal tanks, not less frequently than once every five years
    - where applicable, full inspection of the sailing rig by a suitably qualified person, not less frequently than once every five years
    - inspection of bilge compartments, lockers, storage places and other voids not less frequently than once every five years.
7. 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.

[1] 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.

3.2 Exterior hull

To the extent that the elements are covered by the survey plan, when surveying the exterior hull and fittings, the surveyor must:

8. Inspect for hull profile distortion or deformation, and identify causes as applicable.

9. Inspect above and below the waterline for cracks, damage or corrosion that is causing structural weaknesses or wastage.

10. Inspect the adequacy of the antifouling and metal protection coating systems, including the secureness, operation and likely lifetime of any sacrificial anodes.

11. Inspect external ballast for signs of corrosion or other deterioration on the ballast or fastenings and for secureness on the hull.

12. As applicable, inspect the outboard motor mounting for cracks, excessive movement, distortion of the transom, and the sufficiency, tightness and condition of the motor-securing bolts. Also inspect surrounding structure for damage or corrosion.

13. Inspect the secureness of installation and the sealing of the portlights, the fastenings and the suitability of the materials used.

14. Inspect all inlets, discharges (including garbage chutes), bow thruster tubes, scuppers, vents, exhausts and outlets for watertightness and weathertightness, and for compliance with any conditions of assignment. Check effectiveness of valves and seacocks.

15. When surveying the hull out of water:

    - inspect that any sea chests are clear of marine growth and that grills, grates and roses will allow water to pass through, and that fastenings are sound
    - inspect the fittings related to the propulsion and steering systems for secureness and watertightness
    - inspect the functional condition of valves and seacocks in their dismantled state
    - inspect the external ballast for looseness corrosion and cracks, and remove the ballast where there is evidence of deterioration of its secureness to the hull.

3.3 Hull interior

To the extent that the elements are covered by the survey plan, when surveying the interior hull and fittings, the surveyor must:

16. Inspect interior hull surfaces for cracks, damage, and corrosion causing structural weaknesses or wastage and where the surfaces are covered by linings inspect beneath the linings by sample removal or intrusion through the lining, to an extent determined by the nature of the lining and other indications of risk to the condition of the hull.

17. Inspect internal bilge compartments for damage, cracks, corrosion and indications of oil and water in the bilges. Check for blockages to drainage holes.

18. Inspect lockers, storage places and other voids for cracks, damage, corrosion causing structural weaknesses or wastage.

19. Inspect internal bulkheads and partitions for cracks, damage, corrosion causing structural weaknesses or wastage.

20. Inspect and test hinge and securing mechanisms of internal access doors.

21. Inspect areas around deck hatches for cracks, damage, and leakage, including the condition and operation of securing dogs, gaskets and hatch drains.

22. Inspect engine and gearbox mountings (jet unit or other inboard engines) for movement, damage and excessive wear, including for damage where secured to the hull.

23. For water-jet powered ships, inspect hull plating around the intake strainer and mounting flange for impact damage, cracks, damage or corrosion that is causing structural weaknesses or wastage or water ingress.

24. For stern drive and surface drive ships, inspect the drive mountings supporting structures and joins and fastening bolts for cracks, damage, and corrosion causing structural weaknesses or wastage, and water ingress.

25. As applicable, inspect stern tubes, shaft log and rubber tube mountings and surrounding structures for corrosion and leakage.

26. Inspect the installation and seal of portlights in the hull, for secureness, watertightness and weathertightness. Include checking the effectiveness of portlight and deadlight dogs, and ready access to deadlights or blanks.

27. As applicable, inspect where posts, towing bollards or masts are secured to the hull, for damage, loose fittings, and secureness of bonding to strength members. Also check their entry through the deck for watertightness.

3.4 Decks and superstructure

To the extent that the elements are covered by the survey plan, when surveying the decks, superstructure and fittings, the surveyor must:

28. Inspect for distortion or deformation of cabin and superstructure profile.

29. Inspect deck for corrosion, damage, and cracks that affect deck integrity or allow water egress to the hull interior. Also check surface of deck and any cockpit sole for slip resistance.

30. Inspect the water-freeing arrangements (including the operation and effects of covers, grids and flaps on water freeing) and compliance with design approval and any conditions of assignment. As applicable, check cockpit drains and duckbill drains for effectiveness.

31. Inspect the anchor winch mounting structure for movement (by running the anchor winch motor and gypsy) and wear and tear on hull plating in impact zone.

32. Test secureness of guardrail and handrail mountings. Check through-bolts for tightness, and area around stanchions for cracking, corrosion and watertightness. Where flexible wires are used as lifelines, check the condition and tightness of siblings.

33. Inspect windows, skylights and screens for secureness and weathertightness, including the suitability and effectiveness of shutters, deadlights and stormcovers, as applicable.

34. Inspect all watertight and weathertight doors and sills for effectiveness and compliance with any conditions of assignment. Check doors and surrounding structures for damage, condition of the door seals, hinges, latches and securing dogs for watertightness or weathertightness, as applicable.

35. Inspect all deck hatch covers, coamings, gaskets and securing mechanisms for watertightness or weathertightness, as applicable, and for compliance with any conditions of assignment. Test the locking mechanisms and check the hatch drains.

36. Inspect all air pipes, ducts and ventilators for compliance with height and coaming requirements in rules and any conditions of assignment. Check closure mechanisms, seals and fastenings for weathertightness.

37. Inspect machinery space openings for robustness of casings, and compliance of sill heights with any conditions of assignment.

38. Inspect manholes for adequacy of openings, weathertightness of covers and fastening mechanism, and compliance with any conditions of assignment.

39. Inspect spurling pipe closures for weathertightness and compliance with any conditions of assignment. Inspect chain lockers for effective drainage.

40. Inspect all internal access doors for their operation and secureness of attachment.

41. Inspect all deck and superstructure ladders, for the safety of their tread and their fastenings to the ship structure.

3.5 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:

42. Findings from the survey of each survey element referred to in all relevant maritime rule and these SPRs.

43. A description of all deficiencies (new or historical) identified during the course of the survey, and the corrective actions required (including the timeframe for completion) that must be taken by the operator or owner for the ship to gain or retain a valid certificate of survey.

44. 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.