

Survey performance requirements

Design approval surveys



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

A handwritten signature in black ink, consisting of a stylized 'K' and 'M' followed by a period.

Keith Manch

Director of Maritime New Zealand

Survey performance requirements for design approval surveys

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In this guide

1.	Basis in maritime rules	2
1.1	Rule 44.25	2
1.2	40-series rules	2
1.3	Rule 44 Appendices 1.1.2(a) and 1.1.3(d)	2
2.	Application	3
3.	Survey performance requirements	4

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 Rule Parts 40A, 40C, 40D and 40E relating to ship design and construction require that (with some exceptions) a new ship must have design approval of a surveyor recognised by the Director for that purpose, before being first issued with a certificate of survey.

The same rules require that a surveyor issuing design approval must be satisfied that the construction of the ship will 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.*”

The practical effect of the rules is that, when determining whether a new ship is suitable for design approval, the recognised surveyor may survey a ships design by either.

- a) referring to a relevant certification standard of one of the nominated classification societies or one of the Australian Government marine safety authorities or
- b) using fundamental nautical structure design principles and analysis.

For these rules, “*Ship’s design includes the ship’s structural integrity, watertightness and weathertightness, safe means of egress and access, intact stability and reserve of buoyancy, the ship’s compliance with any damage stability and buoyancy requirements, and the provision of machinery and other installed systems and equipment necessary for the safe working of the ship.*”

1.3 Rule 44 Appendices 1.1.2(a) and 1.1.3(d)

Appendix 1.1.2(a) requires that each initial survey portfolio must include: “a design report that includes the ship’s design and all necessary drawings and specifications required to build a ship under survey to verify that the ship is fit in all respects for its intended service and operating limits and satisfies all applicable maritime rules and marine protection rules.”

Appendix 1.1.3(d) requires that each report for the initial survey portfolio must include “a statement from the person who completed the report attesting to the fact that the ship is in all respects fit for its intended service and meets all relevant maritime safety and maritime protection rules.”

2. Application

These design approval SPRs apply to surveys of ship design features included in the definition of ship's design in the 40 series rules. Refer above.

Recognised surveyors (ie design approval (DA) surveyors) must comply with these SPRs when undertaking a relevant design approval survey, and producing the associated design report.

Survey standards and requirements relating to design approval of electrical systems are determined by separate rules and requirements.

Unless otherwise stated, reference to 'the surveyor' in this SPR is the surveyor performing the design approval survey.

3. Survey performance requirements

Whenever a surveyor undertakes a design survey for the purpose of providing design approval and issuing a design report as specified in Maritime Rule Part 44 Appendix 1.1.2(a), the surveyor must approve a set of critical specifications for subsequent surveys, and include in the design report:

1. The approved critical specifications (materials and dimensions) of all strength members, including plate and transom where applicable; of the ship.
2. The approved minimum critical specifications (or maximum allowable diminution from original dimension) of each strength member of the ship.
3. The approved minimum specifications (or maximum allowable diminution from original dimension) of the ship's propulsion shafts, rudderstocks and rudder pintles.
4. All construction materials or techniques (eg materials specification, weld details and schedules, resin/fibre ratios, fibre types and orientation) important to the structural strength of the ship.
5. The approved dimensions and closure mechanisms for all watertight and weathertight closures on the ship.
6. The approved dimensions and positions of water freeing arrangements of the ship.
7. The approved bilge drainage (pumping, piping and alarm) arrangements of the ship.
8. The approved positions and dimensions of all the ship's inlets and discharges (including through-deck scuppers; sea chests; overboard valves) and any watertight bulkhead penetrations.
9. The approved locations and dimensions of all means of crew and passenger egress and access.
10. The approved fixed safety equipment for the ship, relative to its intended scope of certification.
11. The specifications or power output limits of the main engines, gearboxes, shafts and propellers approved for the ship.
12. The specifications of the steering gear and associated control systems.
13. The specifications of any lifting device/appliance and its designed location.
14. The design waterline and the calculations used to derive it.
15. All features of the ship affecting stability, intact stability and reserve buoyancy, and damage stability and buoyancy (including load line and tonnage).

The design report must also include a general arrangement plan showing the principal structural elements of the ship, and drawings showing typical transverse and longitudinal sections of the ship.

When determining what, if any, operating restrictions are applicable to the ship's design, the surveyor must give specific consideration to: wave height/speed restrictions; deck loading pressures; loading stability restrictions; door locking while at sea; and the potential role of fuel storage in ship stability.

Where design approval is being issued as a result of the design being certified by the surveyor as

conforming to a class society or AMSA¹-approved standard, the surveyor may reference the relevant specifications of the standard concerned in the design report. However, in all cases, the records of the approved design features must provide a comprehensive reference for subsequent in-construction, initial and periodic surveys.

The SPRs do not replace or reduce any responsibility the surveyor has under the rules. Therefore the surveyor must also include in the design report notes related to compliance with all the applicable maritime and marine protection rules.

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.

¹ Australian Maritime Safety Authority