

Advisory Circular

ISSUE NO 46-3, 26 APRIL 2007

PART 46 SURVEYS, CERTIFICATION AND MAINTENANCE

1.1 General

Maritime Safety Authority Advisory Circulars are designed to give you assistance and explanations about the standards and requirements set out in the rules. However, the notes contained in Advisory Circulars should not be treated as a substitute for the rules themselves, which are the law.

When a number such as 46.4 is referred to, this is a reference to a specific rule within Part 46.

Section 1 - SOLAS and Non-restricted Limit Ships of 45 metres or more in Length

1.2 Definitions

In the definition of a New Zealand ship it should be noted that a ship which would be entitled to be registered under the Ship Registration Act 1992, but is registered in another country party to SOLAS 74, is to be treated as a foreign ship for the purposes of Part 46.

1.3 Survey and Certification Responsibilities

This section reflects the Director's responsibilities (as the Administration) under SOLAS 74 for surveys undertaken in respect of New Zealand ships and the issue of certificates to those ships. The following classification societies have entered into a memorandum of agreement with the Director and are "authorised organisations" for the purposes of this section:

American Bureau of Shipping
Bureau Veritas
Det Norske Veritas
Germanischer Lloyd
Lloyd's Register of Shipping

This will also be the case in respect of the survey and issue of the New Zealand Ship Safety Certificate to non-SOLAS ships to which this section applies.

1.4 Other Surveys

Apart from the surveys prescribed in this Part ships, to which this section applies, will also be subject to load line survey in accordance with Part 47 and surveys in respect of the marine pollution provisions of the marine protection rules including, for oil tankers, the enhanced surveys required by Part 101A.

1.5 Harmonised System of Survey and Certification

The rules relating to all surveys are such that their periodicity is consistent and thus the different surveys may be carried out at the same time. This is consistent with acceptance of the International Conference on the Harmonisation System of Survey and Certification 1988 and early implementation of the 1988 SOLAS Protocol and 1988 Load line Protocol as requested by the IMO Assembly resolution A 718(17) adopted on 6 November 1991. The periodicity of surveys in this Part and form of SOLAS certificates shown in the appendices to this Part reflect this implementation.

The harmonised system, a diagrammatic arrangement of which is given in the Appendix to this Advisory Circular, provides for:

- (a) one-year standard interval between surveys, based on initial, annual, intermediate, periodical and renewal surveys, as appropriate;
- (b) scheme for providing the necessary flexibility for the execution of each survey with the provision that:
 - (i) the renewal survey may be completed within 3 months before the expiry date of the existing certificate with no loss of its period of validity;
 - (ii) there is a "time-window" of 6 months - from 3 months before to 3 months after the anniversary date of the certificate for annual, intermediate and periodical surveys;
- (c) maximum period of validity of five years for all certificates for non-passenger ships;
- (d) maximum period of validity of 12 months for the Passenger Ship safety Certificate;
- (e) system for the extension of certificates limited to three months to enable a ship to complete its voyage;
- (f) the period of validity of the new certificate starting from the expiry date of the existing certificate before its extension, when an extension has been granted;
- (g) For non-passenger ships a flexible system for inspection of the outside of the ship's bottom on the following conditions:
 - (i) a minimum of two inspections during any five-year period;
 - (ii) the interval between any two such inspections must not exceed 36 months;
- (h) Provision for a Cargo Ship Safety Certificate, as an alternative to separate Cargo ship Safety Construction, Cargo Ship Safety Equipment and Cargo Ship Safety Radio Certificates;
- (i) A flexible system concerning the frequency and the period of validity of certificates, provided that the minimum pattern of surveys is maintained.

For New Zealand non-passenger SOLAS ships it has been decided that they should be issued with the single cargo ship safety certificate rather than three separate certificates for the construction, safety equipment and radio.

The types of surveys used in the harmonised system are as follows:

An initial survey which is a complete inspection before a ship is put into service of all the items relating to a particular certificate to ensure that the relevant requirements are complied with and that these items are satisfactory for the service for which the ship is intended;

A periodical survey which is an inspection of the items relating to the particular certificate to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended;

A renewal survey which is the same as a periodical survey but also leads to the issue of a new certificate;

An *intermediate survey* which is an inspection of specified items relevant to the particular certificate to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended;

An *annual survey* which is a general inspection of the items relating to a particular certificate to ensure that they have been maintained and remain satisfactory for the service for which the ship is intended;

An *inspection of the outside of the ship's bottom* which is an inspection of the underwater part of the ship and related items to ensure that they are in a satisfactory condition and fit for the service for which the ship is intended;

An *additional survey* which is an inspection, either general or partial according to the circumstances, to be made after a repair resulting from investigations or whenever any important repairs or renewals are made.

1.6 Introduction of Harmonised System for Particular Ship

On or after the date of the coming into force of this Part (1 February 1998) the introduction of the harmonised system of survey and certification for a particular New Zealand ship is to be the expiry date of the Cargo Ship Safety Construction Certificate. Notwithstanding that other certificates may still be in force on that date, renewal surveys are to be carried out whether or not they are due and the ship issued with a new set of the relevant certificates. The Director may however give consideration to accepting renewal surveys that have been carried out within three months of the date of the coming into force of Part 46.

1.7 Survey Guidelines

IMO Assembly resolution A 746(18) "Survey Guidelines under the Harmonised System of Survey and Certification" provides detailed guidelines for the different surveys required by this Part.

These guidelines may also be used, as appropriate, for the survey of non-SOLAS ships to which Section 1 of Part 46 applies.

1.8 Inspection of the Outside of the Ship's Bottom

Inspections of the outside of the ship's bottom with the ship afloat should only be carried out where the following conditions are complied with:

- (a) Extended periods between drydocking should only be accepted where the classification society, to whose surveyors the Director has delegated his authority, is satisfied that suitable protection is applied to the ships underwater portion of the hull;
- (b) In-water inspections should only be carried out when the conditions are satisfactory and the proper equipment and suitably trained staff are available;
- (c) The Directors approval must be obtained before ships of 15 years of age and over are permitted to have in-water surveys in lieu of dry docking.

Section 2 - Restricted Limit Ships, Fishing ships and Ships of less than 45 metres in length which are not required to comply with Section 1

1.9 Inspections and Maintenance

Inspection of the hull and external fittings below the waterline should be carried out after the hull has been cleaned and before it is re-painted. The rudders, pintles etc. and propellers should be examined together with visible parts of the rudder stock and propeller shaft. The condition of anodes should be carefully noted.

The maintenance plan should provide for the inspection, opening up and withdrawal, as the case may be, of all valves, cocks and other skin fittings over the four year/five year period covered by the plan.

Records of all inspections, opening up and withdrawal of valves, cocks and other skin fittings and any withdrawal of fastenings in wooden hulls, thickness testing of steel/ aluminium alloy and testing for delamination or other defects of fibre reinforced plastic hulls, are to be maintained.

1.10 Maintenance of Radio Installations

The radio installations required by the maritime rules are to be maintained and tested at sea as required by Part 43 of the maritime rules. The radio installation is to be inspected and tested in accordance with the requirements of rule 43.6(2) and (3). For fishing ships which are assigned unlimited operating limits the radio installation is to be surveyed by a radio surveyor when it is installed and then annually. For other ships the radio installation is to be inspected by a radio inspector when it is installed and at 4 yearly intervals. Between such inspections each radio installation is to be serviced, maintained and tested within the safe ship management system. All servicing, surveys, inspections and tests of a radio are to be recorded as part of the ship's maintenance plan.

1.11 Safe Ship Management Certificate Renewal Inspections

Rule 46.17 stipulates the "out of water" inspections required for a ship operating in a safe ship management system approved under Section 2 of Part 21 of the maritime rules. Rule 21.13(7)(a) requires that the New Zealand Safe Ship Management Certificate not be renewed unless a surveyor confirms that a ship and its equipment have been maintained and remain fit for their intended purpose. The organisation operating the safe ship management system should therefore plan for the surveyor to participate in the "out of water" inspection and shaft inspections coinciding with the end of the maintenance plan period and renewal of the certificate.

1.12 Rule 46.20

Rule 46.20 applies to New Zealand foreign going non-passenger ships which are not SOLAS ships and are less than 45 metres in length, thus are not subject to the requirements of section 1 of both this Part and Part 21 of the maritime rules. Where such a ship wishes to make an international voyage or voyages the owner will need to apply to the Director for a certificate attesting to its fitness for such voyages. The intent of this requirement is to ensure that such ships carry documentation that can be recognised and/or accepted by administrations of foreign ports visited.

Any such ship which is making regular foreign voyages may be limited as to an approved ship safety management system it may join. The determination of the ships fitness for foreign voyages and issuance of the certificate may be delegated by the Director.

Section 5 - Surveyors

1.13 Recognition as a surveyor

Rule 46.29 provides that the Director may recognise any suitably qualified person as a surveyor by issuing a maritime document in accordance with section 41 of the Maritime Transport Act 1994. The maritime document issued will prescribe the extent and type of surveys that may that may be undertaken by the surveyor to whom that maritime document is issued. This Advisory Circular outlines the types of surveys and limitations that it is envisaged will be applied.

Rule 46.29 further states that recognition as a surveyor is conditional on the Director being satisfied that the person has the appropriate technical qualifications and experience to undertake the surveys prescribed on the maritime document. This Advisory Circular provides a guide to the technical qualifications and practical experience that the Director may consider appropriate for recognition of a person to undertake a particular type of survey. However, in every case an individual applicant's qualifications and experience will be assessed and equivalents taken into account.

Another requirement of rule 46.29 is that the surveyor is employed within a quality assurance system for the survey of ships certified by a recognised accreditation body. Those bodies recognised by the Director are those certification bodies accredited by the Joint Accreditation Scheme for Australia and New Zealand (JASANZ).

Persons wishing to be considered as a surveyor may obtain an application form from the Manager, Safety Management Systems, Maritime Operations Division, Maritime New Zealand, P.O. Box 27006, Wellington.

It should be noted that any recognition under rule 46.29 as a surveyor to undertake surveys of any type of ship, prior to the ships entry into a safe ship management system, will only be for a surveyor who is to take full responsibility for that survey and the issue of the certificate required by rule 21.13(2)(a).

Annex 1 Types of Survey and Limitations

Types of Survey

1. Recognition as a surveyor may be for one or more of the following types of survey of ships to which Section 2 of Part 21 of the maritime rules apply namely; restricted limit ships, fishing ships, and other ships of less than 45 metres in length which proceed beyond restricted limits other than SOLAS ships:
 - (a) survey prior to entry to safe ship management system and issue of certificate in accordance with rule 21.13(7).
 - (b) survey for the renewal of a safe ship management certificate in accordance with rule 21.13(11).
 - (c) survey for the issue of a new certificate in accordance with rule 21.13(19) where major modifications, repair or change in the ships operating limits or passenger numbers occur or the SSM Certificate has been revoked.
2. Recognition as a surveyor may be for one or more of the following design related approvals detailed in the Part 40 series of rules relating to the design, construction and equipment of ships, or computation of freeboards and tonnage:
 - (a) approval of the ship's design.
 - (b) conducting an inclining test and preparing stability information for the ship.
 - (c) conducting an inclining test.
 - (d) assignment of freeboards to ships and barges in accordance with Part 47 of the maritime rules.
 - (e) calculation of tonnage in accordance with Part 48 of the maritime rules.
3. Recognition as a surveyor may be for one or more of the following miscellaneous surveys:
 - (a) survey of a foreign non-SOLAS ship which does not have certificates that can be recognised by the Director.
 - (b) initial survey and certificate renewal survey of a barge in accordance with rule 46.23.
 - (c) Load line surveys of ships to which Section 1 of Part 21 of the maritime rules does not apply, in accordance with Part 47 of the maritime rules.
 - (d) Load line surveys of barges in accordance with Part 47 of the maritime rules.
 - (e) inspection of ships carrying livestock in accordance with Section 4 of Part 24C of the maritime rules.

Limitations

1. For surveys of the ship and ship design approval limitation may be placed on the material of construction.
2. For surveys of the ship a limitation may be placed on the size of the main propulsion machinery.
3. For ship design approval limitation may be placed on the type of ship and size.
4. For conducting inclining tests or preparing stability information a limitation may be placed on the type or size of ship or number of persons carried.

Annex 2 Qualifications and Experience

1. Persons recognised as surveyors must be proficient in reading, writing and communicating in the English language.
2. The following qualifications are those that persons seeking recognition as surveyors might be expected to have obtained:
 - A. Marine Engineer
 - (i) Marine Engineer Class 1
 - (ii) Marine Engineer Class 2
 - (iii) First Class Diesel Trawler Engineer
 - B. Naval Architect/Shipbuilder
 - (i) Degree in Naval Architecture
 - (ii) Higher National Diploma/Certificate in Naval Architecture
 - C. Boatbuilders
 - (i) Advanced Trade Certificate
 - D. Deck Officers
 - (i) Master of a Foreign Going Ship
 - E. Yacht Designer
3. In addition to the qualifications listed above persons seeking recognition as surveyors should have the following practical experience:
 - (a) Naval Architect/Shipbuilder [B(i)] - at least 3 years postgraduate experience in shipbuilding/boatbuilding environment.
 - (b) Naval Architect/Shipbuilder [B(ii)] - formal apprenticeship in shipbuilding/boatbuilding environment.
 - (c) Boatbuilder [C(i) and C(ii)] - formal apprenticeship in boatbuilding.
 - (d) Yacht Designer [E] - at least 5 years experience as a partner or sole member of a consultancy having a proven record of design of sailing ships for which recognition is sought.

Every person seeking recognition as a surveyor to carry out ship surveys and inspections should have 'on the job' training under the supervision of persons already recognised as surveyors for such surveys. The nature and period of the 'on the job' training should be documented and should include details of any supplementary training or study undertaken in respect of specific materials of construction for which recognition is sought. Surveyors of new construction in steel or aluminium alloy should have successfully completed a course in welding technology acceptable to the Director for that purpose and passed any examination associated with the course.

Information supplied with an application for recognition should be as comprehensive as possible in respect of the applicant's experience of materials and methods of construction particularly where training has not been undertaken in appropriate ship or boatbuilding establishments.

4. For the surveys listed surveyors are expected to have the qualifications and experience given in the following tables.

Survey/Ship	Operating Limits (not beyond)	Qualifications and Experience
Design Approval¹		
<i>Category D.1</i>		
Fishing ship	Unlimited	B(i)(ship) A(i)(machinery)
<i>Category D.2</i>		
Fishing ship (less than 75 metres in length)	Unlimited	B(i), B(ii), (ship)

Passenger ship (less than 45 metres)	Offshore	A(i),(machinery)
Non-passenger ship (less than 500 gross tons)	Unlimited	
Non-passenger ship (less than 45 metres)	Offshore	
Barge	Unlimited	
<i>Category D.3</i>		
Fishing ship (less than 24 metres)	Coastal	B(i), B(ii), A(i) ² , D(i) ²
Passenger ship (less than 50 passengers)	Restricted limits	
Non-passenger ship (less than 24 metres)	Restricted coastal	
Barge (less than 30 metres)	Coastal	
<i>Category D.4</i>		
Sailing ship (less than 24 metres)	Restricted Coastal	B(i), B(ii), E
Assignment of Freeboard		
<i>Category L.1</i>		
Ships and Barges of 24 metres or more in length		B(i), B(ii).
<i>Category L.2</i>		
Ships of less than 24 metres in length		B(i), B(ii), A(i), D(i)
Tonnage Computation		
<i>Category T.1</i>		
Tonnage Computation		B(i), B(ii), A(i) ² , D(i) ²
Stability		
<i>Category Stab.1</i>		
Fishing ship of 12 metres or more ⁴		B(i), B(ii), A(i) ² , D(i) ²
Non-passenger ship (less 45 metres) designed to carry deck cargoes	Offshore	
<i>Category Stab.2</i>		
Fishing ship (less than 12 metres) ⁵		B(i), B(ii), A(i), A(ii), C(i), D(i).
<i>Category Stab.3</i>		
Passenger ship (less than 45 metres carrying 50 or more passengers) ⁶	Coastal	B(i), B(ii).
Passenger ship (less than 45 metres) ⁶	Beyond Coastal	
Any ship (more than 45 metres) ⁴	Restricted limits	
<i>Category Stab.4</i>		
Any ship (less than 45 metres) ⁵	Restricted Coastal	B(i), B(ii), A(i), A(ii) C(i), D(i).

Notes !

¹ Design approval means an evaluation of the design and proposed construction of the ship to establish that it is seaworthy and safe for the purposes for which it is intended and is in compliance with the applicable maritime and marine protection rules.

² Person must have undertaken a formal course of instruction in naval architecture recognised by the Director and 5 years experience of providing naval architectural services for the class of ship for which recognition is sought.

³ For wood and FRP hulls only.

⁴ Ship to be subjected to inclining test and determination of stability data in accordance with the relevant rules.

⁵ Ship subjected to inclining test only as prescribed by rules.

⁶ Ship subjected to inclining test, determination of static and damage stability data and subdivision calculations as required by rules.

Survey/Ship	Operating Limits (not beyond)	Qualifications and Experience
<u>Initial Survey and Renewal of SSM Certificate</u>		
<i>Category S.1</i>		
Fishing ship	Unlimited	A(i) + At least 5 years survey experience on vessels of between 24 metres and 45 metres or at least 5 years experience as a Chief Engineer on board SOLAS ships
Passenger ship (less than 45 metres)	Offshore	
Passenger ship (45 metres or more)	Restricted limits	
Non-passenger ship (less than 500 grt)	Unlimited	
Non-passenger ship (45 metres or more)	Restricted limits	
<i>Category S.2</i>		
Fishing ship (less than 45 metres)	Offshore	A(i), A(ii) Surveyors with A(ii) qualification must have at least 5 years experience as a First Engineer on board SOLAS ships or at least 5 years experience surveying 12 to 24 metre vessels
Passenger ship (less than 45 metres)	Restricted limits	
Non-passenger ship (less than 45 metres)	Offshore	
<i>Category S.3</i>		
All ships (12 metres to less than 24 metres)	Coastal limits	A(i), A(ii), A(iii), C(i) ⁷ , D(i) ²
Category S.4 All ships (9 metres to 12 metres)	Restricted Coastal limits	A(i), A(ii), C(i) ⁸ , D(i) ²
Category S.5 All ships (less than 9 metres)	Restricted Coastal limits	A(i), A(ii), C(i) ⁹ , D(i) ²
<u>Load Line Survey</u>		
<i>Category LL.1</i>		
Ships (less than 45 metres)	Offshore	A(i), B(i), B(ii), D(i)
Any ship	Restricted limits	
Barges (24 metres or more)	Offshore	
<u>Foreign Ship</u>		
Foreign Non-SOLAS ship not having certificates recognised by Director	Offshore	A(i)

Notes!

² Person not holding recognised marine engineering qualification but having practical experience with installed marine diesel engines, electrical systems, pumping systems etc. and has successfully

undertaken an oral examination conducted by an independent examiner approved by the Director for that purpose. The content of the oral examination shall be determined by the Director.

³ Wood and FRP hulls only.

⁴ Ship to be subjected to inclining test and determination of stability data in accordance with the relevant rules.

⁵ Ship subjected to inclining test only as prescribed by rules.

⁶ Ship subjected to inclining test, determination of static and damage stability data and subdivision calculations as required by rules.

⁷ Holders of C(i) qualification in this category must have at least 15 years boat building experience having been involved in the building of at least 8 boats, of that hull material, in this time. Must have been continuously employed in this profession and must have spent at least 5 of those 15 years as a Foreman or similar position of responsibility. Recognition will be given to the largest boat built.

⁸ Holders of C(i) qualification in this category must have at least 10 years boat building experience having been involved in the building of at least 8 boats, of that material, in this time and must have spent at least 5 of those 10 years as a Foreman or similar position of responsibility.

⁹ Holders of C(i) qualification in this category must have at least 10 years boat building experience having been involved in the building of at least 10 boats, of that material, in this time and must have spent at least 5 years as Foreman or similar position of responsibility. Boats built must have a history of at least 5 years in service.

For all Aluminium and Steel new builds the applicant must be in possession of a welding certificate or certificate of attendance at a welding course recognised by the Director.

Holders of any recognition under this Category who wish to expand the recognition to other hull materials must hold at least 5 years survey experience and have completed at least 3 new builds and 6 inspections required by rule 46.17(b), under the supervision of a recognised surveyor, with that hull material before applying for expansion of recognition.

The Director may use the peer review process for surveyor recognition. The composition of the peer review group will be decided by the Director.

Survey/Ship	Operating Limits (not beyond)	Qualifications and Experience
Initial and Certificate Renewal		
Survey of Barges		
<i>Category B.1</i>		
Barges	Unlimited	A(i), B(i), B(ii)
<i>Category B.2</i>		
Barges	Coastal	A(i), A(ii), B(i), B(ii), D(i)

Survey/Ship	Operating Limits (not beyond)	Qualifications and Experience
Carriage of Livestock		
Any ship fitted to carry livestock	Unlimited	A(i), D(i).

APPENDIX

THE HARMONIZED SYSTEM OF SURVEY AND CERTIFICATION

Diagrammatic Arrangement

Years	0	1	2	3	4	5
Months	0	9 12 15	21 24 27	33 36 39	45 48 51	57 60
PASSENGER		←R→	←R→	←R→	←R→	←R→
SEC		←A→	←A or P→	←P or A→	←A→	←R→
RADIO		←P→	←P→	←P→	←P→	←R→
SAFCON		←A→	←A or I→	←I or A→	←A→	←R→
IGC/GC		←A→	←A or I→	←I or A→	←A→	←R→
IBC/BCH		←A→	←A or I→	←I or A→	←A→	←R→
LOADLINE		←A→	←A→	←A→	←A→	←R→
MARPOL ANNEX I		←A→	←A or I→	←I or A→	←A→	←R→
MARPOL ANNEX II		←A→	←A or I→	←I or A→	←A→	←R→

Code for types of survey:

R—Renewal

P—Periodical

I—Intermediate

A—Annual

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