

Classification

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and applicable Amendments thereto, the applicable Convention Certificates are to be issued by a National Administration, or by H.R.S. or by an Organization recognized by EU, when so authorized. Safety Management Certificates in accordance with the provisions of the International Safety Management Code (ISM Code) may be issued by an organization complying with IMO Resolution A.739(18) and authorized by the National Authority with which the ship is registered. Cargo Ship Radio Certificates may be issued by an organization authorized by the National Authority with which the ship is registered or by H.R.S..

3.4 Failure to comply with the Rules

3.4.1 The Society reserves the right to refuse or to withdraw the Class of any ship for which any requirement applicable under the present Rules is not complied with.

3.5 Advice of H.R.S. for Port State Control

3.5.1 When a ship has been detained by Port State Control the Owner is to advise HRS Head Office immediately ~~for a surveyor to attend.~~ Failure to adhere to this obligation may lead to class suspension.

~~3.5.13.5.2~~ When a ship has been inspected by PSC and deficiencies have been found, the owners are to advise H.R.S. H.O. as soon as possible for an assessment to be made of the deficiencies recorded and to determine if further action is to be taken by H.R.S..

~~3.5.23.5.3~~ When a ship has been inspected by Port State Control and ~~detainable~~ no deficiencies have ~~not~~ been found, the owner is requested to advise H.R.S. Head Office ~~immediately~~ accordingly, for recording purposes.

~~3.5.33.5.4~~ Owners should not oppose to Port State Control Inspectors, or EU Commission inspectors, for vessels falling in the scope of EU Regulations if requested to board and inspect the Vessel. Failure to allow reasonable access to the inspectors may lead to class suspension.

SECTION 4 Procedure for Classification of ships built or converted under H.R.S. supervision and in accordance with H.R.S. Rules

4.1 Application by the Owner

4.1.1 The application for Classification is to be submitted to H.R.S. in writing by the Owner or by his appointed representative. In case of change of ownership, the new Owner or his appointed representative must immediately inform H.R.S. accordingly declaring also in writing his willingness to maintain the ship in Class.

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- (3) has satisfied itself that the vessel is in condition to sail for one trip to a discharge port and subsequent ballast voyage to a repair facility if necessary. (Where there is unforeseen inability of the Society to attend the vessel in the present port, the master is to confirm that his ship is in condition to sail to the nearest port of call.)

If class has already been automatically suspended in such cases, it may be reinstated subject to the conditions prescribed in this paragraph.

8.3.2 Suspension and reinstatement of class in the case of overdue recommendations / conditions of class

8.3.2.1 Each recommendation / condition of class will be assigned a due date for completion. Owners will be notified of these dates and that the vessel's class will be subject to a suspension procedure if the item is not dealt with, or postponed by agreement, by the due date.

8.3.2.2 Classification will be reinstated upon verification that the overdue recommendation / condition of class has been satisfactorily dealt with. However, the vessel is to be disclassified from the date of suspension until the date class is reinstated.

~~8.3.2.2~~8.3.3 The class of a ship may be suspended, at the discretion of the Technical Council, when fees which are due to Classification and other Surveys have not been settled by the Owners or Managers.

~~8.3.3~~8.3.4 _____ Suspension and reinstatement of class of dual classed vessels

~~8.3.3.1~~8.3.4.1 _____ When a vessel is dual classed and in the event that one of the Societies involved takes action to suspend the class of the vessel for technical reasons, the Society concerned will advise the other Society of the reasons for such action and the full circumstances within five (5) working days.

~~8.3.3.2~~8.3.4.2 _____ The other Society will, upon receipt of this advice, also suspend the class of the vessel, unless it can otherwise document that such suspension is incorrect.

~~8.3.3.3~~8.3.4.3 _____ When either Society decides to reinstate class, it is to inform the other Society.

~~8.3.4~~8.3.5 _____ Withdrawal of class

~~8.3.4.1~~8.3.5.1 _____ When class of a vessel has been suspended for a period of six (6) months due to overdue surveys and/or recommendations / conditions of class, the class is to be withdrawn. A longer suspension period may be granted when the vessel is not trading as in cases of layup, awaiting disposition in case of a casualty or attendance for reinstatement.

8.4 Notification and Reporting

8.4.1 Notification to Owners and Flag States

Periodical Surveys

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SECTION 19 Propeller Shafts and Tube Shafts Surveys

(IACS UR Z21 (Rev. 2 Oct. 2006))

19.1 Normal Survey

19.1.1 Propeller shafts and tube shafts are to be sufficiently drawn to permit entire examination at the following intervals, unless alternative means are provided to assure the condition of the shaft:

19.1.1.1

(a) where the propeller shafts and the tube shafts are fitted with water lubricated bearings, or continuous liners, or approved oil sealing glands, or made of corrosion resistant material, the interval of survey is to be:

- ~ for single shafting arrangement: three (3) years,
- ~ for multi-shafting arrangements: four (4) years.

The interval for drawing may be raised

- ~ from three (3) to a maximum of five (5) years;
- ~ from four (4) to a maximum of five (5) years for multi-shafting arrangements.

in any of the following three (3) cases:

- (i) where
 - ~ the propeller is fitted to a keyed shaft taper the design details of which are approved, and a non-destructive examination is made at each survey by an approved crack-detection method of the after end of the cylindrical part of the shaft (from the after end of the liner, if any), and of about one third of the length of the taper from the large end, or
 - (ii) where
 - ~ the propeller is fitted to a solid flange coupling at the aft end of the shaft, the shaft and its fittings are not exposed to corrosion, the design details are approved. Non-destructive examination of the fillet radius of the aft propeller shaft flange may be required of the visual examination of the area is not satisfactory, or
 - (iii) where
 - ~ the propeller is fitted keyless to the shaft taper, the shaft is protected from seawater, the design details are approved, and a non-destructive examination is made at each survey by approved crack-detection method of the forward part of the aft shaft taper.
- (b) In all other cases, the interval of survey is to be 2 ½ years (± 6 months).

19.1.1.2 The complete shaft is to be sufficiently drawn to permit entire examination.

However, for oil lubricated arrangement all exposed areas of the after shaft area as described in [19.1.1.1](#) are to be examined by an approved crack-detection method without drawing of the shaft, where

- ~ clearances and wear-down of the bearings,

- ~ records of lubricating oil analysis, oil consumption and bearing temperature, and
- ~ visible shaft areas

are found satisfactory. The crack detection test of the aft flange fillet area may be dispensed with for the solid flange couplings fitted at the end of the shaft, see also

19.1.1.1(a)(#)

Lubricating oil and bearing temperature controls are to be performed as specified in 19.3.4

Where any doubt exists regarding the findings of the above, the shaft is to be sufficiently drawn to permit an entire examination.

19.2 Additional Extensions

Additional extensions may be granted according to the following subsections. The extensions described herein refer to the Normal Survey intervals of 19.1.1.1.

19.2.1 For Water-Lubricated Bearings

19.2.1.1 Extension up to Three (3) Months may be granted by the Surveyor, when requested by the Owner, provided that a survey with satisfactory outcome is carried out on the following:

- (a) Statement of satisfactory service record from Chief Engineer
- (b) An external examination of the inner propeller shaft assembly and visible parts of the outer propeller shaft assembly or check by an approved diving company
- (c) Previous recordings of stern tube bearing clearances in dry-dock

19.2.1.2 Extension up to One (1) Year may be granted by the Surveyor, when requested by the Owner, provided that a survey with satisfactory outcome is carried out on the following:

- (a) Verification of satisfactory service record
- (b) An external examination of the inboard and outboard propeller shaft assemblies
- (c) Bearing clearance check at the end of the normal survey period
- (d) Operational test to the discretion of the attending surveyor

19.2.2 For Oil-Lubricated Bearings

19.2.2.1 Extension up to Three (3) Months may be granted by the Surveyor, when requested by the Owner, provided that a survey with satisfactory outcome is carried out on the following:

- (a) Verification of satisfactory service and oil loss records
- (b) An external examination of the inboard seal assembly and visible parts of the outboard seal assembly.
- (c) Examination of an oil sample at the time of granting requested extension.

19.2.2.2 Extension up to One (1) Year may be granted by the Surveyor, when requested by the Owner, provided that a survey with satisfactory outcome is carried out on the following:

- (a) Verification of satisfactory service and oil loss records
- (b) An external examination of the inboard and outboard seal assemblies
- (c) An oil sample analysis at the time of granting each requested extension
- (d) Review of the bearing wear down at last dry-docking survey;
- (e) Operational test to the discretion of the attending surveyor

An additional extension up to one (1) year may be considered, when requested by the Owner, provided a survey is carried out at the end of the first extension period in accordance with 19.2.2.2. No more than two (2) extensions may be granted.

19.2.2.3 Extensions not Exceeding Five (5) Years, in lieu of 19.2.2.2, may be granted by the Surveyor, when requested by the Owner, provided that a survey with satisfactory outcome is carried out on the following:

- (a) Verification of satisfactory service including oil loss records
- (b) Oil sample analysis
- (c) Verification of no reported repairs by grinding or welding
- (d) Bearing wear down measurement
- (e) Verification that the propeller is free of damages which may cause the propeller to be out of balance
- (f) Bearing inboard seal assemblies are to be externally examined and to be found or placed in a satisfactory condition
- (g) Bearing outboard seals are to be renewed and the seal liner found to be or placed in a satisfactory condition

Consideration may be given to an additional extension not exceeding five (5) years when requested by the Owner, provided a survey is carried out at the fifth year after the first extension, in accordance with 19.2.2.3. No more than two (2) extensions may be granted.

19.2 ~~19.3~~ Modified Survey

~~19.2.1~~ For single and multi-shafting arrangements that have not been granted any additional extension as per 19.2 during their operational life, ~~a~~ modified survey may be accepted in any of the following three (3) cases subject to:

~~19.3.1.1~~ the shaft is fitted with oil lubricated bearings and oil sealing glands, and

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~~19.3.1.2~~ the shaft and its fittings are not exposed to corrosion, and

-

~~19.3.1.3~~ new oil seals may be fitted without removal of the propeller (except in the case of keyed propeller), and design details are approved.

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~~19.3.1.4~~ where the propeller is keyed on the shaft taper and suitable crack-prevention measures are taken, or,

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~~19.3.1.5~~ where the propeller is fitted to a solid flange coupling at the end of the shaft, or

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~~19.3.1.6~~ where the propeller is fitted keyless to the shaft taper,

~~19.2.2~~ ~~19.3.2~~ The modified survey is accepted at alternate five (5) yearly (maximum) surveys instead of the Normal Survey, provided that the clearances of the aft bearing are found in order and the oil and the oil sealing arrangements have proved effective.

~~19.2.3~~ ~~19.3.3~~ The modified survey consists of:

~~19.3.3.1~~ drawing the shaft to expose the aft bearing contact area of the shaft,

~~19.3.3.2~~ examining the forward bearing as far as possible and all accessible parts of the shaft including the propeller connection to the shaft, and

~

(a) for keyed propellers:

~ performing a non-destructive examination by an approved crack-detection method of about one third of the length of the taper from the big end, for which dismantling of the propeller will be required.

(b) for keyless propellers:

~ performing a visual examination to confirm the good condition of the sealing arrangements.

~~19.2.4~~19.3.4 Where a lubricating oil analysis is carried out regularly at intervals not exceeding six (6) months, and the oil consumption and bearing temperature are recorded and considered to be within permissible limits, drawing of the shaft to expose the aft bearing contact area of the shaft may not be required.

The documentation on lubricating oil analysis is to be available on board. Each analysis should include the minimum parameters:

- ~~(a)~~ water content,
- ~~(b)~~ chlorides content,
- ~~(c)~~ content of bearing metal particles, and
- ~~(d)~~ oil aging (resistance to oxidation).

Oil samples should be taken under service conditions.

~~19.3~~19.4 Partial Survey

19.4.1 For shafts where the modified survey is applicable, consideration may be given, upon application by the Owner, to a prolongation of the intervals between Normal Survey, provided a partial survey is performed.

~~(a)~~

19.4.2 The partial survey consists of checking the oil sealing glands and the clearance of the bearings. For keyed propellers, the propeller is to be dismantled to expose the forward part of the taper and a non-destructive examination by an approved crack-detection method is to be performed.

~~(b)~~

~~(c)~~19.4.3 In no case is the interval between Normal Survey to exceed 1.5 times the due interval.

NOTE:

Special consideration may be given in application of relevant sections of this Section to commercial vessels owned or chartered by Governments, which are utilized in support of military operations or service.

~~19.4~~19.5 National Requirements

For ~~Greek Flagged~~ vessels engaged in domestic voyages, and upon owner's request, the applicable ~~Greek National~~ Legislation concerning the propeller shaft surveys may be applied instead of the requirements of 19.1.1.