



## PERIODICAL BOTTOM INSPECTION OF PASSENGER SHIPS OTHER THAN RO-RO PASSENGER SHIPS

### *Technical Notice SLS.20*

*Notice to Shipowners, Ship Operators, Managers, Masters,  
Owners' Representatives and Recognised Organisations*

Resolution A.997 (25) - Survey Guidelines under the Harmonized System of Survey and Certification prescribes that inspection of a passenger ship's bottom, as required by SOLAS regulation I/7, should be carried out annually, with two such inspections carried out in dry-dock in any five-year period<sup>1</sup>.

Where acceptable to the Administration, the minimum number of inspections in dry-dock may be reduced from two to one in any five-year period. In such cases, the interval between consecutive inspections in dry-dock shall not exceed 60 months.

This Technical Notice is intended for application to passenger ships of 15 years of age or less<sup>2</sup> that are not ro-ro passenger ships.

#### **1. Application for In-water Survey**

- 1.1 The shipowner submitting the request for an IWS should have completed, during the construction stage or at a previous dry-dock, a survey of the hull to the satisfaction of the RO with a view of establishing and documenting the ship's future suitability for an IWS. The survey should evaluate the condition of the hull and ensure that appropriate preparations, including markings and fittings, have been satisfactorily addressed.
- 1.2 The master of the ship shall provide the RO with written confirmation that the ship, to his best knowledge, has not sustained any grounding or contact damage since the previous bottom inspection and that nothing unusual has been observed to suspect that any part of the ship's bottom or protuberances has been otherwise damaged.
- 1.3 A maintenance regime based upon a five-year cycle should be effectively implemented by the company for the following items:
  - 1.3.1 Shafting and stern tube  
Stern tube bearings should be oil lubricated or, in the case of water-lubricated systems, the shafting should be of corrosion resistant material. Where wear-down measurements are cannot be taken, special consideration may be given to ascertaining sternbush clearances based on a review of the operating history, onboard testing and stern bearing oil analysis.
  - 1.3.2 Shell coating  
The hull coating system should be able to perform its functions of corrosion protection and anti-fouling over the anticipated five-year period in water.
  - 1.3.3 Shaft seals  
Shaft seals should be capable of five-year service.

<sup>1</sup> The definition of "any five-year period" is the five-year period of validity of the International Load Line Certificate

<sup>2</sup> If an in-water survey in lieu of dry-docking is proposed for the 15th anniversary of the ship's construction, it should be subject to specific agreement of the Administration based on a dry-dock examination within the previous 30 months



- 1.3.4 **Bow thrusters and stern thrusters**  
Inspection and replacement of propeller blade foot seals of the bow thrusters and stern thrusters should be based upon a five-year interval, taking into account the lubricating oil record. Bow and stern thrusters dismantling for general overhauling may be considered at intervals greater than five years, in accordance with manufacturer's recommendations.
- 1.3.5 **Main propellers and shafting for controllable pitch propellers (CPP) ships**  
Main propeller blade foot seals and the shaft seals replacement interval should be in accordance with the five-year regime, taking into account the lubricating oil record. Main propeller hub dismantling for general overhauling may be considered at intervals greater than five years. Screwshaft surveys should normally be carried out at five-year intervals, unless a screwshaft condition monitoring scheme is in effect.
- 1.3.6 **Rudders**  
Rudders and rudder bearings (e.g. pintles and stocks) should be inspected and bearing clearances taken at those in-water surveys carried out in lieu of dry-dock surveys. Additionally, rudders should be inspected and rudder bearing clearances taken every five years in dry-dock. When clearances of oil lubricated bearing cannot be taken at those in-water surveys carried out in lieu of dry-dock surveys, special consideration may be given to ascertaining bearing clearances on the basis of a review of the operating history and onboard testing.
- 1.3.7 **Sea chests**  
Means, such as hinged gratings, should be provided on all sea chests to allow divers access for inspection of the external sides of through hull connections and sea valves.
- 1.3.8 **Anodes and cathodic protection and sea valves**  
The operator's maintenance regime should include provisions for inspection and replacement of cathodic protection anodes, taking into account that replacement of sacrificial anodes is variable, according to the conditions experienced. Sea valves that are found to be in need of replacement at the in-water survey should be replaced without delay.
- 1.3.9 **Hull thickness measurements**  
Requirements for thickness measurements of hull structure should not be prohibited by any in-water survey.
- 1.3.10 **Podded Propulsion Units (PODs)**  
Scheduled replacement of the drive end and non-drive end bearings on the PODs and inspection and replacement of seals should be based upon a five-year maintenance regime.
- 1.4 **The RO should review the ship survey records to confirm current satisfactory condition of hull and machinery.**
- 1.5 **The design life of components, manufacturer's recommended maintenance, company's implemented ship's maintenance system and RO survey requirements should not conflict with the bottom inspection of passenger ships when the inspection is intended to be carried out in dry-dock only once in any five-year period.**
- 1.6 **The owner shall submit a request to the Recognized Organization (RO) for the in-water survey at least four weeks in advance of the intended date of the inspection. The owner's proposed schedule and the conditions for performing the in-water survey should allow for effective planning and execution of the survey.**



1.7 The RO shall seek, on behalf of the Owner, approval for the in-water survey from the Administration.

## **2. In-Water Survey**

2.1 The IWS should be carried out in accordance with the plan approved by the RO.

2.2 Sufficient information to the satisfaction of the attending RO surveyor, including specific plans to facilitate the survey, should be available on board in order to ensure a full assessment and survey.

2.3 The RO surveyor should be satisfied with the hull marking and mapping, as well as with the method of pictorial presentation. To facilitate an efficient survey it is recommended that the underwater hull and fittings are permanently and clearly marked externally (including tank boundaries).

2.4 The in-water survey should be carried out at an agreed geographical location with the ship at a suitable draught in an area that has been demonstrated to have sheltered waters and with weak tidal streams and currents. The weather at the time of the survey should be conducive to a safe and effective IWS.

2.5 Surveys of the underwater body should be carried out in sufficiently clear and calm waters. Visibility and water conditions should be suitable to provide sufficient evidence to be able to draw a conclusion that the hull inspection requirements have been met and the hull is in satisfactory condition.

2.6 Diving companies providing services on behalf of the owner of a ship or a mobile offshore unit (such as measurements, tests, surveys or maintenance of safety systems and equipment), the results of which are used by the RO surveyors in making decisions affecting certification, should be subject to approval by the RO.

2.7 The survey should include CCTV monitoring of the IWS, together with electronic video and still picture (if required and where appropriate) recording of the ship's hull, appendages, sea-chests and other elements of the survey. There should be good two-way communication between the diver and the personnel at the surface, including the RO surveyor.

2.8 The hull below the waterline should be sufficiently clean to the satisfaction of the RO surveyor and diver so as to be able to ascertain the physical condition of the hull and coating.

2.9 Interior sections of the hull plating should be made available for inspection to the same extent as if the ship were in dry-dock.

2.10 The in-water survey should be performed to the satisfaction of the attending RO surveyor who is properly trained and authorized to conduct such surveys.

## **3. Survey Findings and Reporting**

3.1 If the IWS reveals damage, deterioration or other conditions that require early attention or which can only be assessed reliably out of water, the RO surveyor may require that the ship be dry-docked in order that a fuller survey can be undertaken and the necessary work carried out.

3.2 The Administration should be informed of the results of all in-water surveys conducted.