The Bahamas Maritime Authority

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# INFORMATION BULLETIN No. 73

## Periodical Bottom Inspection of Passenger Ships

### Guidance and Instructions for Bahamas Recognised Organisations, Bahamas Approved Nautical Inspectors, Ship Owners, Managers and Masters

## 1. Purpose

1.1. This Bulletin provides guidance and instructions on The Bahamas requirements in relation to bottom inspections of passenger ships.

## 2. Application

2.1. This Bulletin applies to all Bahamian Ships holding a Passenger Ship Safety Certificate, except RoRo passenger ships.

## 3. Introduction

3.1. Regulation 7(b)(ii) of Chapter I of the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), requires, *inter alia*, an inspection of the outside of a passenger ship's bottom at every Passenger Ship Safety Certificate renewal survey.

3.2. International Maritime Organisation (IMO) Assembly Resolution A.1120(30) *Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2017,* specifies that that inspection of a passenger ship's bottom, as required by SOLAS Regulation I/7, should be carried out annually, with two inspections in dry-dock in any five-year period[1].

[1] The definition of "any five-year period" is the five-year period of validity of the International Load Line Certificate – see paragraph 5.10 of A1120(30).

3.3. Where acceptable to the Administration, the minimum number of inspections in dry-dock of the outside of the bottom of a passenger ship (which is not a ro-ro passenger ship) in any five-year period may be reduced from two to one. In such cases, the interval between consecutive inspections in dry-dock shall not exceed 60 months.

3.4. The Bahamas Maritime Authority (BMA) recognises that technology and methods are available to satisfactorily examine a ship's hull and, in some cases, to perform the measurement of rudder and tailshaft weardown while the ship is in water. Modern high-performance hull coatings are also designed to extend the coating maintenance period.

3.5. The BMA has permitted passenger ships of up to 15 years of age to undertake one inspection of the outside of the ships bottom in dry dock in a five-year period since this Bulletin was originally published in 2005.

3.6. The IMO published circular MSC.1/Circ.1348 in 2010, based on the provisions of BMA Information Bulletin No. 73.

3.7. The Bahamas has since undertaken a pilot project on several passenger ships to assess the feasibility of extending the principle of one inspection of the outside of the ship's bottom in drydock in a five-year period to ships of up to 20 years of age.

3.8. The pilot project was successful and there were no adverse conditions found as a result of the extension of the principle at the 20-year bottom survey in dry-dock.

3.9. The BMA may therefore permit ships of up to 20 years of age to undertake one inspection of the outside of the ship's bottom in drydock in a five-year period, subject to the additional requirements specified below.

## 4. Bottom survey requirements – all passenger ships

4.1. All passenger ships, which are not RoRo passenger ships, must undergo an inspection of the outside of the ship's bottom in dry-dock at least twice in any five-year period.

4.2. The remaining renewal inspections of the outside of the ship's bottom, required by SOLAS Regulation I/7(b)(ii), may be carried out in-water provided that:

i. An appropriate Classification Society notation for in water survey (IWS) is assigned to the ship;

ii. The interval between bottom inspections in dry-dock does not exceed 36 months;

iii. The ship is arranged for in-water survey of the hull. Where practical, tailshaft weardown and examination of rudder[2], propeller, stabilising apparatus and other protuberances, as deemed necessary by the Recognised Organisation (i.e. the ship's Classification Society), are to be carried out.

iv. The BMA has accepted the application for IWS.

4.3. Acceptance of an application for IWS of the ship's bottom is subject to the following conditions:

i. There are no overdue Conditions of Class, Recommendations, or similar notes relating to defects in any part of the ship's structure or machinery that affects the ship's bottom;

ii. The IWS shall be carried out by a diving company which is approved by the Recognised Organisation, and in accordance with an approved survey plan;

iii. The IWS 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;

iv. Surveys of the underwater body should be carried out in sufficiently clear and calm waters. In general, for example, a significant portion of the propeller or rudder should be clearly observed from a single view. 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;

v. The attending surveyor should be satisfied that the hull marking and mapping as well as the method of pictorial presentation are satisfactory.

[2] At in water surveys in lieu of dry-docking referred to in section 5 or 6 of this bulletin, rudder pintle clearances are to be taken. Rudder pintle clearances need not be taken at the remaining inspections afloat referred to in paragraph 4.2, unless deemed necessary by the attending surveyor

To facilitate efficient surveys, it is recommended that the underwater hull and fittings are permanently and clearly marked externally (including tank boundaries);

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

vii. Unless accessible from outside with the aid of the ship's trim and/or heel, underwater parts should be surveyed, and/or relevant maintenance work should be carried out with assistance by a diver to the satisfaction of the attending surveyor. 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 surveyor.

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

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

4.4. Where the conditions specified in Section 4.2 and 4.3 above are not fully satisfied, the Recognised Organisation shall submit their recommendation, including technical justification, to the BMA for acceptance of IWS.

## 5. Ships of 15 years of age or less

5.1. For passenger ships of 15 years of age or less at the time the relevant dry-docking is due, the BMA may permit an IWS in lieu of one of the two bottom inspections in dry dock in any five-year period as required by paragraph 4.1 above.

5.2. The following conditions shall be satisfied in applications for one bottom inspection in dry-dock in any five-year period:

i. The interval between dry-dockings must not exceed 60 months/5 years

ii. The ship meets the requirements of paragraph 4.3 and the application to the BMA meets the conditions specified in section 8.

5.3. The Company[3] shall have implemented a comprehensive maintenance regime based upon a five-year cycle for relevant items. Items to be considered may include the following:

i. **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 weardown measurements are unable to 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;

ii. **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. The use of a high resistance coating or advanced coating, such as silicone-based paint, would be examples of typical coating systems that could be accepted;

iii. **Shaft seals –** Shaft seals should be capable of five-year service. The use of advanced systems such as air seals with failure mode redundancy could be considered as offering added confidence of service life;

iv. **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;

v. **Rope cutters –** The fitting of rope cutters may be an added safeguard to give confidence to continued trouble-free operation of propulsion shaft, propeller and seals;

vi. **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;

[3] The "Company" is the entity responsible for the management of the ship in accordance with the ISM Code. For ships to which the ISM Code is not applicable, the Company is the Managing Owner in accordance with Section 52 of the Merchant Shipping Act.

vii. **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 oil lubricated bearing clearances are unable to be taken at those in-water surveys carried out in lieu of dry-dock surveys, special consideration may be given to ascertaining those bearing clearances based on a review of the operating history and onboard testing. Replacement of the sliding block and flap bushes of Becker rudders may be considered at intervals greater than five years;

viii. **Sea chests -** Means, such as hinged gratings, should be provided on all sea chests to allow divers access to each sea chest to inspect the external sides of through hull connections and sea valves;

ix. **Anodes and cathodic protection and sea valves -** The Company'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;

x. **Hull thickness measurements -** Requirements for thickness measurements of hull structure should not be prohibited by any in-water survey;

xi. **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.

5.4. The items listed above are not exhaustive and other items of fittings and equipment may be considered to be included in such a maintenance regime.

5.5. In all cases, the design life of components, manufacturers recommended maintenance, the Company's implemented ship's maintenance system and classification society 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.

## 6. Ships of between 15 and 20 years of age

6.1. For passenger ships of between 15 years and 20 years of age, the BMA may permit an in-water inspection in lieu of the one of the two bottom inspections in dry dock in any five-year period as required by paragraph 4.1 above.

6.2. In addition to the items specified in paragraph 5 above, the following conditions must be satisfied:

i. The ship must be less than 20 years of age at the time the relevant dry-docking is due;

ii. Stern tube seals (if applicable) are to be routinely changed at the dry dock bottom survey after 60 months service and there should be no history of failure in any sister ships. Stern tube seals are to be capable of being replaced whilst the ship is afloat;

iii. Rope cutters are to be fitted and capable of being replaced whilst the ship is afloat;

iv. Propellers are to be capable of being replaced whilst the ship is afloat;

v. Transverse thrusters should be overhauled at each drydocking or be capable of being repaired/replaced in water;

vi. Becker rudder fin/flap clearance and rudder neck clearances (if applicable) can be taken in water and rudder weardown can be measured;

vii. Underwater paint schemes are to be certified for 60 months service by the respective paint manufacturers;

viii. Impressed current cathodic protection systems, if fitted, are to have regular logs taken and assessed by third party vendor. These are to be reviewed by the Recognised Organisation prior to the IWS;

ix. Sacrificial anodes should be easily replaceable in water and/or have 60-month expected life;

x. Protective coatings in double bottom/double side ballast tanks below the deepest load waterline are to be maintained in GOOD condition;

xi. Sea chests are to be fitted with marine growth prevention systems and 60-month anodes;

xii. Azipods (if fitted) are to be capable of being replaced whilst the ship is afloat (including seals, shaftline bearings and slewing bearings);

xiii. Sea valves should be overhauled at each drydocking and should be capable of being replaced in water;

xiv. Echosounders, speed logs etc should be capable of being replaced in water;

xv. Stabilisers should be overhauled at each drydocking or be capable of being repaired/replaced in water;

xvi. Lubricating oil analysis should be routinely conducted for all underwater machinery (propellers, thrusters, stabilisers, etc.) and to be reviewed by the Recognised Organisation prior to the IWS;

6.3. Appropriate planning is to be in place for heavy maintenance that would usually be carried out in drydock. The Recognised Organisation is to review any outstanding maintenance items at the time of the IWS and ensure that the Company has appropriate planning in place.

6.4. The Company is to advise the BMA without delay of any damage or failure related to hull, propellers, rudders, Azipods (including propeller, seals, bearings and steering mechanism), transverse thrusters, fin stabilisers and underwater fittings.

## 7. Survey Window

7.1. The bottom inspection, either performed in water or in dry-dock, shall be carried out within the normal allowable window for the Passenger Ship Safety Certificate renewal survey, i.e. within the 3 months before the due date of the survey.

7.2. Noting the definition in A.1120(30) of "any five-year period", harmonisation between the Passenger Ship Safety Certificate and International Load Line Certificate is essential.

## 8. Applying for IWS

8.1. The Company shall request that the Recognised Organisation makes an application to the BMA for acceptance of the proposed IWS **at least four (4) weeks in advance of the intended date of the survey**.

8.2. The Company's proposed schedule and the conditions for performing the IWS must be acceptable to the Recognised Organisation to allow effective planning and execution.

8.3. The application shall be made to the BMA by the Recognised Organisation in accordance with BMA Information Bulletin No.8. The application must include the following:

i. The proposed date and location for the IWS;

ii. A written statement from the Master of the ship confirming that the ship, to his or her 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;

iii. Confirmation from the Recognised Organisation that there are no overdue Conditions of Class, Recommendations, or similar notes relating to defects in any part of the ship's structure or machinery that affects the ship's bottom. In case of outstanding items, the Recognised Organisation is to provide the proposed timescale for rectification of the outstanding items and its recommendations for monitoring the items pending rectification;

iv. Confirmation that relevant items in paragraphs 4, 5 and 6 above have been satisfied;

v. A clear statement of support for the application, or clear indication of any reservations over any aspect of the application, is to be provided by the Recognised Organisation.

8.4. The BMA will review the application, taking into account all relevant factors and will advise the Recognised Organisation of its acceptance or otherwise of IWS.

## 9. Monitoring and Reporting by Recognised Organisations

9.1. The Recognised Organisation shall advise the BMA of the outcome of all in water surveys where there is any need for further examination of the ship and/or remedial action which may need to be taken with the ship in dry-dock.

9.2. The relevant survey report shall be made available for review by the BMA, either via the Recognised Organisation's online platform or by email. For ships to which section 6 applies, the Recognised Organisation shall send the survey report to the BMA by email on completion of the IWS.

9.3. The survey report shall include an assessment of the condition of the hull coating, structure, and all remaining underwater parts, acceptability of measurements taken and other relevant findings.

9.4. The Recognised Organisation is to advise the BMA without delay of any new conditions of class or memos related to hull, propellers, rudders, Azipods, transverse thrusters, fin stabilisers and underwater fittings.

## 10. Definition of "first dry-docking"

10.1. Where a new Regulation is required to be applied at the "first dry-docking", the BMA requires it to be applied as if a passenger ship is dry-docked twice in any five-year period, regardless of the age of the passenger ship. This policy is not applicable if a date is otherwise stipulated in the Regulation, or any other additional IMO guidance.

## 11. Revision History

Rev.5 (09 October 2018) – Complete revision

Rev.4 (29 September 2014) – Amendment to footnote reference on page 2

Rev.3 (11 February 2014) – Inclusion of references to Res. A.1053(27), removal of references to Res.A.997(25), updating requirements with respect to ships without suitable Class notations

Rev.2 (14 October 2009) –

Rev.1 (14 March 2007) – New format and addition of new paragraph 3 (vessels under 15 years old), paragraph 6 (monitoring) and 7 ("first drydocking" definition)

Rev.0 (30 March 2005) – First issue