

SUB-COMMITTEE ON SHIP DESIGN AND
CONSTRUCTION
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Agenda item 10

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AMENDMENTS TO THE 2011 ESP CODE

Use of Remote Inspection Techniques (RITs)

Submitted by IACS

SUMMARY

<i>Executive summary:</i>	This document proposes draft amendments to the 2011 ESP Code, as amended, to allow the use of Remote Inspection Techniques (RITs) in the survey of existing ships as an alternative to a close-up survey
<i>Strategic direction, if applicable:</i>	Other work
<i>Output:</i>	OW 2
<i>Action to be taken:</i>	Paragraph 6
<i>Related documents:</i>	None

Background

1 The maritime industry is increasingly applying Remote Inspection Techniques (RITs), such as Remotely Operated Vehicles (ROVs) and real-time sensing devices that are carried by drones. IACS considers that these new techniques offer greater efficiency, higher flexibility, and increased reliability in the day-to-day activities of survey and inspection without impairing the result of those surveys.

2 In order to permit the use of such techniques and to realize the benefits that they can potentially offer (safer surveys, decreased fault rate and reduction of cost of maintenance), IACS has updated its relevant unified requirements accordingly, i.e. IACS Unified Requirements (URs) Z3 (Rev.7), Z7 (Rev.26), Z7.1(Rev.14), Z7.2(Rev.7), Z10.3(Rev.18) and Z15(Rev.2).

3 Having permitted the use of RIT in its URs (including unmanned robot arms, ROVs, and unmanned aerial vehicles or drones) as an alternative to close-up surveys of existing ships, IACS has developed the technical requirements for the approval of firms engaged in

undertaking surveys using RIT as an alternative means of in-water survey or close-up survey of the structure of ships and mobile offshore units, i.e. section 13 of IACS UR Z17 (Rev.13).

Discussion

4 MSC 101 adopted the amendments to the 2011 ESP Code by resolution MSC.461(101). It is anticipated that these amendments will enter into force on 1 January 2021. To permit the use of RIT in conducting surveys of existing bulk carriers and oil tankers, it is proposed that the 2011 ESP Code, as amended by resolution MSC.461(101), is updated:

- .1 to insert a definition of RIT into each part of the annexes of the Code, supplementing it with the reference to IACS recommendation 42 on "Guidelines for Use of Remote Inspection Techniques for surveys";
- .2 to allow the use of RIT as an alternative to a close-up survey; and
- .3 to insert specific requirements for RIT.

5 The proposed draft amendments to the 2011 ESP Code, as amended by resolution MSC.461(101), are set out in the annex.

Action requested of the Sub-Committee

6 The Sub-Committee is invited to note the discussion in paragraph 4 above, consider the proposals in the annex and take action, as appropriate.

ANNEX*

**DRAFT AMENDMENTS TO THE 2011 ESP CODE, AS AMENDED
BY RESOLUTION MSC.461(101)**

1 Insert new definition

- .1 1.2.22 after existing definition 1.2.21 in part A of annex A;
- .2 1.2.22 after existing definition 1.2.21 in part B of annex A;
- .3 1.2.21 after existing definition 1.2.20 in part A of annex B; and
- .4 1.2.18 after existing definition 1.2.17 in part B of annex B:

"1.2.xx Remote inspection techniques (RIT)

Remote inspection technique is a means of survey that enables examination of any part of the structure without the need for direct physical access of the surveyor.*

* Refer to IACS recommendation 42 'Guidelines for Use of Remote Inspection Techniques for surveys'."

2 The existing 1.5 of part A of annex A, part B of annex A, part A of annex B and part B of annex B is replaced by the following:

"1.5 Thickness measurements and close-up surveys

1.5.1 In any kind of survey, i.e. renewal, intermediate, annual or other surveys having the scope of the foregoing ones, for structures in areas where close-up surveys are required, thickness measurements, when required by annex 2, shall be carried out simultaneously with close-up surveys.

1.5.2 Consideration may be given by the attending surveyor to allow use of remote inspection techniques (RIT) as an alternative to close-up survey. Surveys conducted using a RIT shall be completed to the satisfaction of the attending surveyor. When RIT is used for a close-up survey, temporary means of access for the corresponding thickness measurements as specified in this Part shall be provided unless such RIT is also able to carry out the required thickness measurements."

3 Insert new 1.6 in part A of annex A, part B of annex A, part A of annex B and part B of annex B :

"1.6 Remote inspection techniques (RIT)

1.6.1 The RIT shall provide the information normally obtained from a close-up survey. RIT surveys shall be carried out in accordance with the requirements given herein.* These considerations shall be included in the proposals for use of a RIT which shall be submitted in advance of the survey so that satisfactory arrangements can be agreed with the Administration.

* Tracked changes are indicated using "strikeout" for deleted text and "grey shading" to highlight all modifications and new insertions, including deleted text.

* Refer to IACS recommendation 42 'Guidelines for Use of Remote Inspection Techniques for surveys'.

1.6.2 The equipment and procedure for observing and reporting the survey using a RIT shall be discussed and agreed with the parties involved prior to the RIT survey, and suitable time is to be allowed to set up, calibrate and test all equipment beforehand.

1.6.3 When using an RIT as an alternative to close-up survey, if not carried out by the Administration itself, it shall be conducted by a firm approved as a service supplier and shall be witnessed by an attending surveyor of the Administration.

1.6.4 The structure to be examined using an RIT shall be sufficiently clean to permit meaningful examination. Visibility shall be sufficient to allow for a meaningful examination. The Administration shall be satisfied with the methods of orientation on the structure.

1.6.5 The surveyor shall be satisfied with the method of data presentation including pictorial representation, and a good two-way communication between the surveyor and RIT operator shall be provided.

1.6.6 If the RIT reveals damage or deterioration that requires attention, the surveyor may require traditional survey to be undertaken without the use of an RIT."
