

SUB-COMMITTEE ON SHIP DESIGN AND
CONSTRUCTION
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Agenda item 6

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AMENDMENTS TO THE 2011 ESP CODE

Comments on the report of the Correspondence Group on Amendments to the ESP Code to permit the use of remote inspection techniques

Submitted by IACS

SUMMARY

Executive summary: This document provides comments on document SDC 11/6 containing the report of the Correspondence Group on Amendments to the ESP Code to permit the use of remote inspection techniques.

*Strategic direction,
if applicable:* 7

Output: 7.21

Action to be taken: Paragraph 10

Related documents: SDC 10/6, SDC 10/6/1 and SDC 11/6

Introduction

1 This document comments on document SDC 11/6 (IACS), containing the report of the Correspondence Group on Amendments to the ESP Code to permit the use of remote inspection techniques.

Background

2 SDC 10 established the Correspondence Group on Amendments to the ESP Code to permit the use of remote inspection techniques to consider the proposal contained in document SDC 10/6, taking into account the limitations, conditions and other elements listed in paragraph 3 of document SDC 10/6/1 (Bahamas et al.). IACS, which also coordinated this Correspondence Group, is grateful to the participants therein for their constructive approach and notes that, whilst having made good progress, there are some aspects of the outcome on which IACS would like to make comments, as presented in the following paragraphs.

Discussion and proposals

3 Regarding the definition of the remote inspection techniques (RITs), IACS notes that the "Alternative proposal for the definition of RIT" (insertion in sections 1.2 of part A of annexes A and B and part B of annexes A and B of the ESP Code) included in annex 1 of document SDC 11/6 (draft amendments to the ESP Code) limits the types of the RITs to "remote controlled vehicles" or "robotic arms" only. However, IACS is of the view that other types of RITs, such as "rope climbers" are also used widely and such restrictions on the use of these technologies should not be imposed. IACS, therefore, disagrees with the "Alternative proposal for the definition of RIT" and supports the first definition. However, if the Sub-Committee chooses the "Alternative proposal for the definition of RIT", IACS would like to suggest the following changes to the said "Alternative proposal for the definition of RIT":

"Remote Inspection Technique (RIT) – System ~~installed on remote controlled vehicles or robotic arms~~ utilized to support the surveyor during the surveys requiring examination including visual overall and close-up ~~surveys~~ hull gauging, and non-destructive testing (NDT) ~~in~~ by providing access to ~~parts of the~~ vessel structure and equipment which may not be fully accessed by the ~~permanent~~ safely or easily without using alternative means of access (ladders, staging or rafting). RIT shall provide ~~with~~ either visual live-streaming of video ~~and~~ or still images and recording of data (NDT, radar, LIDAR, infrared) ~~providing~~ which provides information to the same level of assurance as the ~~close visual inspection~~ surveyor with in-hand reach. The system shall include all associated support equipment, ground control stations, operators, and communication systems.*"

4 As regards draft paragraph 1.5.2 of the ESP Code mandating the agreement of the Administration after the third renewal survey, IACS is of the opinion that the possible additional requirement and limitation should be determined by the attending surveyor/inspector appointed for the survey. It is also expected that the Government of the State may face difficulty in providing their advice due to not having full information on the ship's structure maintenance condition and environmental condition on-site. This duty should remain with the competent attending surveyor/inspector under the authorization granted by the Administration to conduct statutory certification services on their behalf. The change to paragraph 1.5.2 is proposed, as follows:

"1.5.2 For periodic surveys after the third ~~Special Survey~~ renewal survey, the use of RIT is subject to the agreement of the Administration, which may impose additional requirements or limitations as deemed appropriate by the attending surveyor/inspector appointed for the survey; ~~in this case Administration means the Government of the State whose flag the ship is entitled to fly and not the Recognised Organization.~~"

5 IACS supports new section 1.6 of the ESP Code (paragraph 6 of annex 1 to document SDC 11/6), which is based on what IACS originally proposed to the previous session of the Sub-Committee (SDC 10/6 (IACS)).

6 Regarding paragraphs 2.5.5.2 and 5.1.6.2 (referring to paragraph 1.5.2), IACS considers that the use of the RIT should not be restricted after the third renewal survey, because the RIT allows the surveyor to make decisions based on the information gained from the RIT, e.g. whether or not to request a more hands-on view or to assist with locations of close-up surveys on the basis of an overall view. In this regard, IACS does not support paragraphs 2.5.5.2 and 5.1.6.2 (referring to paragraph 1.5.2) and suggests deleting those paragraphs.

* Here and elsewhere in the document, tracked changes are indicated using "grey shading" to highlight new insertions and "strikethrough" to highlight deletion of the text.

7 Regarding paragraphs 2.5.5.4 and 5.1.6.4, IACS deems that these paragraphs are potentially problematic since it could effectively mean that the RIT could not be used on any ship after a new build once it sustains its first damage, e.g. minor side shell indentation. IACS understands that these paragraphs were intended to be applied only to ships that have a long and significant history of major structural deterioration and the text should be suitably modified to clarify this understanding; otherwise, these paragraphs should be deleted.

8 With respect to section 7a.3 on the "Use of RIT" in all parts of the annexes, IACS has the following comments:

- .1 paragraph 7a.3.1: it is deemed that the certification standard may not be available. If any standards are available, those should be specified in the ESP Code itself;
- .2 paragraph 7a.3.3: IACS notes "standard/criteria" which are mentioned in the ESP Code in accordance with the requirements in annexes [5B] [8B] [7B]. However, IACS questions whether the standard can be identified and fixed, as the technology is evolving at a rapid pace; it is expected that whatever is introduced for an industrial standard now, it would have the possibility of being outdated shortly. IACS considers that, if any standards are available, they should be specified; otherwise, industrial standards should be left to the discretion of recognized organizations or attending surveyors;
- .3 paragraph 7a.3.4: the confirmatory survey should be an option determined by the surveyor/inspector. In this case, the appropriate wording should be "may" in the ESP Code so as to avoid making this provision mandatory; and
- .4 paragraph 7a.3.7: in case defects are found when using the RIT, the surveyor/inspector should be required to perform a "close-up survey" without the use of RIT. IACS understands that the use of the RIT, as an advanced surveying tool, is to support the judgement of a surveyor who is physically attending the ship undertaking a close-up or other survey. In this case, the appropriate wording should be "may" instead of "shall" in the ESP Code so as to avoid making this provision mandatory.

It is to the surveyor/inspector's satisfaction to determine, with the information provided by the RIT, the nature and criticality of any defect on a case-by-case basis, and the appropriate course of action, such as:

- .1 revert to a traditional close-up survey to determine additional information for the defect;
- .2 request its immediate rectification, which may require suitable access (i.e. the installation of scaffolding), for the repair/reassessment;
- .3 impose a condition of class; or
- .4 request its examination during the annual or other survey (e.g. when the coating is in poor condition).

9 In addition to the above-mentioned comments on the draft amendments to the ESP Code (contained in annex 1 of document SDC 11/6), IACS supports publishing guidelines on the use of remote inspection techniques (RITs) for ESP Code surveys (annex 2 of document SDC 11/6) as a separate document and then referring thereto in the ESP Code.

Action requested of the Sub-Committee

10 The Sub-Committee is invited to consider the foregoing, the proposals in the above paragraphs, and take action, as appropriate.
