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Agenda item 6

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GOAL-BASED NEW SHIP CONSTRUCTION STANDARDS

Outcome of GBS workshop

Submitted by IACS and the Secretariat

SUMMARY

Executive summary: This document reports on the outcome of a GBS workshop, held on 19 July 2021, organized by the Secretariat and IACS in order to share views and information obtained during GBS verification audits and to close gaps of understanding between auditors and auditees with the aim of further improving and facilitating future audits

Strategic direction, if applicable: 6

Output: 6.26

Action to be taken: Paragraph 24

Related documents: MSC 102/7/4; MSC 103/7, MSC 103/7/2, MSC 103/7/3 and MSC 103/7/5

Introduction

1 Due to the COVID-19 pandemic and the resulting remote meeting modus, the Committee could not complete its discussion on GBS matters at MSC 102 and deferred, inter alia, document MSC 102/7/4 (Secretariat) to MSC 103. However, at MSC 103, due to time constraints, the Committee was again unable to consider GBS matters and postponed consideration of this agenda item to MSC 104.

2 Aware of the limited time available to consider GBS matters at MSC 104 (the last scheduled Committee meeting prior to the first maintenance audit following the three-year cycle in April 2022), IACS proposed to hold a remote workshop involving IMO GBS auditors, IACS and its member classification societies and the Secretariat to clarify a number of issues that had primarily emerged during the maintenance of verification audits and which are detailed in documents MSC 102/7/4 and MSC 103/7 (Secretariat) and commented upon in document MSC 103/7/2 (IACS). In an attempt to clarify these issues and to save the Committee time during MSC 104, IACS and the Secretariat jointly organized a GBS Workshop with the IMO GBS auditors with a view to having an open exchange on matters highlighted in the aforementioned documents, as well as on general GBS matters which have not been resolved over the course of time.

3 IACS was represented by the leads of IACS' GBS Experts Group, Dr. Toshiro Arima (ClassNK) and IACS single point of contact for GBS audits, Dr. Joerg Peschmann (DNV), joined by Mr. Konstantin Petrov, IACS Accredited Representative to IMO, and Ms. Nimia Willems (IACS Technical Officer). The following representatives of IACS member classification societies were also present: Mr. Rogerio Cabral (Bureau Veritas (BV)), Dr. Daokun Zhang (China Classification Society (CCS)), Mr. Marinko Popovic (Croatian Register of Shipping (CRS)), Mr. Sandeep Kumar (Indian Register of Shipping (IRS)), Ms. Lizzie McCaig (Lloyd's Register), Mr. Akira Teshima (ClassNK), Mr. Andrzej Jankowski (Polski Rejestr Statków S.A (PRS)), Ms. Giovanna Carosi (RINA) and Mr. Kazimir Dobrzhinsky (Russian Maritime Register of Shipping (RS)). The IMO GBS Auditors were represented by: Mr. Stephan Assheuer (Germany), Mr. Juan Carlos Cubisino (Argentina); Dr. Miguel Nunez (Spain), Dr. Masayoshi Oka (Japan), Prof. Cesare Rizzo (Italy) and Mr. Robin Townsend (Royal Institution of Naval Architects). The IMO Secretariat facilitated the workshop.

4 The issues discussed during the workshop also included matters that were not sufficiently addressed in the *Revised guidelines for verification of conformity with goal-based ship construction standards for bulk carriers and oil tankers* (resolution MSC.454(100)). The outcome of the workshop is described in the following paragraphs.

Improvement of submission packages

5 The GBS auditors that conducted the maintenance audits highlighted during the workshop the difficulties they faced in handling large file volumes of technical submissions, some of which contained several thousand pages, and noted the extensive time it had taken them to find all the information in a submission package when attempting to address even a single finding.

6 The above time-consuming task was further complicated by the fact that class societies submitted their individual class rules using different layouts, structures and formats. While some societies used only a text format to explain rule changes made over time, others used tables with references, or submitted the entire rule set with the changes highlighted, or reduced their submission to those provisions that contained only the rule changes. In general, auditors would often need to review technical documentation, class rules, previous reports going back to the initial verification and Committee decisions for a single finding, which made the simple task very complex as the IMO audit programme and the associated data sets grow over the years.

7 It was highlighted that IACS UIs, URs, PRs and Recommendations were not uniformly incorporated into the individual rule sets with some class societies simply referencing them in their rule set, while others amalgamating them into their individual rules. Although it was noted that there were no requirements under the IMO GBS audit regime for rule sets to be harmonized and that ROs were free to establish rules to fit their needs in line with their historic set up and often aligning them to fit the requirements of flag Administrations, this issue posed a challenge to auditors to gain oversight of the different approaches of individual class societies during the limited time for conducting a GBS audit.

8 From the auditors' perspective, it was mentioned that the submissions prepared by a few IACS member societies were good examples to be followed for future audits and that IACS should discuss the harmonization of submissions using similar templates for the purpose of the IMO GBS audits. Having recalled auditors' comments in MSC 102/7/4 that tools and options offered by IT technologies, such as text formatting, editing and hyper-linking, as well as tools for revision-tracking, would help Auditors in their tasks, it was suggested that another solution could be the use of spreadsheets, which allowed for filtering and searching of data.

9 While it was acknowledged and confirmed by all participants that the IMO GBS audit regime did not require or envisaged harmonized class rules, it was jointly agreed that a common submission format would benefit auditors as much as auditees. Consequently, IACS agreed to raise the issue among its members and to discuss a solution that did not infringe upon the flexibility provided in the GBS provisions or the confidential information to be protected for individual class rules.

Handling of annual submissions with respect to the three-year cycle and necessary content of the package after the third year of the three-year cycle

10 IACS and its member class societies sought clarification on the implications of paragraphs 9 and 16.4 of document MSC 103/7, as it was perceived that these would require an additional submission of technical documentation package for IACS CSR and individual rule sets.

11 It was clarified that the provisions in document MSC 103/7 did not entail a request for an additional submission but meant to highlight the issues raised in the auditors' observations in paragraph 29.1 of document MSC 102/7/4, which recognized the amount of documentation to go through to conduct annual rule change audits. Bearing in mind the workload and difficulties encountered by auditors in handling large file volumes for annual rule changes, the intent of paragraphs 9 and 16.4 in document MSC 103/7 was to ensure that future rule changes would be prepared by class societies in such a way that auditors were able to quickly identify such rule changes and the associated technical documentation.

12 It was noted among the participants that the submission format for annual rule changes in the run-up to the three-yearly audit required further consideration and discussion, an issue that was well beyond the time constraints of the workshop. In this context, it was proposed that another GBS Working Group should be held to discuss this matter further with the aim of providing guidance in this respect and/or proposing amendments to the Revised GBS Verification Guidelines (resolution MSC.454(100)). Aware of the fact that no formal guidance could be developed prior to the 3rd GBS Maintenance Audit in April 2022, IACS and the auditors agreed that another GBS Working Group should be convened after conclusion of each three-year maintenance audit to discuss the audit process and potential improvements to the standards set out in resolution MSC.454(100).

13 Content with the above explanation, IACS agreed to the intent of the provisions of paragraphs 9 and 16.4 in document MSC 103/7 and indicated that the IACS GBS Experts Group would consider this matter with the aim of facilitating the process for future audits. Subject to the Committee's decision, it was generally understood that no additional submission requirements derived from the above document.

Availability of data/results of previous audits/follow up of observations (GBS database)

14 In considering the follow-up process with respect to observations raised during audits, the participants recalled the provisions in paragraphs 32 to 35 of the Revised GBS Verification Guidelines, which required ROs to develop improvement action plans for an audit observation and that these would need to be made available for maintenance audits.

15 While there was no disagreement on the importance of, and the need to follow up on observations, the auditors were of the view that the current practice of simply noting the information provided by class societies to the Committee with respect to the action taken, paired with practical difficulties in presenting the information of outstanding observations to future auditors (tracking of observations), required improvement and should be addressed by the GBS Working Group.

16 In connection with the above, it was proposed that each class society should indicate outstanding observations for the three-year maintenance audit in their submissions as part of the improvement action plans, as set out in paragraph 34 of resolution MSC.454(100). In this regard, IACS stated that this was already provided separately every year as per the GBS Guidelines to the IMO Secretary-General.

17 While IACS was sympathetic with the auditors' perceived lack of common criteria for consideration, e.g. "closure" of observations, it was made clear that class societies were in full compliance with the current provisions in the Revised GBS Guidelines and adhering to them in full, i.e. each IACS member society developed improvement actions on individual observations while common observations were dealt with jointly by the IACS forum.

18 To allow for a proper and timely handling of annual submissions referred to in paragraph 13 for the tracking of previous findings, the auditors recommended the establishment of a GBS database to facilitate the audit process in the future, reflecting reference decisions of the Committee on recurring findings by auditors (MSC 103/7, paragraphs 12 to 14).

GBS requirements and audit guidelines

19 With respect to the functional requirements (FRs) of the GBS, IACS stated that the GBS audits had revealed that FRs were understood differently and provided too much room for interpretation, which contradicted the basic principles of GBS as being "clear, demonstrable, verifiable, long-standing, implementable and achievable, irrespective of ship design and technology". As an example: the observation that different software supporting the application of the rules yielded different solutions for the scantling of structural members, should not be interpreted as contradicting the GBS requirements. While, in theory, scantling software should yield the same results for all class societies using the same standard (CSR), in reality these results varied within agreed margins providing consistent and similar satisfactory results (IACS referred to a study submitted to the initial audits where cross-checks were undertaken among software of different class societies and their results).

20 With respect to the above and while discussing the software issue, the auditors indicated that the standard followed by the audit team was related to the need to provide information and documentation requirements and evaluation criteria to demonstrate the compliance of the rules with the FRs.

21 It was generally agreed that different solutions delivering different results for scantlings did not constitute, per se, non-compliance with GBS as long as the results meet the standards. However, a certain "grey area" was acknowledged that could be addressed by formulating clearer FRs and evaluation criteria for GBS, such as in the above-mentioned case; however, this could only be resolved by the Committee and its GBS Working Group.

22 With respect to the handling of "alternative methodology" and "novel designs" for GBS audits, it was clarified that these were sufficiently addressed in the *Guidelines for the approval of alternatives and equivalents as provided for in various IMO instruments* (MSC.1/Circ.1455), whereby a flag Administration would consider the approval of a novel/alternative design first, followed by a communication of such approval to the Organization with the aim of formalizing compliance of such design with IMO requirements.

Regular meetings between auditors and auditees

23 There was consensus among auditors, IACS and its member class societies that this GBS workshop greatly assisted in building a better understanding of the audit process among all the parties involved, in particular with respect to their needs and constraints. Consequently, it was agreed to hold regular workshops in the future with all class societies confirmed as conforming to the Standards. Such workshop meetings may be held after each three-year maintenance audit, prior to the consideration of the audit report by the Committee, so as to provide feedback and input on the audit process for consideration by the GBS Working Group, if established (see also paragraph 12).

Action requested of the Committee

24 The Committee is invited to note the above information, in particular the recommendation of the GBS Workshop to re-establish the GBS Working Group after conclusion of each three-year maintenance audit for the purpose of considering gaps in the Revised GBS Verification Guidelines (see paragraphs 12, 15 and 21) and the intention of the workshop participants to organize regular GBS workshops with a view to improving the Organization's GBS Audit Scheme (paragraph 23).
