

SURVEY AND CERTIFICATION

**GUIDELINES ON THE ENHANCED PROGRAMME OF INSPECTIONS DURING
SURVEYS OF BULK CARRIERS AND OIL TANKERS
(IMO RESOLUTION A.744(18), AS AMENDED)**

AN OVERVIEW

by
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1 Introduction

1 The Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil tankers (resolution A.744(18)), hereinafter called “the Guidelines”, were adopted by the 18th session of the IMO Assembly in November 1993. The intention of the Guidelines is to ensure that an appropriate level of review of plans and documents during surveys of bulk carriers and oil tankers is conducted and consistency in their application is achieved. The evaluation of survey reports, survey programmes, planning documents, etc., should be carried out at the managerial level of the responsible maritime Administration or organization recognized by the Administration.

2 The Guidelines are divided into two annexes:

- .1 Guidelines on the enhanced programme of inspections during surveys of bulk carriers (Annex A); and
- .2 Guidelines on the enhanced programme of inspections during surveys of oil tankers (Annex B).

3 The Guidelines are mandatory under SOLAS regulation XI/2 for bulk carriers as defined in SOLAS regulation IX/1.6¹ and oil tankers as defined in SOLAS regulation II-1/2.12². The regulation requires that bulk carriers and oil tankers as defined in SOLAS shall be subject to an enhanced programme of inspections in accordance with the Guidelines, as may be amended (see paragraph 7 below).

2 Background

4 At the 60th session of the Maritime Safety Committee (MSC 60) in April 1992, the Japanese delegation, drawing the attention of the Committee to the urgent need to develop guidelines for an enhanced programme of surveys and inspections of oil tankers in pursuance of regulation 13G(3) of MARPOL 73/78 and of bulk carriers, pursuant to resolution A.713(17) on Safety of ships carrying solid bulk cargoes, proposed the establishment of a joint MSC/MEPC working group on enhanced surveys and inspections. The joint working group was first convened at the 33rd session of the Marine Environment Protection Committee (MEPC 33) and continued its work at MSC 61.

5 MSC 62 in May 1993 approved the final draft of the Guidelines and agreed that a single Assembly resolution should cover both bulk carrier and oil tanker guidelines. MEPC 34 was requested to further review the Guidelines before submission to A 18 for adoption. The Committee also agreed that the Guidelines should be mandatory under SOLAS and approved relevant draft amendments to the Convention for submission to the 1994 SOLAS Conference for further consideration.

6 The 18th IMO Assembly in November 1993 eventually adopted resolution A.744(18) on Guidelines on the enhanced programme of inspections during surveys of bulk carriers and oil

1 *Bulk carrier* means a ship which is constructed generally with single deck, top-side tanks and hopper side tanks in cargo spaces, and is intended to primarily carry dry cargo in bulk, and includes such types as ore carriers and combination carriers.

2 An *oil tanker* is the oil tanker defined in regulation 1 of annex I of MARPOL 73/78 as follows: *Oil tanker* means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers and any “chemical tanker” as defined in Annex II of the present Convention when it is carrying a cargo or part cargo of oil in bulk.

tankers, inviting Governments to apply the Guidelines as soon as possible to all bulk carriers and oil tankers respectively and requesting the MSC and the MEPC to keep them under review and update them as necessary, in the light of experience gained in their application.

7 The 1994 SOLAS Conference adopted new SOLAS chapter XI on Special measures to enhance maritime safety (Conference resolution 1, annex 1), thereby making resolution A.744(18), as may be amended, mandatory through regulation XI/2 which reads as follows:

“Enhanced surveys

Bulk carriers as defined in regulation IX/1.6 and oil tankers as defined in regulation II-1/2.12 shall be subject to an enhanced programme of inspections in accordance with the guidelines adopted by the Assembly of the Organization by resolution A.744(18), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.”

8 In this connection, the 1994 SOLAS Conference also adopted special provisions for amending SOLAS chapter XI (Conference resolution 5 - Future amendments to chapter XI of the 1974 SOLAS Convention on special measures to enhance maritime safety), taking into account that the measures now included in chapter XI were of a very special nature to enhance maritime safety and that it was undesirable to frequently amend the provisions. The Conference therefore recommended that future amendments to chapter XI should only be adopted by a Conference of Contracting Governments to SOLAS in accordance with the provisions of article VIII(c) of the Convention.

3 Contents of the Guidelines

9 The contents of the Guidelines as described in the following include the amendments in force on 1 January 2002, i.e. the 1996 and 1997 amendments (for more details on those amendments refer to section 4).

3.1 Guidelines on the enhanced programme of inspections during surveys of bulk carriers (Annex A)

10 The Guidelines start of with a general chapter on application, definitions and scope of surveys. It stipulates that the Guidelines should apply to surveys of hull structure and piping systems in way of cargo holds, cofferdams, pipe tunnels, void spaces within the cargo length area and all ballast tanks and that the surveys should be carried out during the surveys prescribed by the 1974 SOLAS Convention, as amended. Prior to inspection the surveyor should examine the completeness of documentation on board and its contents as a basis for the survey. When a survey results in the identification of significant corrosion or of significant structural defects which, in the opinion of the surveyor, will impair the structural integrity of the ship, then remedial action, in consultation with the Administration should be agreed and implemented before the ship continues in service.

11 Chapter 2 deals with the enhanced survey carried out during the periodical survey. It starts with general provisions on timing and conduct of the enhanced survey, continues with detailed requirements for dry-dock surveys, space protection, inspections of hatch covers and coamings and goes on to explain the extent of overall and close-up surveys, thickness measurements and tank pressure testing.

12 Chapter 3 talks about the enhanced survey carried out during the annual survey, for the purpose of ensuring, as far as practicable, that the hull, hatch covers, coamings and piping are maintained in a satisfactory condition. It also includes provisions on the examination of cargo holds and ballast tanks.

13 The intermediate enhanced survey is the subject of chapter 4, concerning those items which are additional to the requirements of the annual survey and may be surveyed either at the second or third annual survey or between these surveys. It has requirements for the survey of ballast tanks and cargo holds and the extent of thickness measurements.

14 Chapter 5 deals with preparations for survey, in particular the survey programme, the conditions for survey, access to structures, equipment for survey and the conduct of surveys at sea or at anchorage.

15 Chapter 6 contains provisions for prompt and thorough repairs of bulk carriers relative to damages and wastage in cargo holds, requesting that any damage or excessive wastage beyond allowable limits to side shell frames, their end attachments and/or adjacent shell plating, and deck structure and deck plating between hatches, watertight bulkheads and hatch covers and hatch coamings that affect the structural strength or integrity of the hull of the vessel, is to be promptly and thoroughly repaired.

16 The on-board documentation to be supplied and maintained by the owner and to be made available to the surveyor is specified in chapter 7. It contains requirements for the survey report file, supporting documents and the review of documentation on board by the surveyor.

17 Chapter 8 is dedicated to procedures for thickness measurements, including general requirements and special provisions regarding the certification of thickness measurement company and the preparation of the thickness measurement report.

18 Reporting and evaluation of survey are dealt with in chapter 9, stating that the data and information on the structural condition of the ship collected during the survey should be evaluated for acceptability and continued structural integrity of the ship and that a condition evaluation report of the survey and results should be issued to the owner.

19 Specific requirements for particular provisions of Annex A of the Guidelines are contained in annexes as follows:

- Annex 1 Requirements for close-up survey at periodical surveys
- Annex 2 Requirements for thickness measurements at periodical surveys
- Annex 3 Owner's inspection report
- Annex 4 Principles for planning document
- Annex 5 Procedures for certification of a company engaged in thickness measurements of hull structures
- Annex 6 Reporting principles
- Annex 7 Condition evaluation report
- Annex 8 Recommended procedures for thickness measurements
 - Appendix 1 General particulars
 - Appendix 2 Reports on thickness measurement
 - Appendix 3 Guidance on thickness measurement
- Annex 9 Guidelines for technical assessment in conjunction with the planning of enhanced survey for bulk carriers
- Annex 10 Requirements for extent of thickness measurement at those areas of

substantial corrosion. Periodical survey of bulk carriers within the cargo area

3.2 Guidelines on the enhanced programme of inspections during surveys of oil tankers (Annex B)

20 The Guidelines start with a general chapter on application, definitions and scope of surveys. It stipulates that the Guidelines should apply to all oil tankers of 500 tons gross tonnage and above, otherwise the same provisions as in Annex A apply.

21 Chapter 2 deals with the enhanced survey carried out during the periodical survey. It starts with general provisions on timing and conduct of the enhanced survey, continues with detailed requirements for dry-dock surveys and inspection of tank corrosion prevention systems and goes on to explain the extent of overall and close-up surveys, thickness measurements and tank pressure testing.

22 Chapter 3 talks about the enhanced survey carried out during the annual survey, for the purpose of ensuring, as far as practicable, that the hull, weather decks, cargo pump-rooms and pipe tunnels are maintained in a satisfactory condition. It also includes provisions on the examination of ballast tanks.

23 The intermediate enhanced survey is the subject of chapter 4, concerning those items which are additional to the requirements of the annual survey and may be surveyed either at the second or third annual survey or between these surveys. It has requirements for the survey of oil tankers over 5 years of age but not more than 10 years of age and oil tankers over 10 years of age and also for the extent of thickness measurements.

24 Chapters 5, 6, 7 and 8 are very similar to chapters 5, 7, 8 and 9 of Annex A, dealing with preparations for survey, documentation on board, procedures for thickness measurements and reporting and evaluation of survey.

25 Specific requirements for particular provisions of Annex B of the Guidelines are contained in annexes as follows:

- Annex 1 Requirements for close-up survey at periodical surveys
- Annex 2 Requirements for thickness measurements at periodical surveys
- Annex 3 Requirements for tank pressure testing at periodical surveys
- Annex 4 Requirements for extent of thickness measurements at areas of substantial corrosion. Periodical survey within the cargo area
- Annex 5 Owner's inspection report
- Annex 6 Principles for planning document
- Annex 7 Procedures for certification of a company engaged in thickness measurements of hull structures
- Annex 8 Reporting principles
- Annex 9 Condition evaluation report
- Annex 10 Recommended procedures for thickness measurements
 - Appendix 1 General particulars
 - Appendix 2 Reports on thickness measurement
 - Appendix 3 Guidance on thickness measurement
- Annex 11 Guidelines for technical assessment in conjunction with the planning of enhanced survey for oil tankers

4 Amendments to the Guidelines³

26 Since the Guidelines are mandatory under SOLAS (see paragraphs 3 and 7 above), amendments have to follow the procedures outlined in article VIII(b) and regulation XI/2 of the SOLAS Convention. This concerns in particular the proposal and circulation of draft amendments, their adoption, the dates of their acceptance and their entry into force and the circulation of certified texts of the amendments after adoption.

27 Since their adoption in 1993 the Guidelines have been extensively amended and further amendments, prepared by the Sub-Committee on Ship Design and Equipment (DE), are currently in the pipeline (see section 4.4 below). The following amendments are in force or will be entering into force in the near future.

4.1 1996 amendments

28 Resolution MSC.49(66), containing the first set of amendments to the Guidelines, was adopted by the MSC on 4 June 1996 and entered into force on 1 July 1998. The amendments concerned both annexes to the resolution (i.e. applied to bulk carriers and oil tankers) as follows:

- introduction of changes and additions to the provisions concerning the survey programme (chapter 5 in both annexes);
- addition of a new annex 9 (Guidelines for technical assessment in conjunction with the planning of enhanced surveys for bulk carriers – Periodical survey) to Annex A; and
- addition of a new annex 11 (Guidelines for technical assessment in conjunction with the planning of enhanced surveys for oil tankers – Periodical survey) to Annex B.

4.2 1997 amendments

29 The 1997 SOLAS Conference adopted a second set of amendments through Conference Resolution 2 which entered into force on 1 July 1999.

30 The amendments concerned mainly Annex A and entailed changes, *inter-alia*, to the provisions regarding corrosion prevention systems, protective coating and checking of hatch covers. The provisions for the examination of cargo holds were expanded significantly, introducing gradually differing requirements according to the age of the relevant bulk carriers. A new section 6 on prompt and thorough repairs of bulk carriers relative to damages and wastage in cargo holds was inserted and existing annex 1 on requirements for close-up survey at periodical surveys was amended. Furthermore, a new annex 10 on requirements for extent of thickness measurement at those areas of substantial corrosion - periodical survey of bulk carriers within the cargo area was added.

31 The amendments to Annex B were restricted to aligning the text with that of Annex A by introducing the same provisions regarding corrosion prevention systems and protective coating.

4.3 2000 amendments

32 Resolution MSC.105(73), containing the third set of amendments to the Guidelines, was adopted by the MSC on 5 December 2000 and is expected to enter into force on 1 July 2002.

3 A consolidated text of the Guidelines, containing all amendments adopted up to and including December 2000 was issued as an IMO publication (sales no. IMO-265) in 2001.

33 The 2000 amendments concerned mainly Annex B and were dealing with the evaluation of the ship's longitudinal strength. Relevant new provisions were included in section 8, annex 9 on the condition evaluation report was expanded to include a new section on the evaluation result of longitudinal strength of the hull girder of oil tankers of 130 m in length and upwards and over 10 years of age and a new annex 12 on criteria for longitudinal strength of hull girder for oil tankers was added.

34 In both annexes, i.e. applying to bulk carriers and oil tankers, section 2 was amended to include a requirement for ships of 15 years of age and over to have all inspections of the outside of the ship's bottom with the ship in dry dock.

35 MSC 73 also adopted resolution MSC.108(73) - Recommendation on compliance with the requirements of paragraph 2.2.1.1 of annex 12 to Annex B to the Guidelines. It urges Governments to ensure that the actual transverse section modulus of the hull girder of oil tankers, calculated under paragraph 2.2.1.1 of annex 12 to Annex B to the Guidelines, is not less than 90% of the required section modulus for new buildings specified in IACS' Unified Requirements, whether or not they are classed with a classification society being a member of IACS.

4.4 2002 amendments

36 MSC 75 in May 2002 is expected to adopt the next set of amendments, prepared by DE 44 and circulated by the Secretary-General in accordance with SOLAS article VIII. The amendments, which are expected to enter into force on 1 January 2004, align the provisions of the Guidelines with IACS Unified Requirements Z10.1⁴ and Z10.2⁵ and concern, inter-alia, the following:

.1 Annex A

- addition of definitions for *prompt and thorough repair* and *Convention*;
- section 1.3 "Scope of surveys" replaced by a new section "Repairs";
- addition of new paragraph 3.6 on additional annual survey of the foremost cargo hold of ships subject to regulation XII/9.1 of the Convention in accordance with the requirements of annex 12;
- section 4 on the intermediate enhanced survey replaced in its entirety;
- changes to section 8 on procedures for thickness measurement;
- changes to the table "Extract of thickness measurements" in annex 7;
- addition of two new appendices to annex 8 (Appendix 4 - Ore carriers – Thickness measurement and typical transverse section indicating longitudinal and transverse members and Appendix 5 - Ore carriers – Thickness measurements and close-up survey requirements); and
- addition of two new annexes (Annex 11 - Guidelines for the gauging of the vertically corrugated transverse watertight bulkhead between holds nos.1 and 2 and Annex 12 - Additional annual survey requirements for the foremost cargo hold of ships subject to SOLAS regulation XII/9.1);

.2 Annex B

- addition of a definition for *prompt and thorough repair*;
- section 1.3 "Scope of surveys" replaced by a new section "Repairs";
- changes to paragraph 2.5.1 concerning piping systems;

4 IACS Unified Requirement Z10.1 "Hull surveys of oil tankers"

5 IACS Unified Requirement Z10.2 "Hull surveys of bulk carriers"

- addition of new paragraph 3.5.3 concerning examination of ballast tanks adjacent to a cargo tank;
- section 4 on the intermediate enhanced survey replaced in its entirety; and
- changes to section 7 on procedures for thickness measurement.

5 Future developments

37 Both the DE and FSI Sub-Committee are currently developing further amendments to resolution A.744, following relevant instructions by the MSC.

38 The DE Sub-Committee was instructed to deal with the following subject matters:

- detailed consideration of introducing and incorporating relevant elements and provisions of the Condition Assessment Scheme (CAS) (resolution MEPC.94(46)), adopted by MEPC 46 in the context of revised MARPOL regulation I/13g (resolution MEPC.95(46)), into resolution A.744(18);
- development of guidelines on proper sampling methods of thickness measurements for ship's longitudinal strength evaluation of aged tankers;
- consideration of several issues earmarked by FSI 9 for consideration by the Sub-Committee, including:
 - inclusion, in survey reports, of a clear description of which compartments of the ship were surveyed, which structural elements were surveyed within each compartment and what type of survey ("overall" or "close-up") was done;
 - inclusion, in survey reports, of a clear description of the condition of each individual structural element surveyed, including, where relevant, a clear identification of which items require specific types of repair;
 - development of a standard terminology to accurately describe the seriousness and extent of problems/defects identified during surveys; and
 - problems arising from surveys being "split" between two or more survey stations.

39 The FSI Sub-Committee is currently considering the following matters regarding resolution A.744:

- introduction of numbered lists of items identified as needing repairs by the surveyor,
- planning of all repairs of items relevant to the structural integrity of a ship beforehand in co-operation with a surveyor from the classification society and, when carried out, inspection and approval by a surveyor; and
- Head Office authorization for deferring any repair previously required by another surveyor, such decision not to be left to the discretion of the (last) surveyor alone.

IACS is currently identifying best practices amongst its Members with regard to the above mentioned issues in order to harmonize reporting practices in this area and will keep IMO informed on developments.
