



MARITIME SAFETY COMMITTEE
88th session
Agenda item 19

MSC 88/19/2
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GENERAL CARGO SHIP SAFETY

IACS FSA study

Submitted by the International Association of Classification Societies (IACS)

SUMMARY

Executive summary: This document provides information from an FSA study that has been performed by IACS regarding general cargo ships.

Strategic direction: 12.1

High-level action: 12.1.1

Planned output: 12.1.1.2

Action to be taken: Paragraph 10

Related documents: MSC 77/25/4; MSC 82/21/19; MSC 83/INF.2; MSC 85/19/1, MSC 85/26; MSC 86/INF.4; MSC 87/20/1, MSC 87/INF.3, MSC 87/INF.4; MSC 88/INF.6 and MSC 88/INF.8

Introduction

1 At MSC 77, the issue of general cargo ship safety was brought to the attention of the Committee by RINA (MSC 77/25/4). This was followed up by a submission from the Russian Federation (MSC 82/21/19). IACS investigated the current situation of general cargo ships and submitted the evaluation of historical data to IMO as step 1 of the FSA (MSC 85/19/1, MSC 86/INF.4 and MSC 87/INF.3).

2 Subsequent to undertaking step 1, the casualty records for general cargo ships were investigated and the risk model was developed for ships within the IACS fleet and with a minimum size of 500 gross tonnes. This step of the FSA study was submitted to the Organization at MSC 87 (MSC 87/20/1 and MSC 87/INF.4).

3 As per the amended FSA Guidelines (MSC 83/INF.2), IACS continued the FSA study by conducting steps 3 and 4 (Risk Control Options and Cost-Benefit Assessment respectively). The results of these two steps are reported in detail in the annex to document MSC 88/INF.6.

Summary of results from the study

4 The IACS FSA study on general cargo ships demonstrated that:

- .1 the safety level of general cargo ships within the IACS fleet is tolerable and hence in the area where risk should be made ALARP (As Low As Reasonably Practicable);
- .2 the risk is dominated by foundering, collision and wrecked/stranded scenarios; and
- .3 some identified risk control options were found to be cost-effective according to the cost-effectiveness criteria (GCAF, NCAF) in document MSC 83/INF.2.

5 The following risk control options (RCOs) were found to be cost-effective on the basis of GCAF (Gross Cost of Averting a Fatality), with a GCAF value below US\$3 million:

- .1 RCO 27 (technical): Anchoring watch alarm integrated in ECDIS (no additional costs if ECDIS is already integrated on bridge);
- .2 RCO 20 (operational/training): Port State Control inspector training for general cargo ships; and
- .3 RCO 32 (technical): Combine watch alarm with autopilot.

6 The above listed RCOs are also cost-effective following a sensitivity analysis taking into account:

- .1 the variation in the values for loss of ship and repair costs based on a Monte Carlo simulation;
- .2 the variation with respect to the costs of the RCOs using the minimum and maximum values;
- .3 the lower and upper bound values of accident frequency; and
- .4 the minimum and maximum values of the effectiveness of the RCOs.

7 Additionally, the following RCOs were found to be cost-effective on the basis of negative NCAF (Net Cost of Averting a Fatality) value:

- .1 RCO 28 (operational/training): Checklist for maintenance procedures;
- .2 RCO 26 (operational/training): ECDIS training of all officers of watch;
- .3 RCO 23 (operational/training): Simulator training for increasing situational awareness; and
- .4 RCO 8 (operational/training): Improving preparation and handling of ship for manoeuvring in restricted waters (crew and pilot).

8 The following RCOs were found to be cost-effective on the basis of a positive NCAF value below US\$3 million:

- .1 RCO 17 (technical/operational/training): Improvement of cargo stowage especially bulk (other than grain) and heavy items;
- .2 RCO 19 (operational/training): Extended survey on General Cargo Ships; and
- .3 RCO 2 (technical): ECDIS with AIS and RADAR (only for new-buildings).

Summary of results

9 Consistent with the spirit of the decision of C 104 (as reported at paragraph 4 of document MSC 88/2/1) regarding limiting the number of pages per document and per meeting "*with a view to increasing efficiency and effectiveness, while also reducing the growing burden of work*"; the report of this FSA study, in the format prescribed in Appendix 8 to document MSC 83/INF.2, is provided in document MSC 88/INF.8.

Action requested of the Committee

10 The Committee is invited to consider the report as set out above and in document MSC 88/INF.8 and take them into account, as appropriate, in its further consideration of general cargo ship safety.
