GENERAL CARGO SHIPS – RINA PAPER

MARITIME SAFETYCOMMITTEE
83rd Session

MSC 83/yy/xx
zz July 2007
Original: English

Agenda item yy

Comments on general cargo ship losses and fatalities

Submitted by the Royal Institution of Naval Architects (RINA)

SUMMARY

Executive Summary: This paper considers future action to be taken to assess the adequacy of current safety requirements for general cargo ships, and suggests that it should include an analysis of the causes of a representative number of the major types of accident.

Action to be taken: Paragraph 11.

Related Documents: MSC 77/25/4, MSC 82/21/19

Introduction

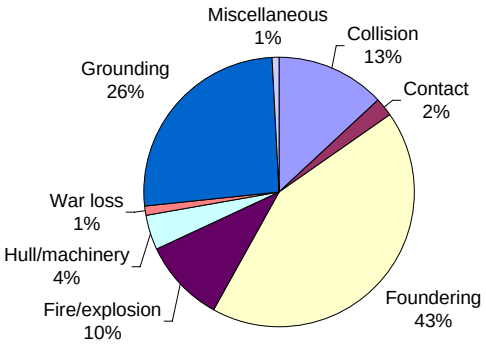
1. RINA welcomes the decision of MSC82 to include in the provisional agenda for MSC 83, an item on "General cargo ship safety" to assess the adequacy of current safety requirements for general cargo ships, and to invite Member Governments and international organizations to submit appropriate information on the matter, to be considered by an *ad hoc* Working Group on General Cargo Ship Safety.

2. Statistical information such as presented by RINA (MSC/77/25/4) and the Russian Federation (MSC 82/21/19) serves to confirm that accidents are high on general cargo ships compared to other ship types. However, it is considered that data specifically showing the causes of such accidents will also be necessary for the Working Group to determine where and how General Cargo Ship safety might be improved. It is also considered that this data should focus on the most significant accident types, which dominates the risks.

Breakdown of Risks by Accident Types

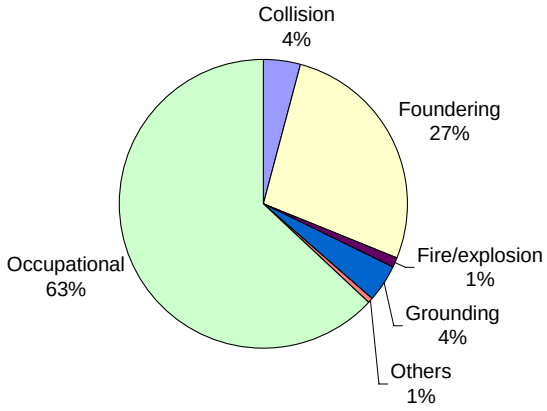
3. The following breakdowns of accident on general cargo ships are based on an analysis of Lloyd's Casualty Database (summarised in "*FSA of Ship Classification Rules*", Spouge et al, RINA 2002). Figure 1 shows that foundering (capsize and sinking together) makes the largest contribution to total losses of general cargo ships.

Figure 1 Causes of Total Losses of General Cargo Ships, 1990-2001



4. Figure 2 shows the breakdown of fatalities for general cargo ship crew. The largest contribution comes from occupational accidents (i.e. accidents to people on board, not affecting the ship itself). This estimate is based on available occupational fatality data on coasters ("*Occupational Hazards on Board Danish Merchant Ships*", Hansen et al, RINA 2002). Foundering is the second major cause of loss of life. Other accident types make relatively small contributions.

Figure 2 Causes of Fatalities on General Cargo Ships, 1990-2001



5. These results show clearly that to a significant improvement in overall general cargo ship safety would be made by reducing the number of foundering and occupational accidents.

Sources of Information on Accident Causes

6. In order to select appropriate risk control options, it is necessary to know more about the causes of the accidents. In most accidents there is insufficient information available, and therefore a more detailed statistical analysis is not possible. However, an analysis of the causes does not require a complete dataset. It is considered that a small but representative number of accidents, investigated in depth, can give a better understanding of the overall breakdown of causes than a large dataset where causes are unclear.

7. It is considered that a number of in-depth investigations of accidents that are representative of the major risks should be chosen for such analysis, and that priority should be given to foundering and occupational accidents.

8. It is recognised that in many foundering accidents, the information on the causes is lost along with the ship. However, valuable information can be obtained from precursor incidents (or "near-misses"), such as in cases of flooding that did not result in loss of the ship. It is therefore considered that investigations of these incidents could also be useful in the analysis.

Conclusion

9. It is concluded that further work to assess the adequacy of current safety requirements for general cargo ships should include consideration of the causes of general cargo ship losses. It is also concluded that, although not as rigorous or complete as a Formal Safety Assessment (FSA), a practical and effective approach to this work would be to carry out a detailed analysis of a small but representative number of the major types of accidents on general cargo ships.

10. It is therefore suggested that Member Governments and international organizations should be invited to submit information on the investigation of such losses to enable an analysis to be carried out, and that priority should be given to investigations of foundering and occupational accidents, since studies show that a reduction in such accidents would give the greatest potential for improvement in overall general cargo ship safety.

Action Requested of the Committee

11. The Committee is invited to consider the above conclusions and, if appropriate, to endorse the suggested approach for further work on general cargo ship losses and invite member governments and international organizations to submit investigation reports for consideration.