INTERNATIONAL MARITIME ORGANIZATION

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DEVELOPMENT OF A MANDATORY CODE FOR SHIPS OPERATING IN POLAR WATERS

Comment on the tiered risk assessment study submitted by CLIA

Submitted by New Zealand

SUMMARY	
Executive summary:	This document comments on the Antarctic Tiered Risk Assessment commissioned by IAATO and submitted to DE 54 by CLIA
Strategic direction:	5.2
High-level action:	5.2.1
Planned output:	5.2.1.19
Action to be taken:	Paragraph 20
Related document:	DE 54/INF.2

1 This document provides comments on document DE 54/INF.2 and is submitted in accordance with the provisions in paragraph 4.10.5 of the revised Guidelines on the organization and method of work of the MSC and the MEPC and their subsidiary bodies (MSC-MEPC.1/Circ.2).

Comment on the submission by the Cruise Lines International Association (CLIA)

2 The International Association of Antarctica Tour Operators (IAATO) commissioned Safety at Sea Ltd (SaS) to undertake an initial risk assessment study of SOLAS passenger vessels operating in Antarctic waters. The report has been submitted to DE 54 by CLIA with an invitation that the Sub-Committee "considers and incorporates this study and its findings in the development of a mandatory Code for ships engaged in polar operations".

General comments

3 The report provides a lot of detailed background information, including the nature and scale of present shipping operations, the nature of the Antarctic environment and the hazards to shipping. This information will be very useful in the development of a Code. However, New Zealand has a number of concerns about the general approach taken.

4 Establishing the risk "context" is a critical step in any risk management process in accordance with the new international standard ISO 31000: 2009 Risk Management – Principles and Guidelines. This step includes, at the outset, identifying the stakeholders, establishing the categories of consequence that should be considered, determining how the resulting risks will be assessed and the criteria for deciding whether those risks are acceptable or tolerable. The report appears to start with the analysis without first addressing these wider questions.

5 For example, section 1.2: Method of work and scope: refers to the Antarctic Treaty Consultative Meeting Intersessional Correspondence Group (ATCM ICG) but does not take into account the proceedings and recommendations of the Wellington Antarctic Treaty Meeting of Experts (ATME) on The Management of Ship-Borne Tourism in the Antarctic Treaty Area (December 2009) which IAATO attended. The report is "mainly concerned with impacts on people"; "other impacts are outside the scope of this work". This is a considerable limitation given the concerns which are held within the Antarctic Treaty System about not only the humanitarian impact of a serious maritime incident but also the consequences for the Antarctic environment.

6 The report does not discuss what is considered to be an acceptable or tolerable level of risk or how this may be determined for the Antarctic context. Rather it adopts IMO Formal Safety Assessment (FSA) fatality criteria with little discussion. Those criteria may not necessarily be appropriate for this situation. As noted above, it does not address environmental impacts or the potentially very high levels of public/international concern that may follow a serious incident in Antarctic waters. Nor does it address the potential reputational damage or financial impacts on the polar cruise or wider maritime sector that might result.

7 New Zealand suggests that the level of public tolerance in the international community for any serious shipping incident or pollution in the Antarctic environment would be very low. Given the hazards associated with the Antarctic marine environment, this raises the broader question as to what is the appropriate balance between a prescriptive approach for polar operations with mandatory minimum standards of design, construction, equipment, navigation aids and training and an operator-focussed tiered risk assessment. There is a danger that a narrowly-focussed approach to assessing risks as presented in this report, if taken in isolation, may give a false sense of confidence in the ability of tourist vessels to operate safely in the Antarctic environment and with minimal impact.

8 On reading the report, there appears to be an underlying but unstated assumption that the Antarctic is a normal commercial operating environment for shipping. However, section 2.4 describes the operating environment:

> "As stated in The Antarctic Pilot [10], navigation in Antarctic waters is rendered difficult by a number of considerations (natural hazards and logistic challenges) including the following:
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> .1 Sea ice;
> .2 Sudden, violent and unpredictable changes in the weather;
> .3 An unusual high proportion of vigias, or dangerous shoals rising precipitously from deep water;
> .4 Large seas (wind-driven waves) and swells;
> .5 Instability in the compass in very high latitudes;
> .6 Inadequate charts due to lack of accurate surveys or charts not up to modern standards;
> .7 Absence of navigational aids (such as lights, buoys);

.8 Whiteout;
.9 Kelp;
.10 Obscuring salient points and landmarks by icebergs;
.11 Loss of echo sounding trace in drift ice; and
.12 When vessels are at anchor, the drifting of icebergs on the tidal streams".

9 The corollary of the assumption is that the resulting risks can be managed with the usual controls and that the tolerance to risk is the same as anywhere else in the world. The above list of hazards suggests that that is clearly not the case and a greater degree of caution needs to be exercised.

Comments on specific sections

10 Section 2.3: Commercial seaborne tourism in the Antarctic: the study is focussed primarily on the Antarctic Peninsula. Conditions in the Ross Sea are very different; especially in regard to sea-ice conditions (see ATME WP2 "*Past and future changes in sea-ice around Antarctica*"[1] M. Williams and S. Dean in Appendix A).

11 Table 2.6: This table notes that the Ross Sea is characterized as suitable for "light ice operations (January, February)". This considerably understates the reality of the situation. For example last year was the first time for several years that tourist vessels operating in high summer were able to access the historic huts in the Ross Sea region because of the sea ice density and distribution.

12 Section 4.4: Risk evaluation: the report characterizes the risk of fatalities arising from grounding or contact with sea-ice as "one statistical fatality every 461 ship years" and below the "As Low as Reasonably Practical (ALARP) region". The report further states "Risk at this level has to be reduced only if measures are cost effective". In our view, the report grossly underestimates the likely consequences of a serious incident in the particular circumstances of the Antarctic due to variability and extremes of weather and remoteness from SAR. The fact that no lives were lost in the **MV Explorer** incident in November 2007 is attributable to the remarkably calm and very temporary weather conditions at the time which allowed their rescue, despite the unserviceability of half of the lifeboats and other life-saving equipment.

13 The reliance on a statistical analysis of "historical" data obscures the fact that tourism continues to evolve. For example IAATO vessels are seeking new sites to visit in the Antarctic Peninsula as the sea-ice decreases there in summer. The lack of adequate charting in these newly available areas increases the risk of grounding. It is also important to recall that "less than one percent of the sea area within the 200 metre contour has been adequately surveyed to meet the needs of contemporary shipping entering Antarctic waters" (see ATME WP4 "*New Zealand: Hydrographic surveying and charting in the Ross Sea Region, Antarctica*"[2] Adam Greenland, NZ National Hydrographer).

14 New Zealand agrees with the report's finding that it would "seem reasonable that any passenger vessels operating in areas and during a time of year in which the probability of meeting ice hazards is likely should be ice strengthened". The occurrence of ice is not always predictable and can vary considerably from year to year. In relation to the above, it should be noted that almost half (48%) of IAATO vessels are not ice-strengthened.

1 To view this report visit http://www.ats.aq/documents/ATME2009/wp/ATME2009_wp002_e.doc .
2 To view this report visit http://www.ats.aq/documents/ATME2009/wp/ATME2009_wp004_e.doc.

15 The suggestion that ice-strengthening of the hull does not appear to be one of the most important measures because "the risk of grounding is also high and ice-strengthening would not be effective in such cases" is illogical. It is as important for ships to be protected from damage by ice which is a major hazard even if such strengthening does not protect them from damage incurred in going aground.

Conclusion

16 A risk-based approach to voyage planning, preparation and execution while desirable is not on its own sufficient to ensure the safety of navigation and protection of the environment in Antarctica. New Zealand considers the analysis presented in the CLIA/IAATO study to be inadequate because it is narrowly focussed, and it understates the consequences for human life and the environment of a serious incident in Antarctica where the effects are likely to be magnified many times over because of the particular conditions and remoteness of the region.

17 In addition, the report's analysis of risk on the basis of statistics derived from historical data overlooks the serious "near-misses" that have occurred with increasing frequency in recent seasons. It also fails to take into account the changing patterns of tourism and the increasing variation in climatic conditions in different parts of Antarctica.

18 New Zealand acknowledges that the ALARP model is widely established and adopted across a range of industries and activities internationally and accepts this as a legitimate framework for assessing and managing risk. However, the accurate and reliable characterization of risk is dependent on realistic assessments of likelihood and consequence. It is questionable whether, if a truly balanced and broad assessment of risks is considered, the risk of human fatalities and environmental damage associated with tourist vessels in Antarctica really does fall within the "ALARP region" where the risk level only needs to be addressed "if measures are cost-effective".

19 The risk assessment provides a useful reference document to assist in the development of the Polar Code. However for the reasons discussed above New Zealand does not agree that the study should be incorporated in the Polar Code as proposed by CLIA.

Action requested of the Sub-Committee

20 The Sub-Committee is invited to:

.1 note the information provided above; and

.2 agree that the report should be used as a reference document in the development of a mandatory Polar Code.