



MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
58th session  
Agenda item 23

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## REPORT OF THE MARINE ENVIRONMENT PROTECTION COMMITTEE ON ITS FIFTY-EIGHTH SESSION

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(excerpt)

## **16      ROLE OF THE HUMAN ELEMENT**

### **Report of the Joint MSC/MEPC Working Group on Human Element**

## **17      FORMAL SAFETY ASSESSMENT**

17.1 The Committee recalled that MEPC 56 had noted that the one matter that needed consideration within the context of the Formal Safety Assessment Guidelines relevant to its work was the draft Environmental Risk Evaluation Criteria. MEPC 56 had also recognized the need to carry out an in-depth analysis of the proposed environmental risk evaluation criteria for the purpose of the Formal Safety Assessment (FSA) before inclusion of such criteria in the IMO FSA Guidelines (MSC/Circ.1023-MEPC/Circ.392, as consolidated in MSC 83/INF.2). MEPC 56 had therefore agreed to establish a correspondence group, under the coordination of Greece.

17.2 The Committee noted that progress had been made by the correspondence group in the intersessional period (between MEPC 56 and MEPC 57), but at MEPC 57 divergent views still remained on some key issues which required further analysis and discussions between members of the correspondence group, in particular:

- .1 on establishing an appropriate Severity Index (SI) in the Hazid step;
- .2 whether “costs of averting a spill (CATS)” or an alternative criterion would offer the needed decision-making quality; and
- .3 the acceptable boundaries of the ALARP region, slope of F-N diagram and what is the variable of horizontal axis.

17.3 The Committee noted that MEPC 57 had subsequently agreed to continue with the work of the correspondence group, under the coordination of Greece. In this connection, the Committee noted that MSC 84 recognizing that, at MSC 85, there would be an outcome of MEPC 58 regarding environmental risk acceptance criteria and submissions related to the review of FSA studies, agreed to retain the item in the provisional agenda for MSC 85, and encouraged Member Governments and international organizations to submit, to MSC 85, proposals and comments on matters related to the review of the FSA studies and arrangements for the FSA Experts Group.

17.4 The Committee had before it documents MEPC 58/17 (Greece), which contained the work carried out in the intersessional period by the correspondence group, MEPC 58/17/1 (Japan), which provided information on the relation between cost of oil spills and weight of oil spilled based on an analysis of data from the IOPC Funds data, and MEPC 58/17/2 and MEPC 58/INF.2 (both by Denmark), which provided information on the FSA study on crude oil tankers carried out within the research project SAFEDOR.

17.5 Following an intervention by the delegation of Denmark, the Committee agreed to invite the MSC to consider documents MEPC 58/17/2 and MEPC 58/INF.2 at MSC 86 when the FSA Expert Group is expected to meet in the context of the guidance on the use of human element analysing process (HEAP) and formal safety assessment (FSA) in the rule-making process of IMO (MSC/Circ.1022-MEPC/Circ.391). In this context, the Committee noted that the purpose of circulating the study at this meeting was to give experts from Member States and other interested parties as much time as possible to provide feedback on the study in preparation for MSC 86.

17.6 In light of the technical nature of the subject, the Committee considered, in the first instance, the establishment of a working group to progress the work but noting that no working group on the subject was envisaged by MEPC 57 as well as the concern expressed by some delegations of the lack of the necessary expertise present within their delegations to participate in such a working group, it was agreed to establish an informal consultation group under the chairmanship of Professor Harilaos Psaraftis (Greece) to enable those members of the Correspondence Group who were present at MEPC to have an initial exchange of views and for the group to verbally report to the Committee later in the week.

17.7 The group met from 7 to 8 October 2008, and was attended by delegations from Canada, China, Finland, Greece, Japan, Malaysia, New Zealand, Norway, Turkey, and United States, and by observers from BIMCO, OCIMF and INTERTANKO.

17.8 In his verbal report, the Chairman of the group noted that the objective was to work on all pending issues outlined in paragraph 17.2 above, and to propose a way forward. The group did not consider submissions MEPC 58/17/2 and MEPC 58/INF.2 on the FSA study for crude oil carriers however noted that the one part of this FSA study that is relevant for the work on Environmental Risk Evaluation Criteria within the context of FSA guidelines is the threshold of USD 60,000/tonne used as the CATS criterion in the study.

17.9 The group's Chairman informed the Committee that the group had recognized that, though divergence of opinions existed among group members on some key issues, there were probably also areas where agreement could be reached. The group had agreed that non-linearity between cleanup costs and oil spill volume had been documented in various studies. The group had also agreed that, in spite of various documented shortcomings, in Steps 3 and 4 of the FSA one could use an "oil spill cost per unit volume" criterion to assess the cost-effectiveness of risk control options (RCOs). In fact, in spite of the extensive discussion and debate on this subject since MEPC 56, the group had agreed that no better and practical alternative was identified.

17.10 There was still a divergence of views among members of the group regarding what the threshold for such a criterion might be. The CATS approach uses the above type of criterion, and has a value of USD 60,000/tonne as threshold. On the other hand, the group had noted that the Japanese approach outlined in document MEPC 58/17/1 which is based on IOPCF data, did not use this type of criterion, but developed a non-linear function between spill cost and spill volume.

17.11 Following a query as to what the equivalent value of "oil spill cost per unit volume" was implied by the approach outlined by Japan, the group had been informed that the value was USD 4,000/tonne if one considered the ratio of total spill cost divided by total spill volume, and slightly lower than USD 2,000/tonne if an equivalent average cost was considered. The group had also discussed what types of costs were included in spill cost figures in the analysis carried out by Japan, and whether one should multiply cleanup costs by appropriate coefficients to account for environmental costs and (possibly) society's willingness to pay to prevent spills instead of incurring their cost.

17.12 After some discussion, the group had noted that it would be impossible to conclude during the session what the appropriate value of the "oil spill cost per unit volume" threshold might be, although a clear majority expressed the opinion that the threshold should be much less than USD 60,000/tonne. Some members of the group suggested that two values might be warranted, one for small spills and the other for large spills, but the difficulties associated with such an approach was pointed out, particularly for small spills, for which inadequate data exist.

17.13 The group's Chairman informed the Committee that the Group had agreed that further investigation of this matter was necessary, and that it had discussed ways to finalize this by MEPC 59. The re-establishment of a Correspondence Group was proposed as a way forward.

17.14 On the issue of combining environmental criteria with safety criteria, the group had concurred with the approach proposed in section 4 of the annex to document MEPC 58/17, which would be simplified further if a volume-based approach was followed. The group had noted, however, that it was important to show both environmental and safety criteria in the cost-benefit analysis (CBA), so that a complete picture could be formed.

17.15 On the issue of the proper Risk Matrix or Index (step 1 of the FSA), the group had proposed to use oil spill volume as the severity variable; with the matrix to be finalized once the issue of the CATS threshold is agreed. Similarly, the group had agreed to defer the issue of ALARP region and F-N diagram until after the issue of the CATS threshold is resolved.

17.16 The group had also recognized the importance of the data to be able to test and apply any agreed methodology. Most group members had expressed the view that casualty databases used for FSA studies should be made public and contain information properly organized so as to reveal the real causes of the accidents. Some members had expressed the view that IMO should take the lead in such an activity. The group had finally noted that the information provided in the GISIS, in particular, the module on reported casualty incidents might contribute to this end, even though GISIS may still be insufficient due to the lack of reporting by Member States.

17.17 The delegation of the Netherlands reiterated the view it expressed at MEPC 57 and underlined that it was preferable to gain experience first with the methodology developed so far before going into further detail.

17.18 Having received the verbal report of the Group, the Committee agreed to:

- .1 retain this agenda item for MEPC 59;
- .2 re-establish a Correspondence Group under the co-ordination of Greece\*, with a view to finalizing the subject of environmental risk evaluation criteria with the following terms of reference:
  - .1 recommend an appropriate criterion for assessing environmental consequences in Step 4 of the FSA, including an appropriate threshold value for ascertaining if a specific Risk Control Option (RCO) is cost-effective;
  - .2 recommend a way of combining environmental and safety criteria for those RCOs that effect both environmental and fatality risk;
  - .3 recommend an appropriate risk matrix or index for environmental criteria;
  - .4 recommend an appropriate ALARP region and F-N diagram, including an appropriate value for the slope of the F-N curve;
  - .5 address the issue of collection and reporting of relevant data;
  - .6 recommend any further relevant action; and
  - .7 submit a written report to MEPC 59.

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17.19 With regard to the proposal to establish a Working Group on this subject at MEPC 59, the Committee considered the proposal under agenda item 19 – Work programme of the Committee and subsidiary bodies.

17.20 In light of the work to be carried out, the Committee invited MSC to retain the item in the provisional agenda for MSC 87.

## **18 DEVELOPMENT OF A GUIDANCE DOCUMENT FOR MINIMIZING THE RISK OF SHIP STRIKES WITH CETACEANS**