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NAVIGATION
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DEVELOPMENT OF AN E-NAVIGATION STRATEGY IMPLEMENTATION PLAN

Report of the Correspondence Group on e-navigation to NAV 59

Submitted by the International Chamber of Shipping (ICS) and BIMCO

SUMMARY

Executive summary: This document comments on NAV 59/6 and provides proposals for a review of the Formal Safety Assessment (FSA) and the identified Risk Control Options. It is also proposed that the e-navigation Strategy Implementation Plan should include alternative analysis additional to the FSA and that the Sub-Committee reconsider and review the concept of Maritime Service Portfolios.

Strategic direction: 5.2

High-level action: 5.2.6

Planned output: 5.2.6.1

Action to be taken: Paragraph 23

Related documents: NAV 58/WP.6/Rev.1 and NAV 59/6

1 This document comments on NAV 59/6 and is submitted in accordance with the provisions of paragraph 6.12.5 of the *Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies*.

Introduction

2 The co-sponsors have participated in the e-navigation Correspondence Group (CG) since its inception and have played an active part during discussions and the development of the e-navigation concept. We remain committed to ensure that e-navigation can deliver potential benefits, including improving efficiency and ensuring sustainability without increasing administrative, training, carriage requirements or other burdens.

General

3 We note that, in paragraph 13 of NAV 59/6, the correspondence group focused its attention on the criteria that, inter alia, *"the work should be based on systems that are already*

in place and development of potential future carriage requirements should therefore be strictly limited". The co-sponsors consider that this important principle should be maintained when NAV 59/6 is considered by the Sub-Committee, particularly when the Cost-Benefit Analysis and Formal Safety Assessment (FSA), annex 1 to NAV 59/6, are reviewed.

Preliminary list of potential e-navigation solutions

4 We consider that the five proposed solutions identified in paragraph 15 of NAV 59/6 fulfil the concept of e-navigation and that the combination of these solutions ensure a holistic approach to the interaction between shipboard and shore-based users.

5 It is therefore proposed that the Sub-Committee focuses only on these five solutions during the development of the e-navigation Strategy Implementation Plan (SIP), noting that the full list of proposed solutions developed and presented in NAV 58/WP.6/Rev.1 were only potential e-navigation solutions.

6 As the development of the e-navigation concept has expanded, it has become clear that a focus on solutions that will deliver the vision of e-navigation should be the focus. These solutions should be achievable using existing systems and equipment as opposed to unrealistic and aspirational potential solutions based on "gaps" developed at an early stage of the process.

Finalizing the risk and cost-benefit analysis

7 Paragraph 13.4 of NAV 59/6 notes that the CG agreed not to concentrate on determining the causes of marine casualties. The co-sponsors, however, consider that the CG has in fact done just this by focusing on accident statistics and, in particular, the causes of collisions and groundings including the identification of risk-reducing measures.

8 It is noted that the high-level FSA covered general cargo ships, oil tankers, passenger ships, offshore ships and other unspecified ship types. Other ship types, ship sizes and ship trading patterns might also have been taken into account when considering how to conduct the FSA. We additionally consider it important that any proposed risk-mitigating measure should apply to new ships only.

9 Accident statistics used for the FSA, namely ships in Norwegian waters and Norwegian-flagged ships, may not be representative of all shipping areas and trades; to base e-navigation requirements on this selective sample should be further considered and more detailed information provided.

10 The co-sponsors consider that the costs identified for the proposed Risk Control Options (RCOs) are lower than actual anticipated costs; furthermore, the information sources of the costs remain unclear. Costs for RCOs that are lower than those that may realistically occur will deliver an inaccurate outcome of the Cost-Benefit Analysis.

11 Despite advising that costs were derived from bridge suppliers, there is no detailed breakdown of costs and no variety of "bridge supplier" sources which would have improved the accuracy and transparency of this critical element. To improve the reliability of the Cost-Benefit Analysis, a peer review of the estimated costs provided should be conducted. ICS members have advised that "real world" costs for RCO 1 are anticipated to be at least 50 per cent higher than reported and this information was submitted to the CG. This information is sufficient to raise serious concern regarding the reliability and accuracy of the costs used and therefore the outcome of the Cost-Benefit Analysis.

12 Specifically, in contrast to the advised cost of RCO 1 of \$40,000/60,000, ICS members have reported actual costs for comparable equipment fitting:

- .1 supply and fit 2 x ECDIS networked together – \$100,000 (6 years ago);
- .2 upgrade Navigation, Automation and Control System – \$600,000 (5 years ago);
and
- .3 replacement ECDIS and radars on one ship – \$450,000 (1 year ago).

It would be a matter of considerable concern if empirical evidence, provided by the shipping industry of example costs, is not accepted into the FSA and Cost-Benefit Analysis.

13 The co-sponsors propose that the FSA and RCO costs should be peer-reviewed, possibly by the FSA Expert Group, with more detailed consideration given to the accuracy and representative nature of the accident statistics, the RCO cost estimates, the calculated risks, the size of the estimated risk reductions, the validity of data used, the composition of the expert panel and the assumptions used.

14 The co-sponsors also note that the introduction of ECDIS and Bridge Navigational Watch Alarm Systems (BNWAS) carriage requirements have not been included in the calculated risk assumptions. This is a potential oversight as these systems have risk-reducing potential which have not been considered in the FSA. By not considering the implementation of ECDIS and BNWAS and developing new RCOs, an assumption has effectively been made that the carriage of ECDIS and BNWAS will not have a risk-reducing effect.

Capturing lessons learned

15 Paragraph 30 of NAV 59/6 notes that the CG found that new or alternative analysis tools could be used to better evaluate the benefits of e-navigation solutions. The co-sponsors consider that there is a need to also reconsider the present FSA using new or alternative tools. It would be illogical to recognize that the FSA was an inappropriate tool, particularly if used in isolation, and that alternative methodologies are required for e-navigation in the future, whilst endorsing the FSA presented in NAV 59/6.

16 It is proposed that the Strategy Implementation Plan (SIP) should include the use of additional and/or alternative analysis tools, not just for future e-navigation solutions, but as an alternative to the current FSA presented in annex 1 to NAV 59/6, before any decision is made on RCOs.

17 The co-sponsors consider e-navigation to be a concept to establish a framework for developing standards and protocols for communications between ship/shore, shore/ship and shore-to-shore to ensure that future communications, information sharing including navigational and safety information as well as other relevant berth-to-berth information transmission are developed using a coordinated approach. We consider that it would be a mistake to use e-navigation as a driver for new carriage requirements rather than as a driver to ensure that ship/shore and shore/ship developments are not made in isolation.

18 The co-sponsors propose that the e-navigation SIP should ensure that such a framework is developed to ensure sustainable, harmonized and realistic enhancements for the shipping industry.

Further development of the concept of Maritime Service Portfolios

19 It is unclear what role Maritime Service Portfolios (MSPs) have in the e-navigation environment. Paragraph 36 of NAV 59/6 recognizes that "*the development of MSPs will*

require a communication infrastructure capacity that can provide information services". It is not clear whether this communication infrastructure is to be developed using existing equipment or if a new system will be required for MSPs.

20 The co-sponsors consider that, as presented, MSPs are imprecise draft descriptions of existing systems. The co-sponsors also have concerns that some MSPs are aspirational descriptions of conceptual systems that have not been sufficiently justified with an identified compelling need. An example of this is MSP 9 which assumes that remote monitoring of ship's systems, including temperatures, torque control, voltage and machinery status by VTS authorities, will improve safety and, inter alia, mitigate potential fire and flood outbreaks.

21 The compelling need and justification for MSP 9 is not clear; it is also concerning that there is a general assumption that shore authorities will be more effective in managing the safe operation of a ship by remote monitoring than the qualified and competent seafarers on board and the company's safety management system. It is proposed that the Sub-Committee carefully consider the purpose and benefits of the MSPs set out in annex 3 to NAV 59/6. In particular, MSP 9 appears unconnected to the definition and concept of e-navigation and should be deleted.

Proposal

22 Taking into account the observations, proposals and information contained in paragraphs 4 to 21, in summary, it is proposed that:

- .1 the Sub-Committee focuses solely on the e-navigation solutions identified in paragraph 15 of NAV 59/6;
- .2 the FSA and RCO costs in annex 1 to NAV 59/6 are peer-reviewed, considered further with additional organizations and companies consulted who have access to accurate figures;
- .3 the FSA Expert Group conducts a comprehensive review of the FSA with particular attention to the costs used, the calculated risks, the validity of data and the assumptions used;
- .4 the e-navigation Strategy Implementation Plan should include a requirement to use additional and/or alternative analysis tools not just for future e-navigation solutions but as an alternative and/or complement to the current FSA in annex 1 to NAV 59/6;
- .5 a framework is developed for communication protocols and standards to ensure sustainable, harmonized and realistic enhancements for the shipping industry;
- .6 the Sub-Committee carefully considers the anticipated benefits of the MSPs in annex 3 to NAV 59/6; and
- .7 the Sub-Committee deletes MSP 9 from the list of MSPs in annex 3 to NAV 59/6.

Action requested of the Sub-Committee

23 The Sub-Committee is requested to note the information provided in paragraphs 4 to 21 and the proposals in paragraph 22 and take action, as appropriate.