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WORK PROGRAMME

Proposal for a new output to review Resolution A.857(20) Guidelines for Vessel Traffic Services

Submitted by <to follow>

SUMMARY

<i>Executive summary:</i>	This document proposes an new output for the Sub-Committee on Navigation, Communications and Search and Rescue to update Resolution A.857(20) Guidelines for Vessel Traffic Services to ensure that the Resolution continues to provide an effective instrument which provides a clear and concise framework to implement and deliver VTS globally in a consistent and harmonised manner.
<i>Strategic direction:</i>	5.1 and 5.2; 7, 7.1 and 7.2
<i>High-level action:</i>	[5.1.3, 5.2.4 and 5.2.6; 7.1.2 and 7.2.2]
<i>Planned output:</i>	
<i>Action to be taken:</i>	Paragraph 25
<i>Related documents:</i>	MSC 94/21, MSC 94/6/4, MSC 94/6/2; MSC 93/6/15; MSC 90/22/3 and MSC 90/27/4 NCSR-3/INF.10 [complete and correct?]

Introduction

1. This document proposes a new output to review the Guidelines for Vessel Traffic Services (IMO Resolution A.857(20)) to ensure that the Resolution continues to provide a clear and concise framework to implement and deliver VTS globally in a consistent and harmonised manner.
2. This proposal conforms to the Guidelines on the organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies (MSC-MEPC.1/Circ.5).

Background

3. VTS is recognised internationally as a navigational safety measure through the International Convention on the Safety of Life at Sea 74/78 (SOLAS) as amended. In particular, the provisions in SOLAS Chapter V (Safety of Navigation) Regulation 12 provides for Vessel Traffic Services and states that:

“Vessel Traffic Services (VTS) contribute to safety of life at sea, safety and efficiency of navigation and protection of the marine environment, adjacent shore areas, work sites and offshore installations from possible adverse effects of maritime traffic.”

4. The IMO Assembly adopted Resolution A.857(20) Guidelines for Vessel Traffic Services in 1997 in recognition that:
 - The safety and efficiency of maritime traffic and the protection of the marine environment would be improved if vessel traffic services were established and operated in accordance with internationally approved guidelines; and
 - The use of differing vessel traffic service procedures may cause confusion to masters of vessels moving from one vessel traffic service area to another.
5. The Resolution describes the principles and general provisions for the operation of a VTS and participating vessels, the roles and responsibilities of contracting governments, competent authorities and VTS Authorities, and qualifications and training.
6. Under the general provisions of treaty law and of IMO conventions, States are responsible for promulgating laws and regulations and for taking all other steps which may be necessary to give those instruments full and complete effect so as to ensure safety of life at sea and protection of the marine environment.

IMO's objectives

7. This proposal is consistent with the IMO's mission to promote safe, secure, environmentally sound, efficient and sustainable shipping through the effective implementation of IMO's instruments. Further, it is consistent with developing and maintaining a comprehensive framework for safe, secure, efficient and environmentally sound shipping and in particular:

Strategic Direction		High-Level-Action
5	IMO's highest priority will be the safety of human life at sea. In particular, greater emphasis will be accorded to:	
	5.1 Ensuring that all systems related to enhancing the safety of human life at sea are adequate, including those concerned with large concentrations of people	5.1.3 - Enhance the safety of navigation in vital shipping lanes
	5.2 Enhancing technical, operational and safety management standards	5.2.4 - Keep under review measures to improve navigational safety, including ships' routing, ship reporting and monitoring systems, vessel traffic services, requirements and standards for shipborne navigational aids and systems and long-range identification and tracking (LRIT)
		5.2.6 – Development and implementation of e-navigation
	5.4 Increasing the emphasis on the role of the human element in safe shipping	5.4.1 Develop a strategy for the work related to the role of the human element including

Strategic Direction		High-Level-Action
		the chain of responsibility in maritime safety
7	IMO will focus on reducing and eliminating adverse impacts from shipping on the environment by:	
	7.1 Identifying and addressing possible adverse impacts	7.1.2 - Keep under review measures to reduce adverse impact on the marine environment caused by ships
	7.2 Developing and facilitating the implementation of effective measures for mitigating and responding to the impact on the environment caused by shipping incidents and operational pollution from ships	7.2.2 - Keep under review the adequacy of the legal framework

Compelling need

8. The Guidelines for Vessel Traffic Services came into effect in 1997, and were prepared:

- at a time when VTS was in its infancy. VTS is now an established and recognised service that ensures safe and efficient shipping and it continues to evolve in a changing maritime domain.
- prior to major technological developments in recent times such as AIS, internet connectivity, high speed networks, modern computing power, sophisticated decision support tools and relational databases.
- during a time of rapid development in maritime shipping and the impact on VTS (functions, responsibilities, etc.) was unclear.
- prior to the last SOLAS Convention amendment relating to VTS (textual change in 1997 and adopted in 1999). The Resolution has not been updated since it came into effect.
- prior to the development of the suite of IALA guidance including a series of Recommendations accompanied by associated Guidelines and Model Courses which are now available regarding VTS.

9. When established, the Resolution was an important instrument to bring commonality and order to VTS at a time of rapid development and change. Because this Resolution brought with it some new and relatively fundamental principles, there were understandable reservations over many issues, sensitivities that had to be addressed and text agreed that was acceptable to a wide range of stakeholders.

10. The fact that this Resolution has stood the test of time for so long is testament to the success of the approved document. Whilst most of the policy in the document remains relevant, refined guidance and documentation, advances in equipment and training and the lessons learned from several years of experience has highlighted important parts of the document where the text is now considered to be unclear or subjective. This has resulted in the Resolution being open to differing interpretation and debate amongst Contracting Governments, Competent Authorities, VTS Authorities, mariners and allied services.

11. The current situation inhibits the development of further guidance and documentation by IALA in close cooperation with other relevant organisations.

12. In many parts of the world increasing traffic density and alternative demands on the use of marine waters reduce the available navigable space and increase the risks to the safety and efficiency of shipping. VTS should evolve further to mitigate these risks.

13. The co-sponsors are, therefore, of the opinion that a review of the Resolution is necessary to ensure it continues to be an effective IMO instrument with a clear and concise framework to:

- Minimise the risks associated with differing vessel traffic service procedures between one vessel traffic service area to another resulting in confusion between the ship and the VTS.
- Assist Contracting Governments and Competent Authorities meet their obligations under SOLAS Chapter V (Safety of Navigation) Regulation 12 to implement and deliver VTS in a consistent and harmonised manner.
- Reflect technological and operational changes that have occurred since the existing Resolution came into effect and cater for emerging needs and developments.
- Ensure the international framework for VTS continues to meet its objectives.
- Provide a framework for the standards of training and certification of VTS personnel.

14. Key areas have been identified by the co-sponsors as contributing to the broad interpretation and debate amongst Contracting Governments, Competent Authorities, mariners and allied services regarding VTS and which require clarification or update include:

- Role of Competent Authority / VTS Authority - The current Resolution is overly prescriptive on the responsibilities of the Competent Authority and VTS Authority. It does not recognise that circumstances may differ due to international / national law, geographical characteristics, traffic density / diversity, accessibility and environmental conditions.
- Changing traditional boundaries - Coastal States are increasingly implementing VTS beyond ports (e.g. coastal, regional and beyond territorial seas) as a means to ensure the safety, security, efficiency of navigation and the protection of the marine environment due to increasing alternative utilisation demands of maritime space.

Whilst SOLAS Chapter V (Safety of Navigation) Regulation 12 is specific in stating that VTS may only be made mandatory within territorial waters, the Resolution is silent on the many ways that a VTS might contribute to the safety of vessel traffic and the protection of the environment beyond territorial waters or within international straits under other regulations without being mandatory.

- VTS and Future Developments - The current resolution does not provide a framework to accommodate the development and adoption of emerging developments such as VTS related Maritime Service Portfolios, e-navigation and other evolving areas related to the facilitation of maritime traffic and trade.
- Types of Service (INS, TOS and NAS) - The guidance provided in the existing Resolution regarding the services rendered by a VTS is subjective and open to broad interpretation and continuous debate. Of major concern amongst authorities is that these services are not being declared or delivered globally in a consistent manner. This is causing confusion to stakeholders, most significantly to masters of vessels moving from one vessel traffic service area to another and to VTS Operators in delivering the service from their VTS Centres. As a result, there is significant potential for misunderstandings which, in turn, could reduce the intended effectiveness of VTS as an important mitigation measure in the reduction of risk to maritime traffic.
- Result oriented instructions – Experience in operation shows that the guidance provided in the existing Resolution regarding the provision of result oriented instructions is causing confusion and is open to differing interpretation. This uncertainty makes it difficult to reach agreement on training guidance. Most significantly, there is clear evidence that some VTS Operators find themselves inhibited when trying to provide navigational assistance to vessels standing into danger.

- VTS Qualifications, Training and Certification – In the absence of any approved guidance on recruitment, qualifications and training for VTS Operators, very detailed training guidance was set out at Annex 2 of the Resolution. IALA has subsequently refined and developed this and expanded it to include guidance on qualification and certification at a range of levels. The structure and terminology used within the Resolution is now either in conflict with or constraining the necessary continued development of modern IALA training Recommendations, Guidelines and Model Courses .
- Recognition of IALA Standards relating to VTS – While the existing Resolution the IALA makes reference to the VTS Manual it does not reference the suite of IALA guidance (Recommendations, Guidelines and Model Courses) which are now available relating to VTS. The IALA VTS Manual is only updated every 4 years whereas IALA Recommendations and Guidelines are kept under continuous review. Further, the guidance and terminology contained within the existing Resolution is inhibiting and complicating the development and modernization of IALA guidance in a range of areas.
- Administrative amendments - The Resolution refers to a number of references which are now incorrect or no longer in place and require updating. The document would also benefit from rationalisation and restructuring.

Analysis of the issue

15. Noting paragraph 12 above, the co-sponsors are of the opinion that the practicality, feasibility and proportionality of the proposal are clear. In particular:

- Practicality – IALA has identified components of the Resolution where consideration should be given to implementing a review in order to ensure it continues to provide an effective instrument providing a clear, comprehensive and concise global framework for Contracting Governments, Competent Authorities and ships.
This work would provide valuable input to undertake the proposed review and IALA may provide expert resources to the process.
- Feasibility – The current Resolution was an update of the Resolution A.578(14) Guidelines for Vessel Traffic Services. A further review is now necessary and entirely feasible given the increased expertise now available.
- Proportionality – The action proposed would not exceed that which is necessary to achieve the overall objective of ensuring the Resolution remains an effective instrument reflecting the significant changes since the current Resolution was developed in 1997.

Analysis of implications

16. The co-sponsors are of the opinion that there will be no additional administrative requirements or burdens and there will be no additional costs to the maritime industry as a consequence of taking forward this proposal.
17. The completed checklist for identifying administrative requirements and burdens (MSC-MEPC.1/Circ.5) is set out in annex 1.

Benefits

18. Updating the Guidelines for Vessel Traffic Services would ensure it continues to provide an effective IMO instrument with a clear and concise framework to:
- Assist Contracting Governments and Competent Authorities meet their obligations under SOLAS Chapter V, Regulation 12.

- Ensure the international framework for VTS continues to meet its objectives.
- Minimise the risks associated with the use of differing vessel traffic service procedures and a lack of consistency between VTSSs.
- Facilitate the delivery of VTS globally in a consistent and harmonised manner.
- Reduce the likelihood of confusion and misunderstanding between the VTS and the Ship when moving from one vessel traffic service area to another.
- Clarify the delivery of VTS beyond its current limits.
- Provide a framework for the standards of training, validation and certification of VTS personnel.

Furthermore, it is the opinion of the co-sponsors that reviewing the Resolution will contribute to:

- enhancing of the effectiveness of VTS as a valuable risk mitigation in contributing to safe and secure navigation, improved efficiency of traffic flow and protection of the marine environment.
- unambiguous procedures which are expected to ease the workload associated with the interaction between the vessels and the VTS to both the bridge and the shore.

Industry standards

19. The proposal does not require industry standards to be developed.

Output

20. The proposed output is a reviewed version of Resolution A.857(20) for approval by the Committee.

The intended output is specifically aimed to foster and improve the safe, economic and efficient movement of vessels and the protection of the marine environment. The output is required for VTS to fulfill its role as a measurable and proactive tool in the prevention of maritime incidents and accidents. This will be achieved by providing a clear and concise framework to implement and deliver VTS globally in a realistic, consistent and harmonised manner.

Human element

21. The proposal focuses on achieving delivery of VTS globally in a harmonised manner and in a way that is consistently understood by all stakeholders. It aims to reduce stress causing confusion and minimising the workload both ashore and on board. The proposal does not focus on detailed technical aspects for which Human Centric Design should be considered.

22. The completed checklist for considering human element issued by IMO bodies (MSC-MEPC.7/Circ.1) is set out in annex 2.

Urgency

23. The proposed output is in line with current IMO Strategic Plan and High-level Action Plan (section 7 of this submission refers), and needs to be considered urgently for the following reasons:

- I. IMO Resolution A.857(20) Guidelines for Vessel Traffic Services came into effect in 1997, since that time there have been no amendments.
- II. The existing Resolution was prepared:

- at a time when VTS was in its infancy. VTS is now an established and recognised service that ensures safe and efficient shipping and it continues to evolve in a changing maritime domain.
 - During a time of rapid development in maritime shipping and the impact on VTS (functions, responsibilities, etc.) was unclear.
 - Prior to major technological developments in recent times such as AIS, internet connectivity, high speed networks, modern computing power, sophisticated decision support tools and relational databases.
 - Prior to the development of the e-navigation concept and the approval of the Strategic Implementation Plan (SIP) (MSC-94/21, section 9.15 and NSCR-1/28), including the development of the Maritime Service Portfolios (MSP), which will effect the services of VTS.
 - Prior to last SOLAS amendment relating to VTS (textual change in 1997 and adopted in 1999).
 - Prior to the development of the suite of IALA guidance, including a series of Recommendations accompanied by associated Guidelines and Model Courses which are now available regarding VTS.
- III. Noting II above, some important elements of the existing Resolution are now considered to be unclear, subjective and open to differing interpretation and debate amongst Contracting Governments, Competent Authorities, VTS Authorities, allied services and ships.
- IV. A review of the Resolution is now required to avoid inhibiting the further development of guidance and documentation by IALA in close cooperation with other relevant international organisations.

24. It is recommended that the new item be added to the work programme of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) for completion in the 2018-2019 biennium.

Action required

25. The Committee is invited to include this as a new output in the post-biennial agenda of the NCSR Sub-Committee, with the aim to conduct the work in the 2018-2019 biennium.

ANNEX 1

CHECKLIST FOR IDENTIFYING ADMINISTRATIVE REQUIREMENTS AND BURDENS

<To be completed>

This checklist should be used when preparing the analysis of implications, required for submissions of proposals for inclusion of unplanned outputs. For the purpose of this analysis, the terms "administrative requirements" and "burdens" are as defined in resolution A.1043(27) on *Periodic review of administrative requirements in mandatory IMO instruments*, i.e. administrative requirements are an obligation arising from future IMO mandatory instruments to provide or retain information or data, and administrative burdens are those administrative requirements that are or have become unnecessary, disproportionate or even obsolete..

Instructions:

A. If the answer to any of the questions below is **YES**, the Member State proposing an unplanned output should provide supporting details on whether the burdens are likely to involve start-up and/or ongoing cost. The Member State should also give a brief description of the requirement and, if possible, provide recommendations for further work (e.g. would it be possible to combine the activity with an existing requirement?)

B. If the proposal for an **unplanned** output does not contain such an activity, answer **NR** (Not required).

<p>1. Notification and reporting? Reporting certain events before or after the event has taken place, e.g. notification of voyage, statistical reporting for IMO Members, etc.</p>	NR	<p>Yes</p> <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Start-up <input type="checkbox"/> Ongoing </div>
Description: (if the answer is yes)		
<p>2. Record keeping? Keeping statutory documents up to date, e.g. records of accidents, records of cargo, records of inspections, records of education, etc.</p>	NR	
Description: (if the answer is yes)		
<p>3. Publication and documentation? Producing documents for third parties, e.g. warning signs, registration displays, publication of results of testing, etc.</p>	NR	
Description: (if the answer is yes)		
<p>4. Permits or applications? Applying for and maintaining permission to operate, e.g. certificates, classification society costs, etc.</p>	NR	
Description: (if the answer is yes)		
<p>5. Other identified burdens?</p>	NR	
Description: (if the answer is yes)		

ANNEX 2
CHECKLIST FOR CONSIDERING HUMAN ELEMENT ISSUES BY IMO BODIES
<To be completed>

Instructions: If the answer to any of the questions below is: <ul style="list-style-type: none"> A. YES, the preparing body should provide supporting details and/or recommendations for further work. B. NO, the preparing body should make proper justification as to why human element issues were not considered. C. NA (Not Applicable) – the preparing body should make proper justification as to why human element issues were not considered applicable. 	
Subject Being Assessed: (e.g. Resolution, Instrument, Circular being considered) Amendments to paragraphs 12.2 of resolution A.817(19) and 15.2 of resolution MSC.232(82) to provide for an additional connection of ECDIS with communication equipment including two-way connection to VHF DSC controller	
Responsible Body: (e.g. Committee, Sub-Committee, Working Group, Correspondence Group, Member State) Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)	
1. Was the human element considered during development or amendment process related to this subject?	Yes
2. Has input from seafarers or their proxies been solicited?	Yes
3. Are the solutions proposed for the subject in agreement with existing instruments? (Identify instruments considered in comments section)	Yes
4. Have human element solutions been made as an alternative and/or in conjunction with technical solutions?	NA
5. Has human element guidance on the application and/or implementation of the proposed solution been provided for	
• Administrations?	Yes
• Shipowners/managers?	Yes
• Seafarers?	Yes
• Surveyors?	NA
6. At some point, before final adoption, has the solution been reviewed or considered by a relevant IMO body with relevant human element expertise?	Yes / NA
7. Does the solution address safeguards to avoid single person errors?	NA
8. Does the solution address safeguards to avoid organizational errors?	NA
9. If the proposal is to be directed at seafarers, is the information in a form that can be presented to and is easily understood by the seafarer?	NA
10. Have human element experts been consulted in development of the solution?	NA
11. HUMAN ELEMENT: Has the proposal been assessed against each of the factors below?	
CREWING. The number of qualified personnel required and available to safely operate, maintain, support and provide training for system.	Yes
PERSONNEL. The necessary knowledge, skills, abilities, and experience levels that are needed to properly perform job tasks.	Yes

TRAINING. The process and tools by which personnel acquire or improve the necessary knowledge, skills, and abilities to achieve desired job/task performance.	Yes
OCCUPATIONAL HEALTH AND SAFETY. The management systems, programmes, procedures, policies, training, documentation, equipment, etc. to properly manage risks.	Yes
WORKING ENVIRONMENT. Conditions that are necessary to sustain the safety, health, and comfort of those on working on board, such as noise, vibration, lighting, climate, and other factors that affect crew endurance, fatigue, alertness and morale.	NA
HUMAN SURVIVABILITY. System features that reduce the risk of illness, injury, or death in a catastrophic event such as fire, explosion, spill, collision, flooding, or intentional attack. The assessment should consider desired human performance in emergency situations for detection, response, evacuation, survival and rescue and the interface with emergency procedures, systems, facilities and equipment.	NA
HUMAN FACTORS ENGINEERING. Human-system interface to be consistent with the physical, cognitive, and sensory abilities of the user population.	Yes
Comments: Comments: (1) Justification if answers are NO or Not Applicable. (2) Recommendations for additional human element assessment needed. (3) Key risk management strategies employed. (4) Other comments. (5) Supporting documentation.	