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| MARITIME SAFETY COMMITTEE  103rd session  Agenda item 5 | MSC 103/5/x  10 March 2021  Original: ENGLISH  Pre-session public release: |

**REGULATORY SCOPING EXERCISE FOR THE USE OF**

**MARITIME AUTONOMOUS SURFACE SHIPS (MASS)**

**Comments on documents MSC 102/5/4, MSC 102/5/9, MSC 102/5/10, MSC 102/5/11, MSC 102/5/12, MSC 102/5/16, MSC 102/INF.17**

**Submitted by the Russian Federation**

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| **SUMMARY** | |
| *Executive summary:* | This document provides comments on issues of MASS development strategic prospects mentioned in documents MSC 102/5/4, MSC 102/5/9, MSC 102/4/10, MSC 102/5/11, MSC 102/5/12, MSC 102/5/16, MSC 102/INF.17 |
| *Strategic direction, if applicable:* | 2 |
| *Output:* | 2.7 |
| *Action to be taken:* | Paragraph 11 |
| *Related documents:* | MSC 102/5/4, MSC 102/5/9, MSC 102/4/10, MSC 102/5/11, MSC 102/5/12, MSC 102/5/16, MSC 102/INF.17 |

**Introduction**

1 This document is submitted under the provisions of paragraph 6.12.5 of 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/Rev.1) and comments on document.

**Background**

2 The valuable research conducted by the participating States under the RSE as well as practical experience in creating legal and technical basis for a widespread use of MASS in the Russian Federation provide an opportunity to produce important comments in respect of phased MASS development.

3 Positions expressed in MSC 102/5/4, MSC 102/5/9, MSC 102/4/10, MSC 102/5/11, MSC 102/5/12, MSC 102/5/16, MSC 102/INF.17 include two major provisions:

.1 The fundamental frontier in the use of autonomous vessels is linked to the presence or absence onboard a ship of a crew capable of stepping into the control of such a ship. If there is such a crew, then changes in international regulations concerning MASS might be minor, if at all required;

.2 In the near future MASS will co-exist with conventional ships which will still comprise the majority of the overall fleet.

4 The Russian side supports these positions and considers it appropriate to suggest the vision of several strategic prospects of the MASS development, which underpins the measures introduced in the Russian Federation in respect of MASS.

**Comments in respect of the strategic prospects of MASS development**

5 The key difference between MASS and conventional ships is the use of digital tools of autonomous navigation (a-Navigation) which allow to perform a wide range of functions traditionally accomplished by crew with the help of computer autonomous systems and remote control systems.

6 At the same time a-Navigation facilities are not the subject of the legal relationships and collaboration with other participants of navigation. Thus they are not replacing human beings in operating the vessel, but rather assist the latter (shipowner, master, remote operator) in operating a ship. The responsibility for operating a ship and the safety of navigation still lies with the people.

7 Current navigation regulations, reflecting the aims and functions of operating a vessel to provide for the safety of navigation, were formed over decades on the basis of extensive practical experience and statistics analysis, casualities, scientific research. Full or partial abandonment of such functions in respect of any category of vessels, in particular MASS, without sufficient practical experience of the exploitation of such vessels poses risks to the safety of navigation. Due to the co-existence of MASS and conventional ships it seems expedient that there should be single regulations with regard to both types of ships.

8 We consider that the process of introducing a-Navigation technology must be phased and smooth with a gradual introduction of a-Navigation technologies not only to the fleet in general but also to individual vessels. Similar to the research results of MUNIN project our practical experience indicates the necessity for symbiosis of three MASS operation methods – automatic, remote and manual. Choice of each of them should be determined by a shipping company depending on the relevant conditions, type of a vessel and the nature of its exploitation. As the technologies will mature and the practical experience of MASS use will be accumulated, the operation in automatic mode will become more widespread and will prevail over manual operation.

9 The main driver for the use of a-Navigation at the first stage is enhancing the safety, downgrading the influence of a human factor simultaneously with increasing the control over the crew’s work aboard the vessel. At the same time the automation of the routine functions, better situational awareness and control will lower pressure on the crew members and as a result there will be less people required on the vessel.

10 Only wide practical experience gained at the first stage will help to come up with comprehensive technical and legal requirements and standards for MASS and move on to the next stage, where the maturity of the technology and trust therein will allow for some of the current regulations to be revisited with emphasis moving from human centric requirements to those specific to computer systems and networks. The emergence of such specific regulations together with the savings due to scale will lead to further decrease of MASS exploitation expenses and their wider use. At the same time the emergence of new regulations focusing on a-Navigation will obviously require to apply them to conventional vessels, for example, in respect of information exchange, use of computer and telecommunication systems aboard the vessel.

11 We support the position of Committee Members with regard to the necessity of the development of unified information infrastructure for MASS and find it appropriate to implement this on the basis of and in the framework of the Strategy on e-Navigation introduction. The link between these strategic trends e-Navigation and a-Navigation – seems to us to be a fruitful way not only for MASS introduction, but also for the creation of global intellectual network of maritime transport.

**Action requested of the Committee**

12 The Committee is invited to note the above approach to the strategic prospects of the MASS development and use it to under RSE.