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**REGULATORY SCOPING EXERCISE FOR THE USE OF MARITIME AUTONOMOUS
SURFACE SHIPS (MASS)**

Comments on document MSC 102/5/14

Submitted by the Russian Federation

SUMMARY

Executive summary: This document comments on the legislation of the Russian Federation concerning the experiment of MASS trials, as mentioned in document MSC 102/5/14

*Strategic direction,
if applicable:* 2

Output: 2.7

Action to be taken: Paragraph 14

Related document: MSC 102/5/14

Introduction

1 This document is submitted in accordance with 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.2) and comments on document MSC 102/5/14.

Background

2 The Interim guidelines for MASS trials, adopted by Circular MSC.1/Circ.1604, allowed the Russian Federation, on the national level, to carry out a full-scale experiment on trials of autonomous ships flying the State flag of the Russian Federation.

3 Through document MSC 102/5/14, the Russian Federation informed the Committee of the legislative work carried out in the Russian Federation on the development of the legal domain for conducting experiments and further operation of autonomous ships. It was stated in the document, for example, that the Ministry of Industry and Trade of the Russian Federation developed a draft law of the Government of the Russian Federation in part of trials of autonomous ships (MSC 102/5/14, paragraphs 3, 12 and 13).

4 The Russian Federation intends to inform the Committee, through this note, on the progress achieved in developing the legislative domain for trials of autonomous ships in the Russian Federation.

Legal regulation of autonomous ship trials in the Russian Federation

5 The Government of the Russian Federation, in its Order No. 2031 "On Carrying Out the Experiment on Trials of Autonomous Ships Flying the State Flag of the Russian Federation", dated 5 December 2020, established that an experiment on trials of autonomous ships flying the State flag of the Russian Federation would be carried out in the period from 10 December 2020 to 31 December 2025. The Order establishes the provision on the experiment on trials of autonomous ships flying the State flag of the Russian Federation defining the conditions and the procedure for the experiment.

6 The purpose and objectives of the experiment are as follows:

- .1 practical test run of the systems and processes of the automated and remote control of an autonomous ship during navigation in various areas;
- .2 identifying the actual performance efficiency of the autonomous navigation system;
- .3 refinement of technical solutions of the autonomous navigation system; and
- .4 confirmation whether an autonomous ship can be operated in the designated areas.

7 For the purpose of the experiment, the Federal Agency for Maritime and River Transport has promulgated, on its official Internet website, the recommendations on application of the International Regulations for Preventing Collisions at Sea, 1972 (COLREG 1972), by autonomous ships operators. The above recommendations are, generally, in line with the draft recommendations set out in the appendix to document MSC 102/5/14.

8 Autonomous ships operators take part in the experiment on a voluntary basis and at their own expense. Before the start of the experiment, an autonomous ship operator shall agree the programme of the autonomous ship trials and, after completing the trials, submit the outcome of the autonomous ship trials to the Federal Agency for Maritime and River Transport for consideration and conclusions. To take part in the experiment, an autonomous ship operator shall submit a request for each autonomous ship to take part in the experiment to the Federal Agency for Maritime and River Transport 20 working days prior to the commencement of the autonomous ship trials.

9 Within 10 days after receiving the request, the Federal Agency for Maritime and River Transport carries out a safety assessment of the autonomous ship trials (based on the documents submitted) and takes a decision on agreeing the autonomous ship trials, provided the following conditions are met:

- .1 the applicant is the operator of the autonomous ship;
- .2 the autonomous ship has a valid certificate on the right to fly the State flag of the Russian Federation;
- .3 the autonomous ship has a valid classification certificate;

- .4 the permitted area of navigation for the autonomous ship corresponds to the assigned area of navigation;
 - .5 the trials of the autonomous ship in the assigned area are safe for the autonomous ship itself and for other ships operating in the area and for the environment; and
 - .6 an autonomous navigation system is installed on board the ship.
- 10 The autonomous ship trials programme, as developed by the autonomous ship operator, shall include:
- .1 the interaction procedure between the officials of the autonomous ship operator, responsible for the autonomous ship trials and its safety, and the autonomous ship crew members and shore facilities;
 - .2 methods of operational communication with the autonomous ship and operator officials and shore facilities responsible for the autonomous ship trials; and
 - .3 assessment of risks regarding the safety of shipping and environment protection, caused by the autonomous ship trials, the measures developed to mitigate such risks.
- 11 In executing the autonomous ship trials, the autonomous ship operator shall:
- .1 carry out the autonomous ship trials within the assigned areas and during the periods agreed with the Federal Agency for Maritime and River Transport;
 - .2 prior to the commencement of the autonomous ship trials, identify the risks for the safety of shipping and the environment, caused by the autonomous ship trials, to implement measures to mitigate such risks;
 - .3 to constantly monitor the safety of the autonomous ship trials and to stop the autonomous ship trials in case of threats emerging to the safety of the autonomous ship navigation or to the safety of other ships in the assigned area, until such threats are eliminated;
 - .4 to ensure compliance with the requirements of the international instruments and the legislation of the Russian Federation in the sphere of safety of shipping and environment protection against pollution from ships;
 - .5 to take into account human factor as a key element of the automatic and remote control systems of autonomous ship, to instruct the crew of the autonomous ship and the experts outside the ship taking part in the autonomous ship control of the peculiarities of the autonomous ship trials and of the existing risks;
 - .6 to take measures to ensure cyber safety and fail safety of the automatic and remote control systems of autonomous ships; and
 - .7 prior to the autonomous ship trials, to inform on the autonomous ship trials the cargo owners whose cargo is transported on the autonomous ship, insurers who have insured the autonomous ship, seaport harbour masters in whose areas (on approaches thereto) the autonomous ship is navigating, seaport operators of vessel traffic systems in whose areas (on approaches thereto) the autonomous ship is navigating.

12 During the experiment, the autonomous ship operator taking part in the experiment is entitled to receive a certificate on the minimum safe manning of the ship, where the minimum manning of the ship indicated in the certificate will be less than the minimum manning of the same ship prior to the autonomous ship trials. The autonomous ship minimum safe manning is based in this case on the fact that certain functions are performed by the autonomous navigation system and are in accordance with the autonomous ship operator's proposals.

13 The Ministry of Transport of the Russian Federation is to inform the International Maritime Organization on the experiment and its outcomes. The Ministry of Industry and Trade of the Russian Federation shall use the experiment outcomes in manufacturing autonomous navigation systems and their installation on board ships.

Action requested of the Committee

14 The Committee is invited to take note of the information on the experiment on autonomous ship trials carried out in the Russian Federation.
