



NAVIGATING
THE FUTURE:
SAFETY FIRST!



Non-Mandatory MASS Code Development

Current Status and Report from MSC 108

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Maritime Safety Division



INTERNATIONAL
MARITIME
ORGANIZATION

Maritime Autonomous Surface Ships (MASS)

Non-Mandatory MASS Code Development

Where we are?

Timeline

Report from MSC 108 (MSC-MASS-ISWG 3/2)

Opportunities & Challenges

Opportunities

- Mitigation of Safety – reduction/ removal of Human Element
- OPEX Reduction and Operational efficiency gains

Challenges

- Regulations still heavily based on manned shipping/ Legal/liability aspects/ Technology/ UNCLOS

Regulatory Scoping Exercise

RSE – 1st Step at IMO in preparation for regulatory development

checked fitness of existing IMO instruments for MASS (by MSC/LEG/FAL)

RSE (MSC.1/Circ.1638) → basis for drafting the MASS Code, including priority provisions.

Joint MSC-LEF-FAL WG on MASS

To address **common high-priority issues identified** by the RSEs for the use of MASS

MSC 107 – A Master is always responsible irrespective of mode of operation

Outstanding: ROC outside MSS Flag State; MASS Master/ Crew responsibilities; Communication with Authorities.

MASS Trials

MSC101, JUN2019 approved the **Interim Guidelines for MASS Trials** (MSC.1/Circ.1604)

Key Objectives defined including → risk management, human element, infrastructure requirements, communication, reporting, cyber risk management

Successful trials already conducted – NO, RoK, JP, CN

MASS Code

Goal-based, non-mandatory Code

Adoption of the non-mandatory MASS Code planned for MSC 110 (May 2025) (rev roadmap)

Complementing/supplementing SOLAS

Close coop with other bodies (e.g. ILO, ISO, IHO, IALA and IMSO)

Application to cargo ships, except HSC

Future

Finalization of the non-mandatory MASS Code – at MSC 110.

Mandatory MASS Code, as SOLAS amendment, is envisaged to enter into force on 1 Jan 2032 (4-year SOLAS amendment cycle)

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Regulatory Development – Timeline

Opportunities
and Challenges

MASS
Trials

RSE

Joint MSC-
LEF-FAL WG
on MASS

Non-
Mandatory
MASS Code

Mandatory
MASS Code

2012-2016

2019

2019 - 2021

2021 - 2024

2024-2025

2032

Identification of key opportunities by the Industry, propelling the need to develop MASS regulatory framework

YARA
BIRKELAND
project started
2018

Other studies and programmes initiated

MSC101, JUN2019 approved the **Interim Guidelines for MASS Trials** (MSC.1/Circ.1604)

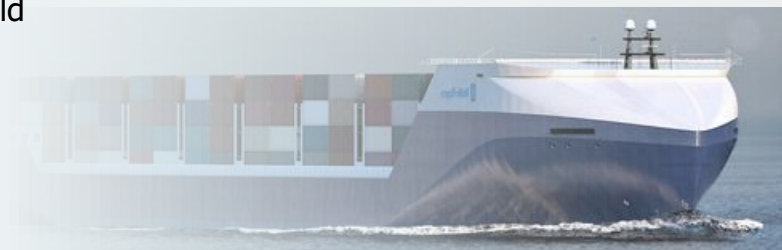
MSC 103 approved the outcome of the RSE, as published in MSC.1/Circ.1638.

MSC 105, LEG 109 and FAL 46 approved the establishment of the Joint MSC-LEG-FAL Working Group on MASS (MASS-JWG)

3 meeting held so far – last MAY 2024.

Adoption of the non-mandatory MASS Code planned for MSC 110 (May 2025) (rev roadmap at MSC 108)

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Report of the second session of the intersessional Working Group (MSC/ISWG 2)

Report of the MASS Working Group

Other relevant points

MSC 108 agreed

Network governance for MASS:

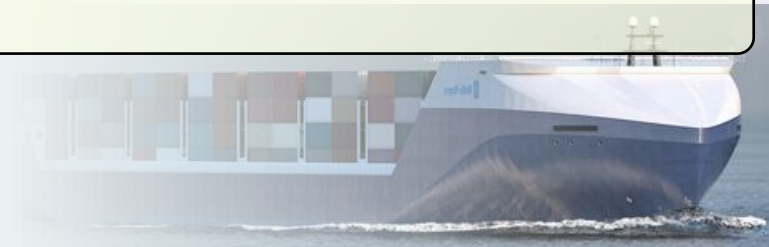
- that it was premature to request the NCSR Sub-Committee and ITU to undertake work on network governance for MASS – data needs would have to be established first – only possible after finalization of the non-mandatory MASS Code;

Development of training requirements for MASS operators:

- to develop high-level training provisions for the MASS Code through the HTW Sub-Committee at a later stage, when the Code had been finalized;

Involvement of other IMO bodies:

- invite MEPC to consider MASS in the context of instruments under its purview, the MASS (MSC 108) Working Group to identify potential matters for consideration by appropriate sub-committees,



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Other relevant points

MSC 108 noted

Discussion “MASS” vs “Ship”:

- Need for further consideration, notably in cases where “MASS” may refer to a Ship and ROC;

Oversight mechanism for ROC:

- Agreement in the Group for an oversight mechanism for ROC, irrespective of using ROM (MSC 108/4/2) or ISM Code, including certification by the flag Administration and the company;

Responsibility for Safe Operation of MASS:

- Group agreed safe operation of MASS remained with the ISM Company but that the ROM concept should be retained as a complementary alternative ISM Code scheme of certification for the safe operation management of the ROC ,

Persons onboard:

- Group agreed Master needs to be onboard whenever persons are onboard – exercise of Master’s overriding authority,

GBS:

- Involvement of GBS Expert agreed in Working Group – To ensure GBS principles and consistency in the text

HAZID Tables:

- HAZID tables needed to be shared, when used to develop chapters of the Code

Involvement of other sub-committees:

- should only be sought after the adoption of the non-mandatory Code`

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Application:

- the application provision of the draft Code (chapter 2), which stated that the Code applied to cargo ships to which SOLAS chapter I applied, except cargo high-speed craft, ships owned or operated by a Government and when Administration deemed that compliance with base instruments was not practicable;

Planning/Revised roadmap:

- finalization and adoption of the non-mandatory MASS Code was planned for MSC 110, followed by an experience-building phase;
- earliest possible entry into force date would be 1 January 2032.

Correspondence Group:

- Re-established MASS CG to work on Part 2 of the draft MASS Code;
- Report verbally to ISWG 3 and MSC 109 + final report to MSC 110.
- Take into account outcome of ISWG 3 and MSC 109.

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Decisions of FAL 48 and LEG 111:

- Noted FAL approved MASS JWG 2 Report
- Noted FAL approved the road map on addressing MASS issues related to the FAL Convention
- Agreed to refer proposed draft text reflecting on MASS legal framework to MASS Working Group
- noted that LEG 111 had supported using the ISM Code as a potential model for dealing with ROCs, as a practical and pragmatic way forward; and had identified no specific legal roadblocks

Report of MASS-JWG 3:

- No matters referred to MASS-JWG 3 by ISWG-2 or MASS CG;
- Connectivity important BUT outside the scope of JWG.
- MASS Crew Competencies and Qualifications to be dealt with by HTW – any work at JWG level would be premature
- Any possible joint IMO-ILO work would require concrete proposal to consideration by relevant IMO Committees.
- Over-riding responsibility and authority of the Master cannot be delegated – however some tasks and function can
- No need to further address concerns relating Flag oversight over ROCs.
- No update to JWG plan – considered work completed – a 4th meeting only if requested by any of the 3 Committees.

Application of the MASS Code to high-speed craft:

- MSC 108 acknowledged that developing separate HSC Code provisions for MASS-HSC would add significantly to the workload and subsequently agreed not to develop provisions for high-speed craft in the MASS Code for inclusion in the non-mandatory Code ;



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