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DEVELOPMENT OF A SAFETY REGULATORY FRAMEWORK TO SUPPORT THE REDUCTION OF GHG EMISSIONS FROM SHIPS USING NEW TECHNOLOGIES AND ALTERNATIVE FUELS

Development of a work plan and the prioritization of revisions to the Code of Safety for Nuclear Merchant Ships

Submitted by United States

SUMMARY

Executive summary:	This document is submitted in response to paragraph 6.58 of document MSC 110/21, which instructed the SDC Sub-Committee to consider specific technologies under its ongoing work associated with the development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels. This document proposes the prioritization of revisions to the *Code of Safety for Nuclear Merchant Ships* (resolution A.491(XII)), recommends that a working group be established at SDC 12, and provides recommended terms of reference.
Strategic direction, if applicable:	3
Output:	3.8
Action to be taken:	Paragraph 11
Related documents:	MSC 108/INF 21; MSC 110/21 and MSC 110/WP.9

Introduction

1 MSC 110 assigned work associated with the Committee's ongoing agenda item to develop a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels to the SDC Sub-Committee. This document proposes that SDC prioritize the revision of the *Code of Safety for Nuclear Merchant Ships* (resolution A.491(XII)) (Nuclear Code) and recommends the establishment of a working group at SDC 12. It also provides proposed terms of reference for a working group, if established.

Background

2 MSC 110 continued to develop a safety framework associated with the reduction of GHG emissions from ships using new technologies and alternative fuels. At the conclusion of that session, the Committee assigned the SDC Sub-Committee the following work in paragraph 6.58 of document MSC 110/21:

.1 address all tasks listed in annex 5 to document MSC 110/WP.9, including those related to nuclear power, starting this work at SDC 12, if possible;

.2 consider the establishment of a correspondence group, if deemed necessary; and

.3 prepare a work plan for all the work related to these tasks, taking also into consideration any current work, and report back to MSC 111.

3 Document MSC 110/WP.9 outlines the tasks assigned to SDC including updating the Nuclear Code and SOLAS chapter VIII, as well as work associated with other new technologies. This document also provides details on barriers and gaps associated with the technologies.

Discussion

4 Revision of the Nuclear Code, allowing its transition into a goal-based standard, suitable to cover novel technologies, is expected to take several SDC Sub-Committee sessions. This work will also require extensive engagement by Member States with technical experts that are not commonly embedded within IMO delegations. The establishment of a clear timeline for this work is vital to ensuring appropriate technical experts are available from participating Member States and international organizations, potentially including the IAEA.

5 Of the technologies listed in annex 5 to document MSC 110/WP.9, only nuclear power and the use of batteries as a main source of electrical power and lighting systems have associated barriers that have been identified. The barriers posed to emerging nuclear technologies by the existing Nuclear Code, which is written solely for pressurized water reactors, are notably greater than the barriers associated with other new technologies.

6 A new generation of nuclear reactors with clear potential for marine applications is under development. These are expected to be commercially available by approximately 2030. Significant investments have been made in nuclear development by maritime stakeholders. Given the time expected to review and finalize SOLAS chapter VIII and the Nuclear Code, efforts to conduct this work should begin without delay.

7 For the above reasons, the United States believes that the revision of the Nuclear Code should be a priority among the technologies assigned to SDC and that work should be initiated as soon as practicable.

8 Upon completion of existing work on SDC's 2026-2027 biennial agenda, additional working groups dedicated to the completion of the remaining tasks assigned to SDC should be established. These working groups would develop interim guidelines for the safety of ships using wind propulsion and wind-assisted power, as well as work associated with battery containers and expanded battery applications, as assigned by the Committee.

Development of a work plan

9 In document MSC 110/21, MSC 110 instructed SDC 12 to develop a work plan and report back to MSC 111. To finalize this work plan and facilitate its delivery, the United States believes a working group at SDC 12 should be established and proposes the following terms of reference:

.1 Develop an initial road map for the completion of tasks assigned to SDC by MSC 110, (MSC 110/21, paragraph 6.58). The road map should consider the general approach to be taken and provide a rough outline of SDC sessions, correspondence groups and/or intersessional working groups for the Sub-Committee, taking into consideration the Sub-Committee's current biennial agenda.

.2 In the development of the road map, give priority to the review of the *Code of Safety for Nuclear Merchant Ships* (resolution A.491(XII)) and SOLAS chapter VIII.

.3 Consider whether a correspondence group is required and develop associated terms of reference, as appropriate.

.4 If time permits, work to identify goals and functional requirements for the Code of Safety for Nuclear Merchant Ships giving consideration to the gap analysis submitted by the World Nuclear Transport Institute (WNTI) in document MSC 108/INF.21.

.5 Submit a written report to the Sub-Committee by Thursday, 22 January 2026.

Proposal

10 The United States proposes to:

.1 prioritize the revision of SOLAS chapter VIII and the Code of Safety for Nuclear Merchant Ships, as outlined in paragraphs 4 to 9, in the context of the work assigned to SDC, under the output to develop a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels; and

.2 to establish a working group at SDC 12 to work under the terms of reference outlined in paragraph 9.

Action requested of the Sub-Committee

11 The Sub-Committee is invited to consider the information provided in paragraphs 4 to 9 and the proposals in paragraph 10, and take action, as appropriate.