

# ABS REGULATORY NEWS

No. 02/2024



## INTERNATIONAL CODE OF SAFETY FOR DIVING OPERATIONS, 2023 (2023 IMO DIVING CODE)

*This regulatory news update provides guidance on the new IMO Diving Code that will enter into force on 01 January 2024.*

### BACKGROUND

In the 1990s, the International Maritime Organization (IMO) adopted the *Code of Safety for Diving Systems, 1995* (Resolution A.831(19)), and the *Guidelines and Specifications for Hyperbaric Evacuation Systems, 1991* (Resolution A.692(17)). The 1995 IMO Diving Code was developed to provide an international standard for the design, construction and survey of diving systems to enhance the safety of divers and support personnel. The 1991 IMO Hyperbaric Evacuation Guidelines were developed to promote the safety of divers in saturation and to achieve a standard of safety for divers which corresponded to that provided for other seagoing personnel.

Since the adoption of the code and guidelines, there have been numerous technological advancements in the offshore diving industry, such as the development of dedicated dive support vessels, development of self-propelled hyperbaric lifeboats (SPHLs) and greater reliance on automation for diving operations. Additionally, the industry experience gained from the operation of diving systems, as well as the lessons learnt from diving related accidents or incidents, have led to the publication of updated class society requirements and industry standards / guidance for diving such as the ASME Safety Standard for Pressure Vessels for Human Occupancy (PVHO-1 and 2), IMCA Guidance Notes and IOGP Recommended Practices.

Considering these industry developments, the IMO Maritime Safety Committee (MSC) approved a new work output at the MSC 99 meetings for updating the 1995 Code and 1991 Guidelines. The intent of this effort was to update the Code and Guidelines to address technological developments in the diving industry and to reflect current industry requirements and best practices. However, as this work progressed, it became clear that simply updating the existing code and guidelines would not achieve the goal of enhancing commercial diving safety since the existing code was limited to the diving system itself and did not address the platform from which the

### KEY NOTES

#### Application

The 2023 IMO Diving Code applies to:

- Ships over 500 GT that have diving systems installed on or after 01 January 2024.
- The Administration may also apply the code to ships of less than 500 GT, and other diving platforms to which SOLAS does not apply.
- Ships that have diving systems installed prior to 01 January 2024 to be certified as "Diving Units" by the next Safety Construction Renewal Survey.

#### New Certification Scheme

Diving support vessels or platforms to carry the following certificates:

- **DUSC-Part I** for the integrated diving platform and diving system
- **DUSC-Part II** for the stand-alone diving system

diving operations were being conducted. Additionally, the existing code did not address all types of diving systems. Hence, MSC approved the development of a new code that would holistically address various types of diving systems, diving platforms and the integrated diving platform – diving system (*i.e., the diving unit*).

Following a multi-year work effort by the IMO Experts Group on Diving Systems, a new code was developed and finalized at the IMO SSE 9 meetings in March 2023. Subsequently, the MSC adopted the *International Code of Safety for Diving Operations, 2023* (Resolution MSC.548(107)) on 5 June 2023, with an entry into force date of 01 January 2024. This new code, known in short as the “2023 IMO Diving Code”, follows a goal-based standard approach and addresses various types of diving systems (e.g., fixed, temporary, surface oriented, mixed-gas and saturation systems).

The goal of the *2023 IMO Diving Code* is to:

1. Provide a minimum international standard for the design, construction, installation and survey of diving systems installed on diving platforms, *such as ships, floating structures, and MODUs*, that are engaged in diving operations;
2. Facilitate safe diving operations from diving platforms and achieve a level of safety equivalent to that required by SOLAS for ships engaged on international voyages; and
3. Enable the international movement and safe operation of diving units.

## APPLICATION

- The 2023 IMO Diving Code is a non-mandatory code. Compliance with the same is voluntary unless otherwise required by the Flag or Coastal State Administration.
- The 2023 IMO Diving Code applies to ships over 500 GT that have a diving system installed on or after 01 January 2024.
- The Administration may also apply the 2023 IMO Diving Code as far as reasonable and practicable to ships of less than 500 GT and other diving platforms to which SOLAS does not apply.
- Ships that have a diving system already installed prior to 01 January 2024 should be certified as “*Diving Units*” per the 2023 IMO Diving Code by the due date of the next Safety Construction Renewal Survey or equivalent.
- The 2023 IMO Diving Code does not apply to Pressure Vessels for Human Occupancy (PVHOs) or the associated equipment that is being used for medical care or treatment of patients (*i.e., the 2023 IMO Diving Code does not apply chambers and equipment being used for medical hyperbaric*).
- The existing instruments (*1995 IMO Diving Code (Resolution A.831(19)) and the 1991 Hyperbaric Evacuation Guidelines (Resolution A.692(17))*) will co-exist along with the new code (Resolution MSC.548(107)). Their application is as follows:

Diving System	Applicable Code / Guidelines
Existing	<i>1995 IMO Diving Code and 1991 IMO Hyperbaric Evacuation Guidelines</i>
New	<i>2023 IMO Diving Code</i>

Diving Unit	Applicable Code / Guidelines
Existing	<i>2023 IMO Diving Code</i>
New	<i>2023 IMO Diving Code</i>

## KEY CHANGES

Existing text of the 1995 IMO Diving Code (*Resolution A.831(19)*) and the 1991 IMO Hyperbaric Evacuation Guidelines (*Resolution A.692(17)*) has been updated and incorporated in the 2023 IMO Diving Code (*Resolution MSC.548(107)*) under the sections titled “*Preamble*” and “*Introduction*”, as well as in Chapter 4 (*see table below*). The remaining chapters and appendices of the 2023 IMO Diving Code address aspects that were not covered in the 1995 Code and 1991 Guidelines.

The table below summarizes the key changes between the 2023 IMO Diving Code, the previous 1995 IMO Diving Code and the 1991 IMO Hyperbaric Evacuation Guidelines.

2023 IMO Diving Code	Status	Key Changes
<b>Preamble</b>	Updated	Updated the Preamble of the 1995 Code and 1991 Guidelines: <ul style="list-style-type: none"> <li>Clarified that the intent of the 2023 Code is to provide an equivalent level of safety as the SOLAS Convention.</li> <li>Clarified that the 2023 Code applies to all types of diving systems (<i>e.g., fixed, temporary, surface-oriented, saturation, etc.</i>).</li> </ul>
<b>Introduction</b>	Updated	Updated Chapter 1 of the 1995 Code to include: <ul style="list-style-type: none"> <li>Goal of the 2023 Code.</li> <li>Provisions regarding application of the 2023 Code.</li> <li>Additional definitions.</li> <li>Provisions addressing alternative arrangements.</li> <li>Updated provisions regarding survey, certification and control.</li> </ul>
<b>Chapter 1: General</b>	New	<ul style="list-style-type: none"> <li>Included provisions for a new two-part certification scheme that addresses the stand-alone diving system (<i>Diving Unit Safety Certificate - Part II</i>), as well as the integrated diving platform and diving system (<i>Diving Unit Safety Certificate - Part I</i>).</li> </ul>

2023 IMO Diving Code	Status	Key Changes
<b>Chapter 2: Diving Unit Principles - Redundancy and Integration</b>	New	<ul style="list-style-type: none"> <li>Added provisions regarding redundancy, as well as integration of the diving system with the diving platform.</li> </ul>
<b>Chapter 3: Operational Capabilities and Limitations of Diving Platforms for Conducting Safe Diving Operations</b>	New	<ul style="list-style-type: none"> <li>Included provisions addressing stability and position keeping of the diving platform, as well as fire safety and electrical power.</li> </ul>
<b>Chapter 4: Diving System Design, Construction, Installation, Testing and Survey</b>	Updated	Updated the 1995 Code and 1991 Guidelines to include: <ul style="list-style-type: none"> <li>Provisions for surface-oriented diving systems.</li> <li>Provisions for Hyperbaric Survival Craft based on the IMO LSA code.</li> <li>General updates to reflect current industry practice.</li> </ul>
<b>Chapter 5: Diving Operations and Safety Management</b>	New	<ul style="list-style-type: none"> <li>Included provisions for aligning the diving platform's safety management system (<i>per IMO ISM Code</i>) with the diving system's safety management system.</li> <li>Added provisions for manning, training, emergency preparedness and voyage planning.</li> </ul>
<b>Appendix 1: Additional Guidance</b>	New	<ul style="list-style-type: none"> <li>Added guidance to further clarify the provisions of Chapter 3 of the 2023 Code.</li> </ul>
<b>Appendix 2: Model Forms</b>	New	<ul style="list-style-type: none"> <li>Included templates for the Diving Unit Safety Certificate (DUSC) – Parts I and II.</li> </ul>
<b>Appendix 3: Guidance on Implementation of the Code of Safety for Diving Operations</b>	New	<ul style="list-style-type: none"> <li>Added guidance regarding the implementation of the 2023 Code.</li> </ul>

## New Certification Scheme

The 2023 IMO Diving Code introduces a new, two-part certification scheme that addresses the stand-alone diving system (*i.e., Diving Unit Safety Certificate (DUSC) – Part II*), as well as the integrated diving platform and diving system (*i.e., Diving Unit Safety Certificate (DUSC) – Part I*).

- The DUSC-Part I intends to confirm that the diving unit (*i.e., integrated diving platform and diving system*) is in compliance with the 2023 IMO Diving Code.
- The DUSC-Part II intends to confirm that the stand-alone diving system is in compliance with the 2023 IMO Diving Code. This certificate permits portable diving systems to be mobilized and demobilized on different platforms where the diving system and platform may be owned, operated and classed by different entities.

## Certification of Existing and Previously Uncertified Diving Systems

Appendix 3 of the 2023 IMO Diving Code includes guidance on the certification of existing diving systems that were not previously certified. Such systems may be certified to the 1995 IMO Diving Code and 1991 Hyperbaric Evacuation Guidelines and subject to verification by the administration or an RO acting on behalf of the Administration. This certification process should be completed within five years of the 2023 IMO Diving Code coming into effect.

## Oxygen-Enriched Environments

The 2023 IMO Diving Code lowers the threshold concentration for oxygen-enriched environments from 25 percent oxygen (*1995 Code*) to 22 percent oxygen (*2023 Code*). This would have the following impact on diving systems:

- Life-support piping would need to be designed for oxygen service starting at an oxygen concentration of 22 percent, instead of 23.5 percent or 25 percent as required by other industry standards, such as ASME PVHO, IMCA D031, IMCA D048, CGA G-4.1, and ISO 10156. This would entail the use of specialized valves, fittings and other piping components that are designed for oxygen service. Additionally, specialized procedures for oxygen cleaning and handling would need to be followed.
- Non-metallic materials within PVHOs (e.g., paints, lubricants, adhesives and furniture coverings) would need to be suitable for oxygen-enriched service starting at an oxygen concentration of 22 percent instead of 23.5 percent or 25 percent as required by other industry standards.

## Hyperbaric Toilets

The 2023 IMO Diving Code lowers the occupancy time threshold for the installation of fixed hyperbaric toilets in diving chambers from 12 hours (*1995 Code*) to 8 hours (*2023 Code*). Consequently, hyperbaric toilets would need to be installed in diving chambers occupied for 8 hours or more, irrespective of whether the diving system is saturation or non-saturation.

## ACTIONS FOR COMPLIANCE

Where compliance with the 2023 IMO Diving Code is required by the administration, the following actions are recommended:

1. For vessels or other platforms that have, or intend to install, diving systems, it is recommended that vessel owners / operators develop a plan to comply with the 2023 IMO Diving Code and carry DUSC-Part I and DUSC-Part II certificates on board. In this regard, ABS can assist with the compliance verification process, including the design review and surveys, and issuance of the DUSC-Part I and Part II certificates where authorized by the Administration.
2. For diving systems that are in the process of being designed and constructed, it is recommended that the diving system designers / builders develop a plan to comply with the 2023 IMO Diving Code and obtain the DUSC-Part II certificate. Note that paragraph 4.3 of the 2023 IMO Diving Code requires diving system components to be designed, constructed, installed and tested in accordance with international or national standards or proprietary specifications. In this regard, diving components that are designed, constructed, installed and tested to the requirements of the *ABS Rules for Building and Classing Underwater Vehicles, Systems and Hyperbaric Facilities* would be in compliance with the above referenced requirement of the 2023 IMO Diving Code. ABS can assist with the compliance verification

process, including the design review and surveys, and the issuance of the DUSC-Part II certificate, where authorized by the Administration.

3. For existing diving systems that were not previously certified, the guidance under Appendix 3 of the 2023 IMO Diving Code recommends their certification within five years of the 2023 Code coming into effect. Such systems may be certified to the 1995 IMO Diving Code and 1991 Hyperbaric Evacuation Guidelines. In this regard, ABS can assist with the compliance verification process for existing diving systems, including the design review and surveys, and issuance of the DUSC-Part II certificate, where authorized by the Administration.

## REFERENCES

Document	Title
<a href="#">Resolution MSC.548(107)</a>	International Code of Safety for Diving Operations, 2023
<a href="#">ABS Publication No.7</a>	ABS Rules for Building and Classing Underwater Vehicles, Systems and Hyperbaric Facilities



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