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INTERNATIONAL MARITIME LAW INSTITUTE
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A SERIES OF TECHNICAL NOTICES TO IMPLEMENT THE 2016 AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED INTO THE LAWS OF MALTA

A Legislation Drafting Project submitted in partial fulfilment of the requirements for the award of the Degree of Laws (LL.M.) at the IMO International Maritime Law Institute.

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Academic Year: 2018 - 2019

1. The purpose of the legislative proposal

The purpose of this drafting project is the implementation of Resolution MSC.404(96)[1] which has amended the International Convention for the Safety of Life at Sea ('SOLAS')[2] into Maltese legislation. This explanatory note will provide an insight into the background of SOLAS, the rationale behind the amending Resolution, and will also highlight the reasons as to the importance for Malta, being a State with such a reliance on the maritime industry, of implementing such amendments to ensure higher standards of safety of life at sea.

Malta, whilst being a small island State of only 316km^2, plays a vital role in the functioning of the Mediterranean Sea. Malta relies on the marine-related industry, the well established in the fishing industry, maritime tourism industry, shipbuilding industry and ship repair industry amongst others. Furthermore, Malta being in the centre of the Mediterranean Sea is a hub for all vessels passing through the Mediterranean Sea whereby such vessels can seek assistance from the Maltese authorities. As a result, it is of utmost importance that Malta, not only adheres to the requirements established by SOLAS but implements such requirements via the technical notices issued by the responsible authority in Malta.

2. The International Convention for the Safety of Life at Sea

As a response to the aftermath of the sinking of the *RMS Titanic*, which caused 1,501 deaths, the first version of SOLAS was introduced in 1914.[3] This version of SOLAS, which primarily dealt with the safety of human life, provided for minimum standards as to the number of lifeboats on-board a vessel, safety procedures, continuous radio watches and provided for the provision of emergency equipment. However, this initial version of SOLAS was never adopted due to the outbreak of the First World War. Newer versions of the Convention were adopted in 1929 and 1948 respectively.[4]

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[1] Resolution MSC.404(96), Amendments to the International Convention for the Safety of Life at Sea, 1974, as amended (adopted on 19 May 2016), http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Maritime-Safety-Committee-%28MSC%29/Documents/MSC.404%2896%29.pdf accessed 1 November 2018.

[2] International Convention for the Safety of Life at Sea, 1974 (London, 1 November 1974, entered into force 25 May 1990) 1184-1-18961.

[3] Philippe Boisson, *"Safety at Sea – Policies, Regulations & International Law"* (Bureau Veritas, Paris, 1999) 213.

[4] International Maritime Organization ('IMO'), Focus on IMO, October 1998, <http://www.imo.org/en/OurWork/Safety/Regulations/Documents/SOLAS98final.pdf> accessed 12 February 2019.

Further down the line, the 1960 version of the Convention entered into force on the 27th of May 1965. The main intention of the updates provided by this version of SOLAS was to adapt the provisions to new technologies and procedures in the industry.

The Convention was transformed completely in 1974. The transformation led to the simplification of the process for amendments to the Convention and also in providing for the tacit acceptance procedure. The tacit acceptance procedure made the process of accepting amendments more efficient when contrasted with the SOLAS 1960 as under the latter, an amendment would take several years to come into force since countries had to give notice of acceptance to the IMO and only after 2/3 of the Contracting Governments had accepted the amendment would it enter into force. To date, the Convention is still referred to as SOLAS 1974 which came into force on the 25th of May 1980.

However, at first, the requirements for the entry into force of the SOLAS 1974 were only accepted by 25 States which represented at least 50% of world gross tonnage. This meant that the Convention would come into force only after a number of years. In the meantime, a series of accidents involving oil tankers occurred in 1976 to 1977 which led to further international action to be conducted. Due the the latter incidents, in 1978, the IMO convened an international conference on tanker safety and pollution prevention whereby a number of important modifications to SOLAS and the International Convention for the Prevention of Pollution from Ships (MARPOL, 1973)[5] were adopted. Since, SOLAS 1974 had not entered into force it was impossible to amend the Convention. Accordingly, the conference adopted the 1978 SOLAS Protocol which entered into force on the 1st of May 1981.[6]

SOLAS was further amended by the 1988 SOLAS Protocol which entered into force in 1992. The 1988 SOLAS Protocol implemented a number of amendments arising from the international radio regulations in 1987 and replaced the Morse Code with the Global Maritime Distress Safety System and introduced a harmonized survey and certification system.[7] As at November 2018, the 1974 Convention has been updated and amended a total of 165 times

[5] International Convention for the Prevention of Pollution from Ships, 1973, as modified by the 1979 and 1997 protocols, (London, 2 November 1973, entered into force 2 October 1983) 1340 UNTS 184.
[6] International Maritime Organization ('IMO'), Focus on IMO (n 4).
[7] Ibid.

throughout the years[8] and accordingly it is now referred to as SOLAS, 1974, as amended. The Convention has 164 signatories to it,[9] covering 99.18% of the world tonnage.

SOLAS is divided into the following Chapters –

Chapter I – General Provisions
Chapter II-1 – Construction – Subdivision and stability, machinery and electrical installations
Chapter II-2 – Fire protection, fire detection and fire extinction
Chapter III – Life-saving appliances and arrangements
Chapter IV – Radio communications
Chapter V – Safety of navigation
Chapter VI – Carriage of Cargoes
Chapter VII – Carriage of dangerous goods
Chapter VIII – Nuclear ships
Chapter IX – Management for the Safe Operation of Ships
Chapter X – Safety measures for high-speed craft
Chapter XI-1 – Special measures to enhance maritime safety
Chapter XI-2 – Special measures to enhance maritime security
Chapter XII – Additional safety measures for bulk carriers
Chapter XIII – Verification of compliance
Chapter XIV – Safety measures for ships operating in polar waters

The main objective of SOLAS is to specify the minimum standards for the construction, equipment and operation of ships to be compatible with their safety. Flag States are responsible for ensuring that ships that are flying under their flag comply with the requirements of the Convention. In fact, the Convention provides for a number of certificates which are to be issued as proof that such requirements are being adhered to.[10]

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[8] IMO, *"List of treaties and their amendments"* <http://www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx> accessed 19 April 2019.

[9] IMO, "*Ratification by State*", <http://www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx> accessed 19 April 2019.

[10] IMO, *"International Convention for the Safety of Life at Sea (SOLAS), 1974"*, <http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx> accessed 19 April 2019.

The Convention also provides for a number of control provisions which allow contracting States to inspect ships of other signatory States where there are clear grounds for believing that the ship and its equipment do not comply with the requirements of the Convention. This procedure is known as port State control.[11] Furthermore, the Protocol of 1988 relating to SOLAS provides for the *'no more favourable treatment'* principle:

> *"With respect to ships entitled to fly the flag of a State which is not a Party to the Convention and the present Protocol, the Parties to the present Protocol shall apply the requirements of the Convention and the present Protocol as may be necessary to ensure that no more favourable treatment is given to such ships."*[12]

The control provision established under the 1988 Protocol establishes that a no more favourable treatment shall be given to ships of countries which are not a party to the SOLAS Convention. Accordingly, all parties to the Convention shall, as a matter of principle, apply the procedures of the Convention to ships of non-Parties, when in their ports, to ensure that the minimum requirements established by SOLAS are adhered to.

2.1 Chapter II-2 and Chapter III of SOLAS

The amendments under Resolution MSC.404(96) focus on Chapter II-2 and Chapter III of the SOLAS Convention.

Chapter II-2 deals with Fire protection, fire detection and fire extinction. The fire safety objectives embodied in this Chapter are (i) to prevent the occurrence of fire and explosion, (ii) to reduce the risk to life caused by fire, (iii) to reduce the risk of damage caused by fire to the ship, its cargo and the environment, (iv) to contain, control and suppress fire and explosion in the compartment of origin; and (v) to provide adequate and readily accessible means of escape for passengers and crew.[13]

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[11] Ibid.

[12] Article 1(3) of the Protocol of 1988 relating to SOLAS.

[13] Regulation 2.1 of Part A – General, Chapter II-2 – Construction – Fire protection, fire detection and fire extinction of SOLAS.

The first fire protection requirements for international shipping arose as part of the 1914 SOLAS Convention following the *RMS Titanic* incident. History has proven that the majority of the amendments in SOLAS arise following major disasters. In 1934, a fire aboard the *Morro Castle* vessel caused 134 casualties and the incident led to the development of the non-combustible construction regulations which form the basis of the fire safety regulation up until today.[14] Furthermore, the 2nd World War introduced three new parts to Chapter II of the 1948 SOLAS Convention which dealt with Escape, Operational Requirements, and Alternative Design and Arrangements.[15]

The SOLAS conventions of 1914, 1929, 1948 and 1960 respectively all provided for fire safety requirements. However, they all failed to provide adequate measures for passenger ships. This was highlighted via a number of incidents on international passenger's ships in the 1960's which in turn led to a number of changes into the 1974 SOLAS Convention.[16] The 1974 SOLAS Convention divided Chapter II into two new Chapters – Chapter II-1 on Construction – Structure, subdivision and stability, machinery and electrical requirements, and Chapter II-2 on fire protection, fire detection and fire extinction. The 1981 Amendments to SOLAS which entered into force on 1st September 1984 completely revised Chapter II-2 of SOLAS.[17]

However, once again, it was only the fires on the *Scandinavian Star* in 1990 which resulted in the death of 158 passengers and one year later on the *Moby Prince* which caused 144 fatalities that led to major amendments to Chapter II-2 of SOLAS.[18] Following the incidents, IMO, on the 24th of May 1991 adopted the first series of amendments to Chapter II-2 with the intention of making passenger ships safe from fire. The amendments targeted large open spaces which extended over three decks.[19] Further measures were implemented in 1992 which made it compulsory for ships in service to install smoke detection systems, alarm systems, sprinkles devices for accommodation and service spaces, stairway enclosures and gangways. These arose

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[14] The Telegraph, *"Cruise ship safety: timeline of disasters and safety regulations",* 16 January 2012, <https://www.telegraph.co.uk/travel/cruises/articles/Cruise-ship-safety-timeline-of-disasters-and-safety-regulations/> accessed 1 March 2019.

[15] IMO, Knowledge Documents, *"History of SOLAS fire protection requirements"* <http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Documents/History%20of%20SOLAS%20fire%20protection%20requirements.pdf> accessed 1 March 2019.

[16] IMO, "*SOLAS: the International Convention for the Safety of Life at Sea, 1974"* (n 4).

[17] IMO, *"History of SOLAS fire protection requirements"* (n 15).

[18] Philippe Boisson (n 3) 215.

[19] Ibid., 216.

following the fact that on board the *Scandinavian Star* there were no smoke detection and alarm systems. The amendments in April 1992 also provided for emergency lighting, general alarm systems in critical situations and other means of communication. The third set of amendments to this Chapter in December 1992 applied to new ships which involved automatic sprinkler systems, fire detection systems and alarm systems. These amendments laid the ground work to new standards with regards to fire safety on board vessels.[20]

In 1996, the Fire Protection Subcommittee of IMO undertook a complete revision of Chapter II-2 of SOLAS.[21] The aim behind the revision was that of simplifying the regulations whilst putting the technical provisions into separate codes. In fact, this gave rise to the fire test procedures (FTP) and formal safety assessment (FSA). Since then, SOLAS has been amended numerous times to allow for better safeguarding of safety of life at sea.[22]

Nowadays, this Chapter provides detailed fire safety provisions for all ships and specific measures for passenger ships, cargo ships and tankers. The Chapter tackles the division of the ship into main and vertical zones by thermal and structural boundaries; separation of accommodation spaces from the remainder of the ship by thermal and structural boundaries; the restricted use of combustible materials; detection of any fire in the zone of origin; containment and extinction of any fire in the space of origin; protection of the means of escape or of access for fire-fighting purposes; ready availability of fire-extinguishing appliances; and minimization of the possibility of ignition of flammable cargo vapour.[23]

Chapter III deals with the requirements for life-saving appliances and arrangements, including the minimum requirements for life-boats, rescue boats and life jackets according to the type of ship. Life-saving appliances now are found on any seagoing ship and such appliances play a fundamental role in safety by keeping passengers, crew and other individuals who have abandoned a ship alive. The importance of such life-saving appliances on board passenger ships has been proven on a number of occasions whereby lives were saved in situations of distress

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[20] Ibid., 216.
[21] IMO, *"History of SOLAS fire protection requirements"* (n 15)
[22] Ibid.
[23] Regulation 2.1.2 of Part A – General, Chapter II-2 – Construction – Fire protection, fire detection and fire extinction of SOLAS.

such as in the *Oceanos* incident in 1991 were 544 lives were saved[24] and in the Achille *Lauro* incident in 1994 whereby 900 lives were saved.[25]

3. The Background of the 2016 Amendments through MSC.404(96)

The amendments adopted by the Maritime Safety Committee on the 19th of May 2016 through Resolution MSC.404(96) amend two Chapters of SOLAS, namely, Chapter II-2 dealing with Fire protection, fire detection and fire extinction and Chapter III dealing with life-saving appliances and arrangements. These amendments will enter into force on the 1st of January 2020.

3.1 The amendments to Chapter II-2 of SOLAS on Fire protection, fire detection and fire extinction

The amendments to Chapter II-2 deal with two areas, firstly, obligations concerning helicopter landing areas on new ships and further obligations with regards to Helicopter Facility Foam Firefighting Appliances and secondly, the evacuation analysis which is now made mandatory.

In fact, these amendments to Chapter II-2 define two necessary areas to improve safety on-board a vessel when dealing with evacuation and emergency situations, namely the *Helicopter landing area* and the *Winching area.* SOLAS speaks of a Helideck which is a purpose-built helicopter landing area located on a ship including all structure, fire-fighting appliances and other equipment necessary for the safe operation of helicopters. However, prior to the amendments, SOLAS failed to define a helicopter landing area.[26] Via the amendments, a Helicopter landing area is defined as:

> *"[A]n area on a ship designated for occasional or emergency landing of helicopters but not designed for routine helicopter operations."*[27]

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[24] Lloyd's List, 5th August 1991.
[25] Lloyd's List, 1st December 1994.
[26] Regulation 3.26 of Part A – General, Chapter II-2 – Construction – Fire protection, fire detection and fire extinction of SOLAS.
[27] MSC.404(96) (n 1) paragraph 1.

Furthermore, the definition of the Winching area, which is provided for under the amendments is:

> "*[A] pick-up area provided for the transfer by helicopter of personnel or stores to or from the ship, while the helicopter hovers above the deck."*[28]

The amendments to the helicopter landing areas on new ships and helicopter facility foam firefighting appliances arise as an intention to bring all instruments at par.

The rest of the amendments in the Resolution regarding Helicopter facilities will amend Regulation 18 of Part G of Chapter II-2. The purpose of Regulation 18 is that of providing additional measures to address the fire safety objectives for those ships that are fitted with special facilities for helicopters. Accordingly, such vessels hall have (i) a helideck structure which is adequate to protect the ship from fire hazards which are associated with the helicopter operations; (ii) fire-fighting appliances to adequately protect the ship from such fire hazards associated with helicopter operations; (iii) refuelling and hangar facilities and operations to protect from such fire hazards in such operations; and (iv) that the necessary training and operation manuals are provided.[29]

The position in SOLAS is that where helicopters land or conduct winching operations on an occasional or emergency basis on ships without helidecks, fire-fighting equipment may be used. The latter equipment shall be made available in close proximity to the landing or winching areas during the helicopter operations.[30] The amendment in Resolution MSC.404(96) provides additional obligations with regards to vessels having a helicopter landing area. The additional provision 18.2.3 provides that:

> *"Notwithstanding the requirements of paragraph 2.2 above, ship constructed on or after 1 January 2020, having a helicopter landing area, shall be provided with foam*

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[28] MSC.404(96) (n 1) paragraph 1.

[29] Regulation 18.1 of Part G - Special requirements, Chapter II-2 – Construction – Fire protection, fire detection and fire extinction of SOLAS.

[30] Regulation 18.2.2 of Part G - Special requirements, Chapter II-2 – Construction – Fire protection, fire detection and fire extinction of SOLAS.

firefighting appliances which comply with the relevant provisions of Chapter 17 of the Fire Safety Systems Code."[31]

Chapter 17 of the International Code for Fire Safety Systems (FSS Code),[32] which was adopted via Resolution MSC.403(96) deals with helicopter facility foam firefighting appliances. Chapter 17 provides for the engineering specifications for helidecks and helicopter landing areas.[33]

The last amendment with regards to helicopter facilities and foam firefighting appliances is laid down via the new paragraph 5.1.6 to Regulation 18 which will be added after the existing paragraph 5.1.5. The new paragraph provides that:

"[I]n lieu of the requirements of paragraphs 5.1.3 through 5.1.5, on ships constructed on or after 1 January 2020 having a helideck, foam firefighting appliances which comply with the provisions of the Fire Safety Systems Code."[34]

In essence, the intention behind the above paragraph is that vessels which are constructed on or after the 1st of January 2020 and which have a helideck on board must have foam firefighting appliances which are compliant with the FSS Code to ensure that the necessary standards are adhered to. The provision in paragraph 5 of Regulation 18 provides for the minimum standards that fire-fighting appliances shall have.

The second major amendment to Chapter II-2 deals with the obligation to make the evacuation analysis mandatory. This amendment arose following the advancement of technology whereby nowadays it is easier to analyse the manner in which a passenger ship can be evacuated when compared to the technological constraints of the past. The intention here is to provide for greater assistance when dealing with means of escape situations. The provisions in 3.2. of Part D provide for means of escape in passenger ships and provide obligations which deal with (i) escape from spaces below the bulkhead deck; (ii) escape from spaces above the bulkhead deck;

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[31] MSC.404(96) (n 1) paragraph 4.
[32] IMO, FSS Code: International Code for Fire Safety Systems: Resolution MSC. 98(73), (London, 5 December 2000, entered into force on 1 July 2002).
[33] Resolution MSC.403(96), Amendments to SOLAS adopted on 19th May 2016.
[34] MSC.404(96) (n 1) paragraph 6.

(iii) direct access to stairway enclosures; (iv) details of means of escape; (v) the marking of escape routes; and (vi) normally locked doors that form part of an escape route.

The amendments to Chapter II-2 of SOLAS provide for an additional measure in relation to means of escape on passenger ships and this is the obligation to conduct a mandatory evacuation analysis to be done early in the design process via the implementation of provision 3.2.7 to Part D of Chapter II-2. The obligation to conduct the mandatory evacuation analysis will be required for all passenger ships constructed on or after 1st January 2020 which carry more than 36 passengers and ro-ro passenger ships constructed on or after 1st July 1999.[35]

Prior to the amendments, the means of escape provisions required escape routes on ro-ro passenger ships to be valuated by an evacuation analysis early in the design process.[36] SOLAS recommended the use of MSC.1/Circ.1238 when conducting such an analysis. However, for non-ro-ro passenger ships, the guidelines under MSC.1/Circ.1238 were not mandatory and the guidelines only *"encourage"* Member States to apply them to such non-ro-ro passenger ships.[37] The Lloyd's Register has gathered that experience gained through evacuation analyses or accidents with passenger ships has shown that the existing voluntary guidelines do not satisfy the practical conditions of state-of-the-art passenger ships.[38]

The amendments with regards to the evacuation analysis makes the intention of the legislator more than clear, whereby the introduction of provision 3.2.7.2 to Regulation 13 in Part D of Chapter II-2 provides that:

> *"The [evacuation] analysis shall be used to identify and eliminate, as far as practicable, congestion which may develop during an abandonment, due to normal movement of passengers and crew along escape routes, including the possibility that crew may need to move along these routes in a direction opposite to the movement of passengers. In addition, the analysis shall be used to demonstrate that escape arrangements are sufficiently flexible to provide for the possibility that certain*

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[35] MSC.404(96) (n 1) paragraph 2.

[36] Regulation 7.4 of Part D - Escape, Chapter II-2 – Life-Saving Appliances and Arrangements of SOLAS.

[37] IMO, MSC.1/Circ.128, Guidelines for evacuation analysis for new and existing passenger ships, 30 October 2007.

[38] Lloyd's Register, Statutory Alert: Revised guidelines on evacuation analysis for new and existing passenger ships, 8th December 2016, < http://info.lr.org/l/12702/2016-12-13/3cq49k> accessed 14 February 2019.

escape routes, assembly stations, embarkation stations or survival craft may not be available as a result of a casualty."[39]

It is known that in situations of distress, individuals panic and in such a state of panic the latter individuals make sure to safeguard their safety at all costs. Accordingly, all passengers would try their best to reach points of safety on board the vessel. However, this might come at the cost of creating congestion on board the vessel. Such congestion, when trying to reach points of safety, would create a bigger hazard for all those on board as a result of delays when passengers try to reach escape routes, assembly stations, embarkation stations or survival crafts which ultimately could further endanger their lives and result in casualties. Furthermore, such congestion would make the seafarers tasks of trying to assist the passengers and trying to carry out all emergency procedures harder.

Accordingly, the amendments mandate that an evacuation analysis is conducted to make sure that if a situation of distress arises, the vessel is equipped to allow for flexible movement of large quantities of individuals to the necessary safety points on the vessel. A vessel can sink within a couple of minutes as witnessed in the *MS Herald of Free Enterprise* whereby within ninety seconds the vessel had capsized killing 193 passengers.[40] It is of utmost importance that passengers reach the safety points on the vessel as fast as can be possible. To ensure that such routes are adequate, an evacuation analysis is required early in the design process so as to pre-empt such situations from arising.

In summary, the amendments highlighted above to Chapter II-2 of SOLAS are the following –

- The definition of helicopter landing area;
- The definition of winching area;
- The requirement for the evaluation of escape routes in evacuation situations early in the design process for ro-ro passenger ships and passenger ships carrying more than 36 passengers; and

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[39] MSC.404(96) (n 1) paragraph 2.

[40] Bell B, *"Zeebrugge Herald of Free Enterprise disaster remembered",* BBC News, 6th March 2017, < https://www.bbc.com/news/uk-england-39116394> accessed 13 February 2019.

- The requirement for ships having a helicopter landing area which are constructed on or after the 1st of January 2020 to have foam firefighting appliances which comply with the FSS Code.

3.2 The Amendments to Chapter III of SOLAS on Life-saving Appliances and Arrangements

The amendments to Chapter III[41] introduce a definition with regards to requirements for maintenance, thorough examination, operational testing, overhaul and repairs. The definition provides that:

> *"[T]he Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear, adopted by the Maritime Safety Committee of the Organization by resolution MSC.402(96), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VIII[42] of the present Convention concerning the amendment procedures applicable to the annex other than Chapter 1."*[43]

The requirements referred to in the above definition were adopted by the Maritime Safety Committee via Resolution MSC.402(96) aiming to establish a uniform, safe and documented standard for maintenance, thorough examination, operational testing, overhaul and repair of equipment. The obligations under the latter Resolution apply to lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats, and to launching appliances and on-load and off-load release gear for the latter boats and davit-launched liferafts.[44] In summary, the requirements under resolution MSC.402(96) include:

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[41] Paragraph 25, Regulation 3 of Part A - General, Chapter II-2 – Life-Saving Appliances and Arrangements of SOLAS.

[42] Article VIII of SOLAS deals with the procedure for amendments to SOLAS.

[43] MSC.404(96) (n 1) paragraph 7.

[44] Resolution MSC.402(96), *"Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear",* adopted on 19 May 2016.

i. the obligation on administration to ensure thorough examination, operational testing, repair and overhaul of equipment in line with SOLAS;
ii. weekly and monthly inspections and routine maintenance as specified in the equipment maintenance manuals;
iii. annual thorough examinations and operational tests;
iv. five-year thorough examination, any overhaul, overload operational tests and repairs;
v. the obligation to conduct and keep reports, checklists and records of maintenance of such examination, operational testing, overhaul and repair;
vi. the obligation to keep up to date maintenance manuals and associated technical documentation on board;
vii. certification of personnel; and
viii. education and training of personnel.

Lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats, and release gear of lifeboats (including free-fall lifeboats), rescue boats, fast rescue boats and liferafts shall all be thoroughly examined in line with the rules established via Resolution MSC.402(96). Such obligation shall also apply to the launching appliances of the latter vessels. Furthermore, the operational tests shall be conducted in line with resolution MSC.402(96) for free-fall lifeboat release function, davit-launched liferaft automatic release, davit-launched lifeboats' and rescue boats' on-load and off-load release.[45]

The second amendment in Chapter III via Resolution MSC.404(96) replaces provision 3.1. in Regulation 20 under Part B of Chapter III which deals with operational readiness, maintenance and inspection. Prior to the amendments, this provision held that instructions for on-board maintenance of life-saving appliances shall be provided and such instructions for maintenance shall comply with Regulation 36 which provides for the manner in which instructions on board are to be given when dealing with maintenance. The definition following the amendments has changed considerably and states that:

[45] Ibid.

"Maintenance, testing and inspections of life-saving appliances shall be carried out in a manner having due regard to ensuring reliability of such appliances".[46]

The latter definition provides for an approach which is less rigid and more practicable when compared to the previous definition. Accordingly, such maintenance is carried out in a manner which ensures reliability of such appliances especially due to the importance of the nature of such appliances. Furthermore, the amendment expands the provision to testing and inspections which go hand in hand with maintenance. Testing and inspections under Regulation 36 although assumed were not provided for.

The amendments with regards to life-saving appliances are based on the provisions currently in force under paragraph 11 of Regulation 20 in Part B of Chapter III. Prior to the amendments, the paragraph dealt with periodic servicing of launching appliances and on-load release gear only. The amendments to paragraph 11 have extended the scope of the paragraph to maintenance, thorough examination, operation testing, overhaul and repair of lifeboats, rescue boats and fast recue boats, launching appliance and release gear.[47]

Prior to the amendments, paragraph 11 required that launching appliances (i) are serviced at recommended intervals; (ii) are subject to a thorough examination at intervals not exceeding 5 years; and (iii) shall be subjected to a dynamic test of the winch brake following the thorough examination. Following the amendments, launching appliances shall be:

"[11.1.1] subject to a thorough examination at the annual surveys required by regulations I/7 or I/8, as applicable; and

[11.1.2] upon completion of the examination referred to in paragraph 11.1.1, subjected to a dynamic test of the winch brake at maximum lowering speed. The load to be applied shall be the mass of the survival craft or rescue boat without persons on board, except that, at intervals of at least once every five years, the test shall be carried out with a proof load equal to 1.1. times the weight of the survival craft or rescue boat and its full complement of persons and equipment."[48]

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[46] MSC.404(96) (n 1) paragraph 8.
[47] Ibid., paragraph 9.
[48] Ibid.

The amendments highlight two major changes in this section, namely (i) that the thorough examination shall take place annually rather than at intervals not exceeding 5 years; and (ii) the dynamic testing of the winch break is more exhaustive. Together, these amendments continue to provide for better safety of life at sea to ensure that the appliances on the vessel can be of proper service when situations arise.

With regard to lifeboat on-load release gear, paragraph 11 provided that it is (i) serviced at recommended intervals; (ii) subjected to a thorough examination and test during the survey conducted by properly trained personnel; and (iii) that it is operationally tested at least once every five years under a load of 1.1 times the total mass of the lifeboat when loaded with complement of persons and equipment whenever the release gear is overhauled.[49] The amendments to paragraph 11 in this respect extend the obligations to fast rescue boat release gear and free-fall lifeboat release systems. The amended obligations provide that such gear and release systems shall be:

> *"[11.2.1] subject to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8;*
>
> *[11.2.2] in in case of on-load release gear, operationally tested under a load of 1.1 times the total mass of the boat when loaded with its full complement of persons and equipment whenever the release gear is overhauled. Such overhauling and operational test shall be carried out at least once every five years; and*
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> *[11.2.3] notwithstanding paragraph 11.2.2, the operational testing of free-fall lifeboat release systems shall be performed either by free fall launch with only the operating crew on board or by a test without launching the lifeboat carried out based on Requirements for maintenance, thorough examination, operational testing, overhaul and repair."*[50]

[49] Regulation 11 of Part B - Special requirements, Chapter III – Life-saving appliances and arrangements of SOLAS.
[50] Resolution MSC.404(96) (n 1) paragraph 9..

The main difference following the amendments is the complete introduction of paragraph 11.2.3 and that thorough examination and operational tests have to be carried annually rather then at recommended intervals. The amendments also introduce obligations with regards to davit-launched liferaft automatic release hooks which shall be:

> *"[11.3.1] subject to a thorough examination and operational test during the annual survey required by regulations I/7 and I/8; and*
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> *[11.3.2] operationally tested under a load of 1.1 times the total mass of the boat when loaded with its full complement of persons and equipment whenever the release gear is overhauled. Such overhauling and operational test shall be carried out at least once every five years."*[51]

The amendments also require that lifeboats and rescue boats, including fast rescue boats are subjected to a thorough examination and operational test during the annual surveys. Furthermore, the amendments require that such examination, operational testing, overhaul, maintenance and repair as highlighted in the sub-paragraphs in the amended paragraph 20 are conducted in line with Regulation 36.

Accordingly, these obligations fall upon the manufacturer. The manufacturer is defined as the original equipment manufacturer (OEM) or any entity which has taken legal and legitimate responsibilities for equipment when the original equipment manufacturer no longer exists or supports the equipment.[52] A manufacturer must, upon verification of compliance with minimum capabilities, education and training, and quality system requirements, be authorized by the Administration as a service provider only if the service is provided for another manufacturers equipment. The examinations and operational tests may be conducted either by certified personnel of either the manufacturer or an authorized service provider or by the ship operator who is authorised by the Administration[53] after demonstrating compliance with the requirements for a service provider. Any personnel who performs any of the above mentioned tests, examinations or repairs must be certified with the minimum capabilities, education,

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[51] Ibid.
[52] Resolution MSC.402(96), (n 44).
[53] Regulation 2 of SOLAS defines Administration as the Government of the State whose flag the ship is entitled to fly.

training and quality system requirements. With this in mind, such annual examinations or operational tests may be carried out by the ship operator if the Administration allows it.[54] Finally, once the examination, testing, overhaul and repair are completed a statement to this effect confirming that the lifeboat arrangements remain fit for purpose shall be issued by the respective manufacturer or authorised service provider that conducted the work. A copy of the certification documents of the personnel and authorisation of the service provider shall be included within the statement.

On certain occasions, such obligations can be extended to an authorised service provider. The latter is defined as an entity which is authorised by the flag Administration. The certification programme requires authorisation for each make and type of equipment. The latter authorisation as service provider applies in the same manner for manufacturers which are acting as authorised service providers. The flag administrations will issue the authorisation document and ensure that the information regarding authorised service providers is made available. Flag administrations may also accept or recognise service providers authorised by other administration or by their recognised organisations.[55]

In summary, the amendments to Chapter III include –

- The definition of requirements for maintenance, thorough examination, operational testing, overhaul and repair;
- The requirement for maintenance, testing and inspection of life-saving appliances to be carried out in a manner having due regard to ensuring reliability of such appliances;
- The requirement for launching appliances to be subject to a thorough examination during the annual surveys and that after such examination to be subjected to dynamic test of the winch brake at maximum lowering speed;
- The requirement for lifeboat and rescue boat release gear, including fast rescue boat release gear and free-fall lifeboat release systems, shall be subject to a thorough examination and operational during the annual surveys;

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[54] ABS International Regulatory News Update, <https://ww2.eagle.org/content/dam/eagle/regulatory-news/2016/ABS%20MSC%2096%20Brief%20May%2020.pdf> accessed 14 February 2019.

[55] DNV GL, *"New requirements for authorised service providers regarding life-saving appliances"*, 16th November 2017, < https://www.dnvgl.com/news/new-requirements-for-authorized-service-providers-regarding-life-saving-appliances-104096> accessed 14 February 2019.

- The requirement for davit-launched liferaft automatic release hooks to be subject to a thorough examination and operational test during the annual surveys; and
- The requirement for lifeboats and rescue boats, including fast rescue boats to be subject to a thorough examination and operational test during the annual surveys.

4. The implementation of the Resolution MSC.404(96) into Maltese Legislation

To date, Malta has not made any reservations to the amendments adopted by Resolution MSC.404(96). With this in mind, Malta has until the 1st of July 2019 to make a qualifying objection to the Resolution. Due to the tacit acceptance procedure, if Malta does not establish a position against the amendments by the 1st of July 2019, then the amendments introduced by Resolution MSC.404(96) will become binding on Malta.

Chapter 234 of the Laws of Malta (the "Merchant Shipping Act") delegates the authority to the Minister responsible for Shipping, which is currently under the hospice of the Minister for Transport, Infrastructure and Capital Projects, to make any rules in relation to, amongst other things, the appliances to be carried in ships for the prevention, detection and extinction of fire and the examination and maintenance at intervals to be prescribed by the rules of any appliances or equipment required by the rules to be carried. The powers of the Minister to make such rules are enshrined under article 208 of the Merchant Shipping Act which provides that:

"(1) The Minister may, in relation to any ships to which this article applies, make rules (in this Act referred to as "rules for life-saving appliances") with respect to all or any of the following matters, namely:

(a) the arrangement of ships into classes, having regard to the services in which they are employed, to the nature and duration of the voyage, and to the number of passengers carried;
(b) the number, description and mode of construction of the boats, life-rafts, line-throwing appliances, life- jackets, and lifebuoys to be carried by ships, according to the classes in which the ships are arranged;

(c) the equipment to be carried by any such boats and rafts, and the methods to be provided to get the boats and other life-saving appliances into the water, including oil for use in stormy weather;

(d) the provision in ships of a proper supply of lights inextinguishable in water, and fitted for attachment to lifebuoys;

(e) the quantity, quality and description of buoyant apparatus to be carried on board ships, either in addition to or in substitution for boats, life-rafts, life-jackets and lifebuoys;

(f) the position and means of securing the boats, life-rafts, life-jackets, lifebuoys and buoyant apparatus;

(g) the marking of the boats, life-rafts and buoyant apparatus as to show their dimensions and the number of persons authorised to be carried on them;

(h) the manning of the lifeboats and the qualifications and certificates of lifeboat men;

(i) the provision to be made for mustering the persons on board and for embarking them in the boats (including provision for the lighting of, and the means of ingress to and egress from, different parts of the ship);

(j) the provision of suitable means situated outside the engine room whereby any discharge of water into the boats can be prevented;

(k) the assignment of specific duties to each member of the crew in the event of emergency;

(l) the methods to be adopted and the appliances to be carried in ships for the prevention, detection and extinction of fire;

(m) the provision in ships of plans or other information relating to the means of preventing, detecting, controlling and extinguishing outbreaks of fire;

(n) the practice in ships of boat-drills and fire-drills;

(o) the provision in ships of means of making effective distress signals by day and night;

(p) the provision, in ships engaged on voyages in which pilots are likely to be embarked, of suitable pilot-ladders, and of ropes, lights and appliances designed to make the use of such ladders safe;

(q) the examination and maintenance at intervals to be prescribed by the rules of any appliances or equipment required by the rules to be carried.

(2) This article applies to:

(a) Maltese ships;

(b) all other ships while they are in Maltese waters."[56]

The Merchant Shipping Act clearly provides for the authority of the Minister concerned to make rules with regards to the appliances to be carried in ships for the prevention, detection and extinction of fire and the examination and maintenance of such appliances. However, such power to make rules with regards to anything that is required under SOLAS has been delegated to the Registrar-General via the Merchant Shipping (Safety Convention) Rules, Subsidiary Legislation 234.30 of the Laws of Malta which was enacted into Maltese law on the 10th of January 2003. Article 2(1) of the Safety Convention Rules stipulates that the Subsidiary Legislation shall apply to SOLAS:

> *"Safety Convention means the International Convention for the Safety of Life at Sea signed in London on 1st November, 1974, including any amendment or Protocol related thereto as may from time to time be ratified, acceded to or accepted by the Government of Malta and other instruments, standards and specifications of a mandatory nature related thereto adopted or developed by the International Maritime Organization or in terms of regulations 3(2)(a) hereof."*[57]

Article 2(2) of the Safety Convention Rules then provides that all words and expressions that are used in the Safety Convention Rules shall have the same meaning as intended in SOLAS and therefore should be interpreted and read in line with the intention established under SOLAS. The aim of this particular provision by the legislator is to avoid any form of confusion whereby there would be conflicting positions under the Maltese legal regime and the international legal regime under SOLAS.

Article 3(1) of the Safety Convention Rules gives SOLAS the force of law in Malta. The legislator when drafting the article intended to allow for a degree of flexibility for the constant developments and amendments to SOLAS due to its particular nature. Article 3(1) provides that:

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[56] Article 208 of the Merchant Shipping Act, Chapter 234, Laws of Malta.

[57] Article 2(1) of the Merchant Shipping (Safety Convention) Rules, Subsidiary Legislation 234.30, Laws of Malta.

"The Safety Convention as may from time to time be in force, shall, unless otherwise provided in these rules and notwithstanding the provision of any other law, form part of and be enforceable as part of the Law of Malta and shall apply to all Maltese ships and to all other ships while they are in Maltese waters as determined by the said Convention."[58]

Article 3(2) of the Safety Convention Rules delegates the necessary power to the Registrar-General[59] to issue Merchant Shipping Notices to implement SOLAS and any amendments to the Convention into Maltese law. The article provides that:

"The Registrar-General may either on a case by case basis or through the issue of Merchant Shipping Notices –

(a) determine, lay down, prescribe, set or specify what may be required to be determined by these rules or by the Safety Convention, or expound on the requirements of these rules or of such Convention or clarify their applicability or interpretation; and
(b) extend any of the provisions of the Safety Convention to other classes of Maltese ships or, to other classes of ships when they are in Maltese waters;

and in so doing, and without prejudice to the generality of the foregoing, the Registrar-General shall be guided by the circulars, clarifications, codes, decisions, directives, guidelines, instruments, interpretations, manuals, notices, publications, recommendations, regulations, resolutions, rules or any other similar medium of the

[58] Ibid.
[59] Article 2 of the Merchant Shipping Act defines the position of the Registrar-General as one which is deemed to include any person appointed as registrar and included any person acting under his authority with the permission of the Registrar-General. Furthermore, Article 363 of the Merchant Shipping Act provides that there shall be a Registrar-General of Shipping and Seaman to be appointed by the Authority who shall, subject to the provisions of this Act and the Authority for Transport in Malta Act, undertake the general superintendence of all matters relating to merchant shipping and seamen and ensure the carrying into effect of the provisions of the Act. The Registrar-General may carry out any of the duties, and shall have the powers which by this Act are to be carried out by, or conferred on, the registrars.

International Maritime Organisation or any other body or organisation with an appropriate knowledge or competence on the subject matter."

The Merchant Shipping Notices are the Technical Notices that are issued by Transport Malta which is authority responsible for transport in Malta as established by the Authority for Transport in Malta Act (the "Authority").

The intention behind these rules is to ensure that Malta is constantly compliant with such international legislation. Hence, the technical notices have the force of law as soon as they are published on the website of the Authority for the public to be informed. This avoids unduly delays in establishing the force of law for such technical provisions in Malta. Furthermore, the purpose here is that of efficiency, especially in light of the constant amendments to SOLAS. Accordingly, once Malta has not objected to such amendments, they would be informed to the public in the form of Technical Notice(s) to inform of such changes.

In line with the above, a series of Technical Notices as presented in Annex A, will be published by the Registrar-General so that the public, including Shipowners, Ship Operators, Managers, Master, Owners' Representatives and Recognised Organisations, can be aware of the new obligations and amendments arising from Resolution MSC.404(96). The Technical Notices as presented in Annex A are the following:

1. SLS.2 REV.2 – Maintenance, thorough examination, operational testing, overhaul and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear;
2. SLS.34 – Evacuation Analysis for Passenger Ships; and
3. SLS.35 – Helicopter Facilities.

SLS.34 and SLS.35 are the latest introductions to the list of Technical Notices issued by the Merchant Shipping Directorate. Accordingly, due to their introductory nature, they have been given a new SLS reference number so as to continue to build on the list of previous Technical Notices which were issued in regard to other amendments relating to SOLAS.

SLS.2 REV.2 amends the previously amended Technical Notice which already provided for the obligations relating to maintenance, thorough examination, operational testing, overhaul

and repair of lifeboats, rescue boats and fast rescue boats, launching appliances and release gear. The Technical Notice, SLS.2[60] was issued on the 6 December 2012 and originally tackled Periodic Servicing of Launching Appliances and On-Load Release Gear. SLS.2 implemented Regulation 20.3.1 and Regulation 20.11 of SOLAS Chapter III into Maltese Law following the amendments by Resolution MSC.152(78), MSC.1/Circ.1206/Rev.1 and MSC.1/Circ.1277. The Technical Notice was amended and reissued to the public as SLS.2 REV.1[61] on the 7 February 2013. This amendment added the obligation that in instances when neither the manufacturer or his authorized representative nor an approved independent lifeboat servicing and testing organisation or person are readily available at the port of survey, the Company may nominate an organisation or person to undertake this task. However, the Company shall be responsible for assessing and selecting a suitable organisation or person and therefore appropriate procedures related thereto shall be established within the Company's Safety Management System.

Going forward, SLS.2 REV.2 will implement the amendments introduced to Chapter III of SOLAS through the adoption of MSC.404(96). As such the public (as afore mentioned, the public includes Shipowners, Ship Operators, Managers, Master, Owners' Representatives and Recognised Organisations), will be informed of the amendment to Regulation 3, Part A of Chapter III by the addition in paragraph 25 of the definition of 'Requirements for maintenance, thorough examination, operational testing, overhaul and repair'. SLS.2 REV.2 will also inform the public of the amendments to Regulation 20.3.1 and Regulation 20.11 of Part B of Chapter III. The amendments will provide for further obligations with regards to (i) Launching appliances, (ii) Lifeboat and rescue boat release gear, including fast rescue boat release gear and free-fall lifeboat release systems; (iii) Davit-launched liferaft automatic release hooks. Thus SLS.2 REV.2 not only includes the amendments introduced via SLS.2 and SLS.2.REV.1 but uses the latter Technical Notices as a foundation to introduce more obligations.[62]

SLS.34 will notify the public on the adoption into Maltese Law of the amendments introduced by Resolution MSC.404(96) with regards to the Evacuation Analysis for Passenger Ships. In

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[60] Technical Notice SLS.2, *"Periodic Servicing of Launching Appliances and On-Load Release Gear",* Merchant Shipping Directorate, Transport Malta, 6 December 2012.

[61] Technical Notice SLS.2 Rev.1, *"Periodic Servicing of Launching Appliances and On-Load Release Gear",* Merchant Shipping Directorate, Transport Malta, 7 February 2013.

[62] Reference is to be made to Appendix I which provides SLS.2.REV.1.

essence, the Technical Notice informs the public of the obligation to conduct evacuation analysis for ro-ro passenger ships constructed on or after 1 July 1999 and for other passenger ships constructed on or after 1 January 2020 which carry more than 36 passengers. The evacuation analysis of escape routes, which is to be conducted early in the design process, shall be used to identify and eliminate, as far as practicable, congestion which may develop during an abandonment of the vessel.

SLS.35 informs the public of the minimum obligations and responsibilities relating to Helicopter Facilities. The Technical Notice introduces all of Regulation 18 of Part G of Chapter II-2 of SOLAS together with the amendments under Resolution MSC.404(96). The need for this legislative intervention stems from the fact that, as of to date, there exists no such Technical Notice or Maltese Legislation which informs the public with regards to the minimum obligations and responsibilities relating to Helicopter Facilities. Technical Notice SLS.35 addresses the lack of implementation in this regard and furthermore brings Maltese Law at par with SOLAS as amended.

It is thus submitted that through the notification provided by the Technical Notices below, all ships flying the Maltese flag will comply with the requirements stipulated therein and foreign ships calling at Maltese ports will be subject to inspection to confirm compliance with the said requirements. States have until the 1 July 2019 to make a qualifying objection to MSC.404(96). All three Technical Notices are issued to the public on 31 July 2019 so as to allow enough time for the Merchant Shipping Directorate to prepare the Technical Notices accordingly.

ANNEX A

EVACUATION ANALYSIS FOR PASSENGER SHIPS

Technical Notice SLS.34

Notice to Shipowners, Ship Operators, Managers, Master,
Owners' Representatives and Recognised Organisations

The Directorate wishes to draw the attention of all concerned to Regulation 13 of Chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended which has been amended by Resolution MSC.404 (96).

Regulation 3.2.7 requires that evacuation analysis for passenger ships is conducted. The escape routes shall be evaluated by an evacuation analysis early in the design process. This process shall apply to:

- ro-ro passenger ships constructed on or after 1 July 1999; and
- other passenger ships constructed on or after 1 January 2020 carrying more than 36 passengers.

The analysis shall be used to identify and eliminate, as far as practicable, congestion which may develop during an abandonment, due to normal movement of passengers and crew along escape routes, including the possibility that crew may need to move along these routes in a direction opposite to the movement of passengers.

The analysis shall be used to demonstrate that escape arrangements are sufficiently flexible to provide for the possibility that certain escape routes, assembly stations, embarkation stations or survival craft may not be available as a result of a casualty.

Merchant Shipping Directorate 31 July 2019

HELICOPTER FACILITIES

Technical Notice SLS.35

Notice to Shipowners, Ship Operators, Managers, Master,
Owners' Representatives and Recognised Organisations

The Directorate wishes to draw the attention of all concerned to Regulation 18, Part G of Chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended which has been amended by Resolution MSC.404(96). In line with the amendments to Regulation 18, the following requirements are hereby notified in whole.

1. PURPOSE

The purpose of this regulation is to provide additional measures to address the fire safety objectives of this chapter for ships fitted with special facilities for helicopters. For this purpose, the following function requirements shall be met:

1. helideck structure shall be adequate to protect the ship from the fire hazards associated with helicopter operations;

2. fire-fighting appliances shall be provided to adequately protect the ship from the fire hazards associated with helicopter operations;

3. refuelling and hangar facilities and operations shall provide the necessary measures to protect the ship from the fire hazards associated with helicopter operations; and

4. operation manuals and training shall be provided.

2. APPLICATION

2.1 In addition to complying with the requirements of regulations in parts B[1], C[2], D[3] and E[4] of the Convention, as appropriate, ships equipped with helidecks shall comply with the requirements of this regulation.

2.2 Where helicopters land or conduct winching operations on an occasional or emergency basis on ships without helidecks, fire-fighting equipment fitted in accordance with the requirements in part C of the Convention may be used. This equipment shall be made readily available in close proximity to the landing or winching areas during helicopter operations.

2.3 Notwithstanding the requirements of paragraph 2.2 above, ships constructed on or after 1 January 2020, having a helicopter landing area, shall be provided with foam firefighting appliances which comply with the relevant provisions of chapter 17 of the Fire Safety Systems Code.

2.4 Notwithstanding the requirements of paragraph 2.2 or 2.3 above, ro-ro passenger ships without helidecks shall comply with regulation III/28 of the Convention.[5]

3. STRUCTURE

3.1. Construction of steel or other equivalent material

In general, the construction of the helidecks shall be of steel or other equivalent materials. If the helideck forms the deckhead of a deckhouse or superstructure, it shall be insulated to "A-60" class standard.

3.2. Construction of aluminium or other low melting point metals

If the Administration permits aluminium or other low melting point metal construction that is not made equivalent to steel, the following provisions shall be satisfied:

1. if the platform is cantilevered over the side of the ship, after each fire on the ship or on the platform, the platform shall undergo a structural analysis to determine its suitability for further use; and

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[1] Part B of the Convention imposes the minimum requirements for the Prevention of fire and explosion.
[2] Part C of the Convention imposes the minimum requirements for the Suppression of fire.
[3] Part D of the Convention imposes the minimum requirements for Escape.
[4] Part E of the Convention imposes the minimum Operational Requirements.
[5] Regulation III/28 of the Convention provides that all ro-ro passenger ships shall be provided with a helicopter pick-up area approved by the Administration having regard to the recommendations adopted by the Organization. Ro-ro passenger ships of 130 m in length and upwards, constructed on or after 1 July 1999, shall be fitted with a helicopter landing area approved by the Administration having regard to the recommendations adopted by the Organization.

2. if the platform is located above the ship's deckhouse or similar structure, the following conditions shall be satisfied:

   2.1. the deckhouse top and bulkheads under the platform shall have no openings;

   2.2. windows under the platform shall be provided with steel shutters; and

   2.3. after each fire on the platform or in close proximity, the platform shall undergo a structural analysis to determine its suitability for further use.

4. MEANS OF ESCAPE

A helideck shall be provided with both a main and an emergency means of escape and access for fire fighting and rescue personnel. These shall be located as far apart from each other as is practicable and preferably on opposite sides of the helideck.

5. FIRE-FIGHTING APPLIANCES

6.1 In close proximity to the helideck, the following fire-fighting appliances shall be provided and stored near the means of access to that helideck:

1. at least two dry powder extinguishers have a total capacity of not less than 45 kg;[6]

2. carbon dioxide extinguishers of a total capacity of not less than 18 kg or equivalent; [7]

3. a suitable foam application system consisting of monitors or foam-making branch pipes capable of delivering foam to all parts of the helideck in all weather conditions in which helicopters can operate. The system shall be capable of delivering a discharge rate as required in table 18.1 for at least five minutes;

Table 18.1 – *Foam discharge rates*

Category	Helicopter overall length	Discharge rate foam solution (L/min)
H1	up to but not including 15 m	250
H2	from 15 m up to but not including 24 m	500
H3	from 24 m up to but not including 35 m	800

[6] Refer to Unified interpretation of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships (MSC.1/Circ.1275).
[7] Refer to Unified interpretation of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships (MSC.1/Circ.1275).

4. the principal agent shall be suitable for use with salt water and conform to performance standards not inferior to those acceptable to the Organization; [8]

5. at least two nozzles of an approved dual-purpose type (jet/spray) and hose sufficient to reach any part of the helideck;

6. in lieu of the requirements of paragraphs 5.1.3 through 5.1.5, on ships constructed on or after 1 January 2020 having a helideck, foam firefighting appliances which comply with the provisions of the Fire Safety System Code.

7. in addition to the requirements of regulation 10.10 of the Convention, two sets of fire-fighter's outfits and;[9]

8. at least the following equipment shall be stored in a manner that provides for immediate use and protection from the elements:

   5.1. adjustable wrench;

   5.2. blanket, fire-resistant;

   5.3. cutters, bolt, 60 cm;

   5.4. hook, grab or salving;

   5.5. hacksaw, heavy duty complete with 6 spare blades;

   5.6. ladder;

   5.7. lift line 5 mm diameter and 15 m in length;

   5.8. pliers, side-cutting;

   5.9. set of assorted screwdrivers; and

   5.10. harness knife complete with sheath.

[8] Refer to the *International Civil Aviation Organization Airport Services Manual,* part 1, Rescue and Fire Fighting, chapter 8, Extinguishing Agent Characteristics, paragraph 8.1.5, Foam Specifications table 8-1, level 'B'.

[9] Regulation 10.10 of the Convention focuses on fire-fighter's outfits. The latter provides for the types of fire-fighter's outfits, the number of fire-fighter's outfits, the storage of fire-fighters outfits and for the fire-fighter's communication.

6. DRAINAGE FACILITIES

Drainage facilities in way of helidecks shall be constructed of steel and shall lead directly overboard independent of any other system and shall be designed so that drainage does not fall onto any part of the ship.

7. HELICOPTER REFUELLING AND HANGAR FACILITIES

Where the ship has helicopter refuelling and hangar facilities, the following requirements shall be complied with:

1. a designated area shall be provided for the storage of fuel tanks which shall be:

    2.1. as remote as is practicable from accommodation spaces, escape routes and embarkation stations; and

    2.2. isolated from areas containing a source of vapour ignition;

2. the fuel storage area shall be provided with arrangements whereby fuel spillage may be collected and drained to a safe location;

3. tanks and associated equipment shall be protected against physical damage and from a fire in an adjacent space or area;

4. where portable fuel storage tanks are used, special attention shall be given to:

    4.1. design of the tank for its intended purpose;

    4.2. mounting and securing arrangements;

    4.3. electric bonding; and

    4.4. inspection procedures;

5. storage tank fuel pumps shall be provided with means which permit shutdown from a safe remote location in the event of a fire. Where a gravity fuelling system is installed, equivalent closing arrangements shall be provided to isolate the fuel source;

6. the fuel pumping unit shall be connected to one tank at a time. The piping between the tank and the pump unit shall be of steel or equivalent material, as short as possible, and protected against damage;

7. electrical fuel pumping units and associated control equipment shall be of a type suitable for the location and potential hazards;

8. fuel pumping units shall incorporate a device which will prevent over-pressurization of the delivery or filling hose;

9. equipment used in refuelling operations shall be electrically bonded;

10. "NO SMOKING" signs shall be displayed at appropriate locations;

11. hanger, refuelling and maintenance facilities shall be treated as category A machinery spaces with regard to structural fire protection, fixed fire-extinguishing and detection system requirements;

12. enclosed hanger facilities or enclosed spaces containing refuelling installations shall be provided with mechanical ventilation, as required by regulation 20.3 of the Convention for closed ro-ro spaces of cargo ships.[10] Ventilation fans shall be of non-sparking type; and

13. electric equipment and wiring in enclosed hangers or enclosed spaces containing refuelling installations shall comply with regulations 20.3.2, 20.3.3 and 20.3.4 of the Convention.[11]

8. OPERATIONS MANUAL AND FIRE-FIGHTING ARRANGEMENTS

8.1 Each helicopter facility shall have an operations manual, including a description and a checklist of safety precautions, procedures and equipment requirements. This manual may be part of the ship's emergency response procedures.

8.2 The procedures and precautions to be followed during refuelling operations shall be in accordance with recognized safe practices and contained in the operations manual.

8.3 Fire-fighting personnel, consisting of at least two persons trained for rescue and fire-fighting duties, and fire-fighting equipment shall be immediately available at all times when helicopter operations are expected.

[10] Regulation 20.3 of the Convention provides for the precaution against ignition of flammable vapours in closed vehicle spaces, closed ro-ro spaces and special category spaces.

[11] Regulations 20.3.2, 20.3.3 and 20.3.4 focus on electrical equipment and wiring, electrical equipment and wiring in exhaust ventilation ducts and other ignition sources.

8.4 Fire-fighting personnel shall be present during refuelling operations. However, the fire-fighting personnel shall not be involved with refuelling activities.

8.5 On-board refresher training shall be carried out and additional supplies of fire-fighting media shall be provided for training and testing of the equipment.

Merchant Shipping Directorate 31 July 2019

MAINTENANCE, THOROUGH EXAMINATION, OPERATIONAL TESTING, OVERHAUL AND REPAIR OF LIFEBOATS, RESCUE BOATS AND FAST RESCUE BOATS, LAUNCHING APPLIANCES AND RELEASE GEAR

Technical Notice SLS.2 REV.2

Notice to Shipowners, Ship Operators, Managers, Master, Owners' Representatives and Recognised Organisations

Reference is to be made to Regulation 3, Part A of Chapter III, and to Regulation 20.3.1 & Regulation 20.11, Part B of Chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended by Resolution MSC.404(96).

Requirements for maintenance, thorough examination, operational testing, overhaul and repair means the Requirements for maintenance, thorough examination, operational testing, overhaul and repair of lifeboats and rescue boats, launching appliances and release gear, adopted by the Maritime Safety Committee of the Organization by resolution MSC.402(96), as may be amended by the Organization, provided that such amendments are adopted, brought into force and take effect in accordance with the provisions of article VI 11 of the present Convention concerning the amendment procedures applicable to the annex other than chapter I.

Maintenance, testing and inspections of life-saving appliances shall be carried out in a manner having due regard to ensuring reliability of such appliances.

Weekly and monthly inspections and routing maintenance as specified in the equipment maintenance manual(s) should be carried out by the ship's crew under the direct supervision of a senior ship's officer in accordance with thee maintenance manual(s). All other inspections, servicing and repair should be carried out by either:

- the manufacturer or manufacturer's authorised representative; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by the Administration of a SOLAS Contracting Government; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by a Recognized Organization (ABS, BV, CSS, NK, DNV, GL, KR, LR, PRS, RINA or RS) acting for and on behalf of the Administration of a SOLAS Contracting Government.

Notwithstanding the above, in instances where neither the manufacturer or his authorized representative nor an approved independent lifeboat servicing and testing organization or person are readily available at the port of survey, the Company may nominate an organization or person to undertake this task. The Company shall be responsible for accessing and selecting a suitable organization or person and therefore appropriate procedures related thereto shall be established within the Company's Safety Management System.

1. LAUNCHING APPLIANCES

1.1. Launching appliances shall be subject to thorough examination at the annual surveys required by regulations I/7 or I/8 as applicable.

1.2. Upon examination, the launching appliances are subjected to a dynamic test of the winch brake at maximum lowering speed. The load to be applied shall be the mass of the survival craft or rescue boat without persons on board, except that, at intervals of at least once every five years, the test shall be carried out with a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment.

2. LIFEBOAT AND RESCUE BOAT RELEASE GEAR, INCLUDING FAST RESCUE BOAT RELEASE GEAR AND FREE-FALL LIFEBOAT RELEASE SYSTEMS

2.1. Lifeboat and rescue boat release gear, including fast rescue boat release gear and free-fall lifeboat release systems, shall be subject to thorough examination at the annual surveys required by regulations I/7 or I/8 as applicable.

2.1. On-load release gear shall be operationally tested under a load of 1.1 times the total mass of the boat when loaded with its full complement of persons and equipment whenever the release gear is overhauled.

2.2. Such overhauling and operational test shall be carried out at least once every five years.

2.3. Notwithstanding paragraphs 2.2 and 2.3, the operational testing of free-fall lifeboat release systems shall be performed either by free fall launch with only the operating crew on board or by a test without launching the lifeboat carried out based on requirements for maintenance, thorough examination, operational testing, overhaul and repair.

3. DAVIT-LAUNCHED LIFERAFT AUTOMATIC RELEASE HOOKS

3.1. Davit-launched liferaft automatic release hooks shall be subject to thorough examination at the annual surveys required by regulations I/7 or I/8 as applicable.

3.1. Davit-launched liferaft automatic release hooks shall be operationally tested under a load of 1.1 times the total mass of the liferaft when loaded with its full complement of persons and equipment whenever the automatic release hook is overhauled.

3.2. Such overhauling and operational test shall be carried out at least once every five years.

4. LIFEBOATS AND RESCUE BOATS

4.1. Lifeboats and rescue boats, including fast rescue boats, shall be subject to a thorough examination and operational test during the annual surveys required by regulations I/7 or I/8 as applicable.

5. THOROUGH EXAMINATION

5.1. The thorough examination, operational testing and overhaul required by notices 1 to 4 and the maintenance and repair of equipment specified in notices 1 to4 shall be carried out in accordance with the Requirements for maintenance, thorough examination, operational testing, overhaul and repair, and the instructions for on-board maintenance as required by regulation 36 of the International Convention for the Safety of Life at Sea, 1974, as amended.

5.2. The thorough examination of launching appliances, dynamic test of winch break, thorough examination and overhauling of the on-load release gear and the operational test shall be credited provided that:

- the inspection, servicing and repair are carried out in accordance with the manufacturer's instructions; and

- the report(s) and checklist(s) are duly completed and signed by the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work. In addition, the report(s) and checklist(s) shall be counter-signed by the Company's representative or the ship's Master; and

- the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work issues, upon completion of same, a statement confirming that the launching appliance and on-load release gear for the lifeboat(s), liferaft(s), rescue boat(s) and fast rescue boat(s), as applicable, remain fit for purpose.

Merchant Shipping Directorate 31 July 2019

APPENDIX I

Periodic Servicing of Launching Appliances and On-Load Release Gear

Technical Notice SLS.2

Notice to Shipowners, Ship Operators, Managers, Masters,
Owners' Representatives and Recognised Organisations

Reference SOLAS 74 Chapter III Regulation 20.3.1, Regulation 20.11 as amended by Resolution MSC.152(78), MSC.1/Circ.1206/Rev.1 and MSC.1/Circ.1277

The examination, repair and testing of launching appliances and on-load release gear for lifeboats, davit-launched liferafts, rescue boats and fast rescue boats should be based on the guidance contained in MSC.1/Circ.1206/Rev.1.

Weekly and monthly inspections, and routine maintenance as specified in the equipment maintenance manual(s) should be carried out by the ship's crew under the direct supervision of a senior ship's officer in accordance with the maintenance manual(s). All other inspections, servicing and repair should be carried out by either:

- the manufacturer or manufacturer's authorised representative; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by the Administration of a SOLAS Contracting Government; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by a Recognized Organization (ABS, BV, CCS, NK, DNV, GL, KR, LR, PRS, RINA or RS) acting for and on behalf of the Administration of a SOLAS Contracting Government.

The thorough examination of launching appliances, dynamic test of winch brake, thorough examination and overhauling of the on-load release gear and the operational test shall be credited provided that:

- the inspection, servicing and repair are carried out in accordance with the manufacturer's instructions; and
- the report(s) and checklist(s) are duly completed and signed by the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work. In addition, the report(s) and checklist(s) shall be counter-signed by the Company's representative or the ship's Master; and
- the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work issues, upon completion of same, a statement confirming that the launching appliances and on-load release gear for the lifeboat(s), liferaft(s), rescue boat(s) and fast rescue boat(s), as applicable, remain fit for purpose.

Merchant Shipping Directorate 6 December 2012

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Merchant Shipping Directorate

Transport Malta

PERIODIC SERVICING OF LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR

Technical Notice SLS.2 Rev.1

Notice to Shipowners, Ship Operators, Managers, Masters, Owners' Representatives and Recognised Organisations

Reference SOLAS 74 Chapter III Regulation 20.3.1, Regulation 20.11 as amended by Resolution MSC.152(78), MSC.1/Circ.1206/Rev.1 and MSC.1/Circ.1277

The examination, repair and testing of launching appliances and on-load release gear for lifeboats, davit-launched liferafts, rescue boats and fast rescue boats should be based on the guidance contained in MSC.1/Circ.1206/Rev.1.

Weekly and monthly inspections and routine maintenance as specified in the equipment maintenance manual(s) should be carried out by the ship's crew under the direct supervision of a senior ship's officer in accordance with the maintenance manual(s). All other inspections, servicing and repair should be carried out by either:

- the manufacturer or manufacturer's authorised representative; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by the Administration of a SOLAS Contracting Government; or
- an independent lifeboat servicing and testing organization or person certified in accordance with MSC.1/Circ.1277 by a Recognized Organization (ABS, BV, CCS, NK, DNV, GL, KR, LR, PRS, RINA or RS) acting for and on behalf of the Administration of a SOLAS Contracting Government.

Notwithstanding the above, in instances where neither the manufacturer or his authorized representative nor an approved independent lifeboat servicing and testing organization or person are readily available at the port of survey, the Company may nominate an organization or person to undertake this task. The Company shall be responsible for assessing and selecting a suitable organization or person and therefore appropriate procedures related thereto shall be established within the Company's Safety Management System.

The thorough examination of launching appliances, dynamic test of winch brake, thorough examination and overhauling of the on-load release gear and the operational test shall be credited provided that:

– the inspection, servicing and repair are carried out in accordance with the manufacturer's instructions; and
– the report(s) and checklist(s) are duly completed and signed by the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work. In addition, the report(s) and checklist(s) shall be counter-signed by the Company's representative or the ship's Master; and
– the independent lifeboat servicing and testing organization or person that carried out the inspection and maintenance work issues, upon completion of same, a statement confirming that the launching appliances and on-load release gear for the lifeboat(s), liferaft(s), rescue boat(s) and fast rescue boat(s), as applicable, remain fit for purpose.

Merchant Shipping Directorate 7 February 2013

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