

標題:

2000 年改正 SOLAS II-2 章に関するガイダンス

ClassNK

テクニカル インフォメーション

No. TEC-0453

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各位

NK テクニカルインフォメーション No. 406 にてお知らせしましたとおり、2000 年改正 SOLAS が本年 7 月 1 日に発効します。同改正の II-2 章(防火、火災探知、消火)において新たに設けられた規定及び改正された規定の中には、それらを適用する上で解釈を必要とする規定があります。それらに対する弊会の暫定解釈、IMO 統一解釈作成の動き、これまでに弊会に通知のあった旗国政府の指示(非常脱出用呼吸具に関するバハマ、キプロス、マン島、リベリア、マルタ、マーシャル諸島、シンガポール及びギリシャの各政府の指示)などについて、添付別紙のとおりお知らせ致します。

なお、本件に関し、ご不明な点は、以下の部署にお問い合わせください。

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添付:

- (1) 2000 年改正 SOLAS II-2 章に関するガイダンス
- (2) 非常脱出用呼吸具に関する旗国政府のレター

NOTES:

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ClassNK テクニカル インフォメーション
No. TEC-0453 添付(1)

2000 年改正 SOLAS II-2 章に関するガイダンス

2000 年改正 SOLAS II-2 章(以下、「改正 II-2 章」という)において新たに設けられた規定及び改正された規定について、それらを適用する上で解釈を必要とする規定に対する弊会の暫定解釈(以下、「NK 暫定解釈」という)、IMO 統一解釈作成の動き、非常脱出用呼吸具に対する旗国政府の指示などを下記のとおりお知らせ致します。(以下、2002 年 7 月 1 日以降その竜骨が据え付けられた船舶または同様の建造段階にある船舶を「新船」、その他の船舶を「現存船」という)

弊会は今後、NK 暫定解釈を必要に応じて修正の上、鋼船規則検査要領に取り込み、同一部改正として発行の予定です。それまでの間、改正 II-2 章に関わる弊社船級船の検査は NK 暫定解釈及び旗国政府の指示を適用して行う予定です。上記検査要領の規定は、NK 暫定解釈に基づいて関係の要件に適合するものと認められた構造・設備等に対しては原則として遡及適用しないこととする予定ですが、非常脱出用呼吸具につきましては今後作成される IMO 統一解釈に適合させるべく、若干の追加設備を要求させて頂くこともあります。なお、改正 II-2 章の非適用船舶に対する弊社船級要件は、鋼船規則検査要領に規定する予定です。

1. 非常脱出用呼吸具(EEBD) (II-2/13.3.4, 13.4.3)

本要件は新船及び現存船に適用される。現存船は II-2/1.2.2.2 規則により 2002 年 7 月 1 日以降の最初の検査(first survey)の日までに同要件に適合することが要求される((2)項参照)。ただし、13.3.4.1 規則の要件(予備の EEBD の備付け)は現存船には適用されない。

(1) 個数及び備付け場所

NK 暫定解釈

(a) II-2/13.3.4

居住区域内に次のとおり EEBD を備えること。

- (i) 貨物船については少なくとも 2 組及び予備として少なくとも 1 組。
- (ii) 36 人以下の旅客を運送する旅客船については 13.3.4.5 規則で定義されるものを除く各主垂直区域に少なくとも 2 組及び予備として少なくとも計 2 組。
- (iii) 36 人を超える旅客を運送する旅客船については 13.3.4.5 規則で定義されるものを除く各主垂直区域に少なくとも 4 組及び予備として少なくとも計 2 組。

(b) II-2/13.4.3.1

乗組員が通常または定期的に従事する A 類機関区域に次のとおり EEBD を備えること。

- (i) 主推進用の内燃機関のある機関区域
機関制御室及び工作室に各 1 組。原則として、当該区域の各甲板または台甲

板において脱出経路(トランクにより保護された脱出経路及び安全区域に至る水密戸以外)の近くに1組。機関制御室と工作室が近接している場合、それらのいずれかに対する EEBD、機関制御室及び/または工作室と脱出経路が近接している場合、機関制御室及び/または工作室に対する EEBD を省いて差し支えない。ただし、当該区域の EEBD の総数は少なくとも3組。

(ii) 上記(i)の区域以外の A 類機関区域

原則として、当該区域の各甲板または台甲板において脱出経路(トランクにより保護された脱出経路及び安全区域に至る水密戸以外)の近くに1組。ただし安全区域への脱出が容易であると認められる場合、EEBD は要求されない。

IMO 統一解釈作成の動き

本年5月に開催される IMO MSC 75 に統一解釈案が提出され、審議される予定である。

旗国政府の指示

これまでにバハマ、キプロス、マン島、リベリア、マルタ、マーシャル諸島、シンガポール及びギリシャの各旗国政府から解釈/特別要件について指示があった。以下に貨物船に対する上記のNK暫定解釈と各旗国政府の解釈/特別要件との主な相違点を示す。詳細については添付のレターを参照。

バハマ

- (a) 船上に備えられた EEBD の総数の 50%の予備を備えること。

キプロス

- (a) 機関区域には、"Document of Safe Manning for the Engine Department"に示された乗組員の人数に等しい数の EEBD を備えること。ただし、8組を超える必要はない。
(b) 少なくとも2組の予備を船上に備えること。

マン島

- (a) 居住区域の EEBD は消防員装具と同じ場所に格納すること。
(b) 居住区域及び機関区域のそれぞれについて備えられた EEBD の総数の 50%の予備を備えること。ただし、それぞれの区域について4組を超える必要はない。

リベリア

- (a) 居住区域が分離した区画からなる場合、それぞれに少なくとも2組備えること。
(b) 機関区域においては、制御室に2組、各脱出用はしごに1組、合計で少なくとも4組備えること。
(c) 通常のオペレーションにおいてポンプ室に入る個々の人員が使用できるように追加の EEBD を船上に備えるか、少なくとも2組をポンプ室に備えること。
(d) 少なくとも1組の訓練用の EEBD を備えること。
(e) 船上に備えられた EEBD の総数の少なくとも10%に等しい数の予備を備えること。ただし、4組を超える必要はない。

マルタ

- (a) 少なくとも2組の予備を船上に備えること。

- (b) 少なくとも 1 組の訓練用を船上に備えること。同 EEBD には訓練用であることを表示すること。

マーシャル諸島

- (a) 機関区域においては、各レベル(各甲板または台甲板)に少なくとも 2 組備えること。

シンガポール

- (a) 居住区域内においては規則により少なくとも 2 組の EEBD の備付けが要求されるが、多数の乗組員がかなりの時間過ごす作業区域(制御場所、業務区域)に対して追加の EEBD の備付けを考慮すること。
- (b) 機関区域に備えるべき EEBD の個数及び場所は、様々な要素(添付レター参照)を考慮して決めること。
- (c) 居住区域及び機関室にそれぞれ少なくとも 1 組の予備を備えること。
- (d) 訓練用の EEBD を備えること。

ギリシャ

- (a) 機関区域においては、下記のとおりとすること。
 - (i) 各非常口に 1 組。
 - (ii) 各制御室に 1 組。
 - (iii) 各工作室に 1 組。
 - (iv) ただし当該区域の総数は、少なくとも、通常業務として機関室で作業する乗組員の人数分とすること。
- (b) 設置場所は非常口付近の明確に見える位置とすること。
- (c) 予備は安全にアクセスできる場所(船橋、火災制御室、制御室)に設置すること。

(2) “first survey”の解釈

- (a) 2002 年 7 月 1 日以降に引渡される新造の現存船は、first survey に SE の initial survey が含まれるとすれば引渡しの日までに、含まれないとすれば引渡し後最初に行われる SE 検査の日までに上記の要件に適合することが要求される。
- (b) IACS は上記の点について IMO 統一解釈が必要と考え、その旨の文書を IMO FSI に提出した。この問題は本年 4 月に開催予定の IMO FSI にて審議され、5 月に開催予定の MSC75 において決着の見込みである。

(3) EEBD の承認

- (a) 原則として、弊会の承認を受け、個々の製品に対する確認検査に合格したものであること。旗国政府から指示がある場合は当該指示にも従ったものであること。
- (b) 日本籍船に搭載されるものは、日本政府/日本舶用品検定協会の検査に合格したものであること。
- (c) 日本政府/日本舶用品検定協会の検査に合格したものは、弊会の検査に合格したものと同みなす。その他の SOLAS 締約国政府またはその代行機関の検査に合格したものについては、適用技術基準、試験成績などを調査の上、適否を判断する。

(4) 火災制御図への記載

火災制御図の図記号説明表に EEBD の欄を追加し、図中に EEBD の設置場所を記号で示

す必要がある。火災制御図の確認については 3.項を参照のこと。

2. 保守計画書・訓練手引書・火災安全操作ブックレット(II-2/14, 15, 16)

本要件は新船及び現存船に適用される。現存船は II-2/1.2.2.2 規則により 2002 年 7 月 1 日以降の最初の検査 (first survey) の日までに同要件に適合することが要求される(“first survey”の解釈については 1.(2)項参照)。

(1) 各図書の内容

- (a) 保守計画書には改正 II-2 章 14.2.2.3、14.3 及び 14.4 規則に掲げられた事項、訓練手引書には同章 15.2.3.4 規則に掲げられた事項、火災安全操作ブックレットには同章 16.2.1 及び 16.3.1 規則に掲げられた事項が記載されていること。
- (b) 規則に記載対象として掲げられたすべての機器の保守方法及び間隔、訓練方法及び間隔並びに操作方法を含め、要求された事項が分かり易く記載されていること。機器の保守方法及び間隔、訓練方法及び操作方法については、各機器の製造者が作成したマニュアルを船上に備え、各図書においてそれらを参照するよう記述することとして差し支えない。
- (c) 保守計画書は、MSC/Circ.850 に基づいて作成すること。保守(検査・試験を含む)の方法及び間隔は鋼船規則 B 編の要件及び旗国政府の要件に適合するものであること。
- (d) 油タンカー、ケミカルタンカー、ガスキャリア、付録 B 貨物を運送するバルクキャリア、危険物運送船の火災安全操作については、適宜改正 SOLAS(II-2/19 規則)、IBC コード、IGC コード、BC コード、IMDG コードなどを船上に備え、火災安全操作ブックレットにおいて参照すること。また、ICS、OCIMF などが作成した安全指針を参照することとしても差し支えない。

(2) 図書の内容の確認

- (a) 船主(または造船所)は当該船舶用の上記図書各 1 部(船主用、造船所用が必要な場合その分を追加)を本件に関する検査を受けようとする弊社支部・事務所に提出すること。
- (b) 弊社検査員は各図書に必要事項が適切に記載されていること及び記載内容と船舶の現状が一致していることを確認の上、“Verified that this document contains the item of information required by SOLAS Chapter II-2 as amended”と記載、日付及び検査場所を記載、署名し NK 印を押印する。

3. 火災制御図 (II-2/15.2.4)

現存船については EEBD の備付けに伴い火災制御図を修正する必要がある(1.(4)項参照)。弊会は次により火災制御図に必要事項が記載されていることを確認し、その旨火災制御図に表示する。なお、同取扱いは新船にも適用する。

- (1) 船主(または造船所)は当該船舶用の火災制御図(掲示用、陸上消防員用)を必要部数弊社担当支部・事務所に提出すること。(船主用、造船所用が必要な場合はその分を追加)
- (2) 弊社検査員は火災制御図に必要事項が適切に記載されていること及び記載内容と船舶の現状が一致していることを確認すること。現存船については特に EEBD に注意し、その配置が改正 II-2 章の要件、上記第 1 項に述べた解釈及び旗国政府要件に適合していることを確認すること。

- (3) 上記確認の後、弊会検査員は火災制御図に”Verified that this plan contains the item of information required by SOLAS Chapter II-2 as amended”と記載、日付及び検査場所を記載、署名し NK 印を押印すること。

なお、火災制御図用図記号に関する IMO 決議 A.654(16)は次回 IMO 総会において、ISO17631:2002 “Ships and marine technology – Shipboard plans for fire protection, life-saving appliances and means of escape”に基づいて改正される見込みである。火災制御図を新たに作成または修正する場合、同 ISO 規格の図記号を使用することを推奨する。ただし、旗国政府から特別に指示がある場合はそれに従うこと。

4. 貨物ポンプ室の保護 (II-2/4.5.10)

現存船(タンカー)についても、2002年7月1日以降最初に予定されている入渠の日または2005年7月1日のうち、いずれか早い方の日までに 4.5.10.1.1 規則、4.5.10.1.4 規則に規定される装置及び炭化水素ガス濃度継続監視装置を備えることが要求される。

(1) II-2/4.5.1.1

バラスト移送のみを目的とするポンプ室は、第 4.5.10 規則の要件に適合する必要はない。同要件は貨物ポンプ、ストリップングポンプ、スロップタンク用ポンプ、COW ポンプ等の貨物用ポンプが備え付けられたポンプ室のみに適用される。

(2) II-2/4.5.10.1.2

貨物ポンプ室内の照明が非常用照明として一般に使用されることがあり得る場合、当該照明は通風装置とインターロックを行うこと。ただし、このインターロックは、主電源喪失の際の非常用照明の操作を妨げるものであってはならない。

(3) II-2/4.5.10.1.4

ビルジ高液位警報装置は液位監視装置の代替として認められる。

5. 固定式局所消火装置 (II-2/10.5.6, MSC/Circ. 913)

500 総トン数以上の客船及び 2000 総トン数以上の貨物船の容積が 500m³を超える A 類機関区域の高火災危険場所には、固定式の水系または同等の局所消火装置の設置が要求される。この装置は IMO が作成した指針(MSC/Circ. 913)に基づいて承認されたものであることが要求される。以下に上記規則及び MSC/Circ. 913 の規定の NK 暫定解釈を示す。

(1) II-2/10.5.6.2

自動起動は、火災の起こった特定の保護される場所に対する確実な起動と誤作動の防止を確保するため、一般的に次の(a)及び(b)に示す種類の異なる 2 つの火災探知器を設け、いずれか一方の探知器が火災を探知した場合には火災警報を発し((a)の探知器の場合、特定の保護される場所を識別できるものであること)、両方の探知器が火災を探知した時に装置を起動させるものとする。

(a) 保護される場所毎に設置された炎式火災探知装置

(b) 煙式火災探知装置(従来定期的に無人となる機関区域等に要求されているもの)

(2) II-2/10.5.6.3.1

内燃機関の火災危険部とは、防熱していない、あるいは保守のために頻繁に防熱を取り外すことがある排気管等の高温表面部及び高温表面部の近くに設置された高圧燃料油系統のこととする。典型的なディーゼルエンジンでは、機関の上部、燃料油噴

射ポンプ及び過給機がこれに当たる。

(3) II-2/10.5.6.3.2

ボイラの前面及び焼却炉の火災危険部とは、防熱していない、あるいは保守のために頻繁に防熱を取り外すことがあるバーナー近傍部のこととする。ここでいうボイラには、油焚きイナートガス発生器を含む。

(4) MSC/Circ. 913 Annex 3.2

- (a) 消火装置の水噴霧の影響を受けると考えられる範囲に設置される電気機器は IP44 以上の保護外被を有するものであること。ただし、次の(i)または(ii)に該当する場合はこの限りでない。
 - (i) 特定の局所消火装置との組合せにおいて当該電気機器に感電の危険及び短絡あるいは地絡が生じないことが試験により確認された場合。
 - (ii) 当該電気機器に水噴霧が直接降りかからないように固定式の保護設備が設けられた場合。
- (b) 上記(a)の「水噴霧の影響を受けると考えられる範囲」とは、原則として次の範囲をいう。
 - (i) 水平方向： 各ノズルを中心とし、ノズルの許容最大間隔を半径とする円の中
 - (ii) 垂直方向： 各ノズルと直近下方の甲板または類似の構造物の間
- (c) 上記(a)の試験は次に示す条件で行い、噴霧終了後当該機器の作動に水噴霧の影響がないことを確認する。
 - (i) ノズルを 2x2 グリッドに配置する。ノズルは垂直下方に向けノズルの間隔は許容最大間隔とする。
 - (ii) 当該機器を 2x2 グリッドの中央に配置する。ノズルとの距離は許容最小距離とする。
 - (iii) 当該機器を作動させた状態で消火装置を作動させ、その許容最大使用圧力で 20 分間の噴霧を行う。

(5) MSC/Circ. 913 Annex 3.13

装置の操作場所は局所火災場所から離れた安全な位置に配置すること。保護区域外に設けられる操作場所には、局所火災が発生している位置を表示する手段が講じられていることが望ましい。保護区域内のものは、4.2.2.5.5 規則で要求される燃料油の供給を隔離する位置の近くに配置すること。

(6) MSC/Circ. 913 Annex 3.19

消火ノズル及び管装置は、機関及び機器の定期的な整備を妨げるものであってはならず、原則として天井クレーン等の動作範囲の外側に設置すること。この目的あるいは他の目的でノズルを垂直下方以外の方向に向けて設置することができる。この場合、MSC/Circ. 913 に従い承認試験を行うことに加え、実際の取付角度にノズルを向けて試験を行い MSC/Circ. 913 に定められた消火能力と同等の能力を有することを確認すること。

6. その他の規定の解釈

(1) II-2/4.2.2.3.4

「離れた位置(separate location)」とは別々の区域を意味するものではない。

(2) II-2/4.2.4

第 2 文の規定は、暴露甲板上、タンク、コファダムまたは空所に配置された油圧弁及びシリンドラーには適用しない。

(3) II-2/9.4.1.1.2

SOLAS15 規則に従って作成され、水密が要求される隔壁甲板の下に取り付けられた水密戸は、18 規則の水密の要件を満たすかぎり、FTP コードに従い試験する必要はない。

(4) II-2/10.4.3

第 1 文の後半、第 3、第 4 及び第 5 文の要件は、固定式ガス消火装置の消火剤の格納室のみに適用すればよい。

* * * * *

Void

HELLENIC REPUBLIC
MINISTRY OF MERCHANTILE MARINE
PLAN APPROVAL DEPT
FIRE SAFETY SECTION
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Piraeus 21-02-02
Ref. No. 4231/21/2002
TO: As per relevant list :

SUBJECT: Emergency Escape Breathing Devices (E.E.B.D)

REF. Circular ΚΕΕΠ/ΔΜΚ No. 4231/102/2001/30-10-2001

Further to the above relevant circular please find attached here below tables regarding No and location of emergency escape breathing devices required on board vessels performing international voyages according to SOLAS until the first scheduled survey after 1/7/2002 according to modified chapter II-2 of SOLAS [IMO resolution MSC 99(73)]:

1. Existing Ships (constructed before 1/7/2002)

Passenger Vessels	Number	Location
Accommodation and service spaces	< 36 pass. : 2 (two) for each main vertical zone > 36 pass. : 4 (four) for each main vertical zone	In clearly visible locations near emergency exits
Machinery spaces (Cat. A and other engine spaces where crew work)	1 for each emergency exit 1 for each control space 1 for each workshop Totally not less than the number of crew normally on duty in these spaces	In clearly visible locations near emergency exits from machinery spaces, control spaces and workshops (if available)
Spare devices	-	-
Indication of devices on Fire Plan	Only machinery space devices are indicated	

Non passenger Vessels	Number	Location
Accommodation and service spaces	2 (two)	In clearly visible locations near emergency exits
Machinery spaces (Cat. A and other engine spaces where crew work)	1 for each emergency exit 1 for each control space 1 for each workshop Totally not less than the no of crew normally on duty in these spaces	In clearly visible locations near emergency exits from machinery spaces, control spaces and workshops (if available)
Spare devices	-	-
Indication of devices on Fire Plan	Only machinery space devices are indicated	

2. New Ships (constructed on or after 1/7/2002)

Passenger Vessels	Number	Location
Accommodation and service spaces	< 36 pass. : 2 (two) for each main vertical zone > 36 pass. : 4 (four) for each main vertical zone	In clearly visible locations near emergency exits
Machinery spaces (Cat. A and other engine spaces where crew work)	1 for each emergency exit 1 for each control space 1 for each workshop Totally not less than the no of crew normally on duty in these spaces	In clearly visible locations near emergency exits from machinery spaces, control spaces and workshops (if available)
Spare devices	2 (two) for accommodation and service areas	In a safe, accessible area (bridge, fire stations, control stations)
Indication of devices on Fire Plan	Only machinery space devices are indicated	

Non passenger Vessels	Number	Location
Accommodation and service spaces	2 (two)	In clearly visible locations near emergency exits
Machinery spaces (Cat. A and other engine spaces where crew work)	1 for each emergency exit 1 for each control space 1 for each workshop Totally not less than the no of crew normally on duty in these spaces	In clearly visible locations near emergency exits from machinery spaces, control spaces and workshops (if available)
Spare devices	1 (one) for accommodation and service areas	In a safe, accessible area (bridge, fire stations, control stations)
Indication of devices on Fire Plan	Only machinery space devices are indicated	

The Branch Manager
Commodore (GC) Yomelakis N



Government of the Isle of Man.
Department of Trade and Industry

Notice to Surveyors, Shipowners, Managers and Classification Societies

Emergency Escape Breathing Devices (EEBD)s

Recent amendments to SOLAS Chapter II-2 will require ships to carry "Emergency Escape Breathing Apparatus" (EEBDs). The new requirements come into force from 1st July 2002. The wording of the amendments is ambiguous in places and this circular sets out the requirements of the Isle of Man Marine Administration for Isle of Man ships.

Cargo Ships (including all tanker types) - Accommodation Spaces

Existing Cargo Ships (Constructed before 1st July 2002)

Existing cargo ships are required to comply with the requirements for EEBDs not later than the first safety survey, whether periodical, annual or renewal after 1st July 2002.

Existing cargo ships are not required to comply with Regulation 13.3.4.1 which requires spare EEBDs to be carried.

New Cargo Ships (Constructed after 1st July 2002)

New cargo ships, are required to comply with Regulation 13.3.4.1 and 13.3.4.2 which require at least two EEBDs to be carried in the accommodation spaces. Spare EEBDs are required. The Isle of Man Marine Administration requires 50% spares to be carried up to a maximum of four. It is strongly recommended that the spare EEBDs be carried ready for use, but be marked as spare.

Machinery Spaces - All Ships

The Isle of Man Marine Administration recommends the following:

New Cargo Ships

The minimum number of EEBDs in each separate machinery space shall be two, with a maximum of four with 50% spare. Spare EEBDs should be carried ready for use, but be marked as spare.

Existing Cargo Ships

Existing ships should carry the same number of EEBDs as new cargo ships, but are not required to carry spare EEBDs for use in the machinery spaces.

Passenger Ships

Crew Accommodation spaces

In crew accommodation spaces, at least two EEBDs are to be carried as per the requirements for new and existing cargo ships as applicable.

Passenger Spaces

In all passenger ships, at least two EEBDs are to be carried in each main vertical zone.

In all passenger ships carrying more than 36 passengers, two EEBDs shall be carried in addition to the those required in the previous paragraph, in each vertical zone, making a total of four.

Machinery Spaces

The requirements for the carriage of EEBDs is the same as for cargo ships.

Spare EEBDs

Spare EEBDs should be carried ready for use, but marked as spare, and should be serviced when the other EEBDs are serviced.

Approval of EEBDs

EEBDs shall comply with the Fire Safety Systems Code (FSS Code).

Only SOLAS approved EEBDs will be acceptable for use on Isle of Man registered ships.

ELSA sets commonly carried on ships, in particular chemical tankers and gas carriers, may be acceptable as meeting the requirements for EEBDs in Isle of Man ships provided that they comply with the requirements of the IGC Code or IBC Code as applicable. The ELSA sets to be carried under EEBD requirements are in addition to the IGC and IBC ELSA sets.

Storage of EEBDs

Accommodation Spaces

EEBDs for use in the accommodation spaces of ships required to carry them, should be stored in the same compartment as the Fireman's outfits, ready for use so that they may be carried by the Fire Party to be given to persons who may be trapped in a smoke filled atmosphere, or who may have to be escorted through a smoke filled atmosphere to safety.

Machinery Spaces

EEBDs shall be situated ready for use at easily visible places, which can be reached quickly and easily at any time in the event of fire. The location of EEBDs shall take into account the layout of the machinery spaces and the number of persons normally working in the spaces.

The number and positioning of EEBDs in the machinery spaces is to be decided by each Company taking into account the above requirements.

Fire Control Plans

The number and locations of EEBDs shall be indicated in the Fire Control Plan required in SOLAS Ch. II-2 Regulation 15.2.4

REPUBLIC



OF CYPRUS

**MINISTRY OF COMMUNICATIONS AND WORKS
DEPARTMENT OF MERCHANT SHIPPING
LEMESOS**

Circular No: 7/2002

TEN 1/5
TEN 32/4/7/1

5 March 2002

All Recognized and Authorized Classification Societies
All Owners, Manager
And Representation of ships
Under The Cyprus Flag

Subject: Emergency Escape Breathing Devices (EEBD)

I wish to refer to the above subject and to inform you that the Requirements of the Regulations II-2 13.3.4 and 13.4.3 of the SOLAS AMENDMENTS 2000 in respect to the fitting of EEBD will apply to Cyprus ships.

In addition, the following requirements for the number of EEBD will be henceforth applicable:

(1) Irrespective of type of ship in machinery spaces

The number of EEBD to be fitted in the machinery spaces will be equal to the number of crew stipulated in the Document of Safe Manning for the Engine Department, which is in force but the maximum number will not exceed eight (8) devices.

(2) Spare EEBD

Irrespective of number of EEBD in place, two (2) additional devices shall be kept on board as spare.

J. Karitzis
For Director
Department of Merchant Shipping

cc: Permanent Secretary, Ministry of Communications and Works
Permanent Secretary, Ministry of Foreign Affairs
Maritime Offices of the Department of Merchant Shipping abroad
Diplomatic and Consular Missions of the Republic
Honorary Consular Officers of the Republic
Cyprus Shipping Council
Union of Cypriot Shipowners
Cyprus Bar Association

THE/OE

MARITIME AND PORT AUTHORITY OF SINGAPORE

MARINE CIRCULAR TO SHIPOWNERS
NO. 4 OF 2002

Date: 25/2/02

EMERGENCY ESCAPE BREATHING DEVICES (EEBDs)

Applicable to: This circular should be brought to the attention to all ship owners and managers, shipmasters, ship's officers and crew and all parties concerned.

At the 73rd session of the Maritime Safety Committee in December 2000, amendments to SOLAS 74 were adopted. The amendments included a revised SOLAS Chapter II-2(Construction – Fire protection, fire detection and fire extinction). The amendments will enter into force on 1 July 2002.

2 A new requirement is the carriage of Emergency Escape Breathing Devices (EEBDs) on board all ships. The regulations for EEBDs apply to ships constructed on or after 1 July 2002. Ships constructed before 1 July 2002 are to comply with the regulations not later than the date of the first survey after 1 July 2002.

3 The new regulations do not specify the number of EEBDs to be carried in machinery spaces of ships nor their location. Hence the Annex to this circular serves to clarify the requirements and recommendations for Singapore-flag ships.

4 MSC/Circ.849 "Guidelines for the performance, location, use and care of EEBDs", dated 8 June 1998, is attached for further information.

5 Any enquiries relating to this circular should be directed to Mr Ong Hua Siong at tel: 63756210, or email: Hua_Siong_ONG@mpa.gov.sg

LEE SENG KONG
DIRECTOR OF MARINE
MARITIME AND PORT AUTHORITY OF SINGAPORE

**EMERGENCY ESCAPE BREATHING DEVICE (EEBD)
REQUIREMENTS AND RECOMMENDATIONS
FOR SINGAPORE-FLAG SHIPS
(Chapter II-2 of SOLAS 1974, as amended)**

1. Placement and Number of EEBDs

1.1 All ships shall carry at least two emergency escape breathing devices within accommodation spaces. In passenger ships, at least two emergency escape breathing devices shall be carried in each main vertical zone. In passenger ships carrying more than 36 passengers, two additional emergency escape breathing devices, shall be carried in each main vertical zone (Reg 3.4).

1.2 The following factors should be taken into account when considering placement and number of EEBDs in machinery spaces:

- a. the activities or operations in the various spaces, the normal number of people in them and the amount of time they spend there, including unmanned spaces that are frequently visited, eg stores. Therefore in addition to the number of persons on watch in machinery spaces (usually at least two), the number of persons normally working in the spaces should be taken into account;
- b. the risk of fire hazard in the space and potential for fire development and smoke generation;
- c. the distance of the escape routes or ease of access to an emergency exit or shelter [fresh open air] from the hazardous atmosphere, taking note that the EEBD could have a service duration of only about 10 minutes, and vertical routes may shorten the service duration further;
- d. the criteria of "easily visible places" and "be reached quickly and easily at any time" mentioned in Reg. 13.4.3;
- e. the protection of the stowed EEBD, eg from extreme heat, etc;
- f. the machinery spaces layout, particular attention being paid to any hard-to-exit spaces;
- g. the number of engine room personnel in the engine room work space at any one time and the practical working requirements of the particular vessel. Each and every workshop might not need to have an EEBD; and
- h. any unique configuration or situation of a ship or engine room.

1.3 Since engine room layouts differ from ship to ship, each specific ship proposal should be based on common/practical sense, bearing in mind the purpose of EEBDs, and shall be to the satisfaction of the attending surveyor, taking into consideration the guiding criteria mentioned above. This is comparable to the placement of portable fire extinguishers, which, although the regulations also do not state the required quantities and their location, have always been based on practical considerations, eg. they have to be prominently and strategically placed, easily reached, fire hazard, etc.

1.4 Although the new regulations require a minimum of two EEBDs in the accommodation spaces, placement of additional EEBDs in work spaces [control stations, service spaces] within accommodation spaces should be considered where there are a number of crew spending a considerable amount of time in them.

2. Size and type of ships

The number of EEBDs to be placed on board is not dependent on the size or type of ship.

3. Fire Control Plan



The location and the number of EEBDs shall be indicated in the fire control plan [Reg 13.4.3.2]. The relevant drawing should be endorsed by the attending surveyor after confirming the provision of EEBDs are in accordance with the regulations. The symbol for EEBD (see left) from the International Standard ISO 17631 *Ships and marine technology – Shipboard plans for fire protection, life-saving appliances, and means of escape* may be used, as IMO

Assembly resolution A.654(16) *Graphical Symbols for Fire Control Plans* is currently being revised.

4. UMS and manned engine rooms

The number of engine room personnel performing activities in the engine room at any one time and their access to EEBDs should be the prime considerations, whether the engine room is UMS or manned.

5. Approval of EEBD

Type-approval certificates issued by any of our recognized organizations are acceptable.

6. Spares

6.1 Regulation 13.3.4.1 requires the provision of spare EEBDs. We would consider the provision of a minimum of **two** fully functional spares – one for accommodation spaces and another for engine room as sufficient to meet this requirement.

6.2 The spare for accommodation spaces need not be kept in the “accommodation spaces” as defined in SOLAS, but may be kept in the navigation bridge, fire control station or cargo operations control room.

6.3 EEBDs placed in machinery spaces and accommodation spaces would be considered as operational EEBDs, and cannot be considered as inclusive of spares; and would have been clearly marked as such in the fire control plan. Spare EEBDs would be those kept in store with other LSA or FFA spares, ready to be used as replacement for any operational EEBD which has become unusable. This simplifies the arrangement and will not create confusion.

7. Maintenance and training

7.1 The new regulations contain additional requirements of a maintenance plan and crew training in the use of EEBDs (Regs. 14 and 15).

7.2 On-board safety management manuals under the ISM Code should be modified to reflect these changes.

7.3 Means to identify unauthorized tampering of the devices should be incorporated.

7.4 All training EEBDs should be clearly marked, for example, using special labels or colour. They should be stowed away from operational EEBDs, eg. in the training officer's locker. This is to avoid mistakenly using a training unit during an emergency when darkness or smoke may make seeing the labels or colour difficult. The training units allow personnel to remain proficient in the use of the EEBD without expending an actual EEBD unit. Personnel should receive adequate training prior to use, including the limitations to which the equipment is subject.

7.5 Training EEBDs would include special trainer sets or dummies (non-functional copies), with accompanying spare parts, so that they can be reused.

7.6 Operational EEBDs are "one-time use throw away" devices, and condemned/unusable EEBDs should be promptly and properly disposed of, eg. fully release all air or oxygen; no "recycling" of such EEBDs for training purposes should be attempted.

7.7 The ship's weekly safety appliances and equipment inspection/testing routine should be modified to incorporate training and inspection of EEBDs.

8. Service Life

According to some manufacturers, EEBDs may have a service life of up to 15 years. In any case, EEBDs which have exceeded their service life as indicated by the manufacturer should be discarded. We do not require periodic hydrostatic testing for EEBD cylinders.

9. Conclusion

Although EEBDs are new to SOLAS, the clarifications and recommendations in this annex should enable shipowners to place the optimum number and locate them in the best possible way.



Subject: Emergency Escape Breathing Devices (EEBD)		Regulation: SOLAS 1974 as amended Chapter II-2 Regulations 13.3.4, 13.4.3
Number: 10	Effective Date: 11 th February 2002	Revision: New

General

1. Classification Societies should be guided by the provisions of IMO MSC Circulars 849 and 850.
2. Emergency escape breathing devices (EEBD) shall comply with the Fire Safety System Code; and the number and location of all EEBDs shall be indicated in the fire control plan.
3. This guidance note will be reviewed, if necessary, in the light of experience gained in the application of these Regulations to all the affected spaces.

Carriage requirements

4. In the accommodation spaces, the carriage requirement for EEBD shall be as follows:
 - .1 Cargo ships: Not less than two;
 - .2 Passenger ships: Not less than two in each main vertical zone;
 - .3 Passenger ships carrying more than 36 passengers: In addition to the number specified in 4.2 above, not less than 2 in each main vertical zone.
5. The Convention does not specify the number of EEBDs to be provided in the machinery spaces. Subject to a risk assessment of the threat, the Owner and Classification Society shall agree the number of EEBDs to be provided in the machinery spaces. In the event that the Owner and Class Society cannot reach agreement on this number, this Authority will act as the final arbiter. The risk assessment should take into account the size and layout of the spaces, number of persons normally present, length of the escape routes, the guidance in paragraph 4.6 of the Annex to MSC/Circ. 849 and any other relevant factors.
6. All ships shall carry spare EEBDs that shall be located in a control station. The number of spares carried on board shall be as follows:
 - .1 Cargo ships: 50 % of the total number carried;
 - .2 Passenger ships: 100 % of the total number carried in one main vertical fire zone but not less than two.

Inspections and testing

7. Maintenance shall be in accordance with the manufacturer's instruction and inspection, by a competent person¹, shall be undertaken annually.
8. Hydrostatic testing of the cylinder shall be undertaken at least once every five years or in accordance with the manufacturer's instruction if such testing is required on a more frequent basis. The test pressure and test date shall be clearly and permanently marked on the cylinder.

¹ The Master, Chief Mate, Chief Engineer or Second Engineer and similarly qualified and experienced persons are accepted by the Bahamas Maritime Authority as being competent to carry out these inspections.

Records

9. Records of inspection, maintenance and testing shall be maintained onboard and readily available for inspection. The records should include the test certificates and the inspection status of each cylinder, which shall be clearly identified.

Surveys

10. During the annual survey of the safety equipment, Classification Societies are to verify that:
 - .1 the manufacturer's instructions for EEBD are provided and available onboard,
 - .2 the EEBDs have been inspected and maintained in accordance with the manufacturer's instructions and the foregoing,
 - .3 records of maintenance are being maintained in accordance with 9 above,
 - .4 spares are provided in accordance with 6 above.
11. The Classification Society should notify the Bahamas Maritime Authority, with relevant recommendations, when a Bahamian ship does not satisfy the requirements for the periodical inspections and testing, and carriage of spares, prior to the issuance of a Cargo Ship Safety Equipment Certificate, Passenger Ship Safety Certificate or any other statutory certificate that relates to safety equipment (i.e. MODU certificates).



Office of
Deputy Commissioner
of Maritime Affairs

THE REPUBLIC OF LIBERIA

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Technical Letter 2002-01(Rev.01) March 15, 2002

Subject: Emergency Escape Breathing Devices (EEBDs)

This technical letter is issued in order to clarify the Liberian Administration's interpretation of the SOLAS requirements regarding emergency escape breathing devices.

SOLAS II-2 Reg. 13.4.3 states that "On all ships, within the machinery spaces, emergency escape breathing devices shall be situated ready for use at easily visible places, which can be reached quickly and easily at any time in the event of fire. The location of emergency escape breathing devices shall take into account the layout of the machinery space and the number of persons normally working in the spaces".

SOLAS II-2 Reg. 13.3.4.2 states that for accommodation spaces on Cargo Ships "All ships shall carry at least two emergency escape breathing devices within the accommodation spaces."

In accordance with the abovementioned SOLAS regulations, the Liberian requirements for the number of EEBDs required on board a Liberian registered ship are as follows:

1. EEBDs for machinery spaces on all Ships

On Liberian flag ships, a minimum of four EEBDs will be required to be placed in the machinery spaces. Two EEBDs should be located in the control room and one located by each escape ladder. For vessel 's without control rooms a minimum of two EEBD shall be required subject to a review by the vessel's classification society of the layout, size and number of persons normally working in the engine room. The location of the EEBDs should be clearly marked, they should be easily accessible, and installed in locations where they will be protected from extreme heat and incidental damage. However, after reviewing the vessel's layout, the activities typically carried out in the machinery spaces, and evaluating the number of persons normally working in the machinery spaces, the vessel's classification society may require additional EEBDs in the machinery spaces to meet the intent of SOLAS II-2 Reg. 13.4.3. MSC Circular 849 (copy attached) provides guidelines regarding the performance, location, use, and care of EEBDs. The principles of MSC Circ.849 should be followed when determining if additional EEBDs are needed for Liberian flag ships. If the class society requires additional EEBDs the class society should notify the Administration with the reasons for this requirement.

For the purposes of this regulation, this Administration defines persons normally employed in the machinery spaces as all watchstanders on watch in the machinery spaces, all persons whose normal duty station is a control room or persons who are routinely employed in a workshop located in the machinery spaces and for unmanned engine rooms, any roving watch that routinely enters the

machinery spaces to monitor the condition of the space and its equipment and persons who may routinely performed activities in the engineroom.

2. EEBDs for accommodation spaces on Cargo Ships

Liberian flag ships will be required to carry at least two EEBDs in the accommodation spaces. If the ship has a split house, then the minimum EEBD requirement for the accommodation spaces will be increased to 4 (two per house). After reviewing the vessel's layout and operations, the vessel's classification society may require additional EEBDs in the accommodation spaces in order to meet the intent of the regulations. If the class society requires additional EEBDs, the class society should notify the Administration with the reasons for this requirement.

The EEBD storage location should be clearly marked and they should be easily accessible. The EEBDs for the accommodation spaces should not be stored in the emergency gear locker.

3. EEBDs for accommodation spaces on Passenger Ships

Passenger ships shall comply with the requirements of SOLAS II-2 Reg. 13.3.4.3, 13.3.4.4 and 13.3.4.5 regarding the number of EEBDs to be carried in each main vertical zone. At least two EEBDs shall be carried in each main vertical zone. In passenger ships carrying more than 36 passengers, two additional EEBDs shall be carried in each main vertical zone. The EEBD storage location should be clearly marked and they should be easily accessible. The EEBDs for the accommodation spaces should not be stored in the emergency gear locker.

4. EEBDs for Chemical Ships

In addition to the requirements stated above, ships carrying certain chemical cargoes under the provisions of the IBC Code may have to provide additional EEBDs in accordance with the requirements of IBC Code Chapter 14, Regulation 14.2.8.

5. EEBDs for pump rooms and similar spaces

Taking into account the number of persons who may enter the pump room during normal operations, EEBDs should be made available for individual carriage for the maximum number of persons who may enter the pump room during such operations. These EEBDs are in addition to ones installed in the engineroom and the accommodation spaces. Ships may opt to install EEBDs in the pump room in lieu of providing additional EEBDs for individual carriage. If this option is chosen a minimum of two EEBDs should be installed in the pump room.

6. Training Devices

At least one EEBD training devices shall be provided for training purposes. This devices will be in addition to EEBDs required for the machinery and accommodation spaces. The training device should be clearly marked so that they cannot be confused with operational EEBDs. The training device should not be stowed in the same location as the operational EEBDs. The ship's periodic safety drills should be modified to include training on the proper use of EEBDs. The ship training and safety management manuals should be modified to include the training requirements for EEBDs

7. Spares

Ships with ten or less EEBDs on board shall carry at least one spare devices. Ships with 11 to 20 EEBDs on board shall carry at least two spare devices. Ships with more than 20 EEBDs on board shall carry spares equal to at least 10% of the total EEBDs but no more than 4 spares will be required.

8. Maintenance

Servicing and maintenance of EEBDs should be in accordance with the manufacturer's instructions. The ships periodic safety appliance and equipment inspection and testing procedures should be modified to incorporate the inspection of EEBDs. EEBDs, which have exceeded their service life as indicated by the manufacturer, should be discarded. Any unusable or damaged EEBDs should be promptly disposed of in accordance with manufacturers instructions. Liberia does not require periodic hydrostatic testing for EEBD cylinders.

9. Fire Control Plans

The location and the numbers of EEBDs shall be indicated in the ship's fire control plan. Revisions to the fire control plan should be endorsed by the attending class society surveyor after confirming the installation of the EEBDs

10. Approval of EEBDs

EEBDs approved by or acceptable to the vessel's classification society are acceptable for use on the ship. This includes EEBDs that may have been approved by an authority authorized by another flag state if the vessel's classification society deems them acceptable.

11. Riding Crews

It is recommended that riding crews, whose functions or activities will require them to be normally employed in the machinery spaces, be required to bring EEBDs with them for individual carriage during their stay on the vessel.

The above requirements become effective for Liberian flag vessels on 1 July 2002. Please contact us if you have any questions regarding this matter.

Anthony Dupree, Jr.

Anthony Dupree, Jr.
Vice President, Technical and Communications - LISCRC
for the Deputy Commissioner of Maritime Affairs
Republic of Liberia

Attachment: (1) MSC. Circular 849



Office of the
Maritime Administrator

REPUBLIC OF THE MARSHALL ISLANDS

MARITIME ADMINISTRATOR

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From: D.L. Crede

To: Distribution

Subj: Administration Guidance on the Upcoming SOLAS Chapter II-2 Regulation 13.3.4.2 and 13.4.3.1 EEBD Requirements

Date: 27 February 2002

1. Regulation II-2/13.3.4.2 specifies that a minimum of two EEBDs are required in the accommodations. There is no other guidance on the number of accommodation space EEBDs for cargo ships. We envision that most cargo vessels will be equipped with two EEBDs in the accommodations.
2. Unfortunately, Regulation II-2/13.4.3.1 does not similarly specify a minimum number of EEBDs for the machinery spaces. In applying this regulation, we consider the term machinery spaces to mean Category A Machinery Spaces. The regulation specifies that the number of EEBDs required in the machinery spaces should take into account the layout of the machinery space and the number of persons normally working in the machinery spaces. This is extremely subjective and it will require an analysis of each ship or vessel class. As an Administration, we have found that it is not feasible to develop a simplistic interpretation to determine the required number of machinery space EEBDs. However, we have established that, as a minimum, there should be two EEBDs on each level of the machinery space. This should be considered as a baseline or starting point when evaluating each specific arrangement to determine the acceptable locations and required number of machinery space EEBDs.
3. We feel that the guidance contained in MSC/Circ.849 is mandatory since this circular is directly referenced in both SOLAS II-2/13.3.4 and II-2/13.4.3. In this regard, for compliance with the last sentence of Paragraph 4.6 in MSC/Circ.849, only those control spaces and workshops that are remotely located from the machinery space escape routes need be considered.
4. This Administration policy regarding the number of machinery space EEBDs is also contained in Paragraph 7.0 of Marine Notice No. 2-011-5, Rev. 1/02, Lifesaving Equipment. We are referring our vessel owners with questions regarding the number of machinery space EEBDs to this paragraph.