

標題

非常用消火ポンプの吸込揚程に関する統一解釈に対する各国政府の対応について

ClassNK

テクニカル インフォメーション

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各位

1. 概要

2010年12月に開催された第88回海上安全委員会(MSC88)において、非常用消火ポンプの吸込揚程に関するFSSコード12章2.2.1.3の規定に対する統一解釈が、MSC.1/Circ.1388として承認されました。当該解釈においては、平衡状態(Even Keel)でプロペラが2/3没水した状態、貨物無積載且つ燃料油10%積載した状況での入港バラスト状態で非常用消火ポンプが使用可能であること等が規定されております。また、本サーキュラーは、2012年1月1日以降の起工船に適用されることとなっております(添付1参照)。

本統一解釈はIACSのUIが基となっておりますが、設計への影響度^{*備考1)}を考慮し、IACSは当該解釈の適用日を建造契約日ベース(2012年1月1日以降建造契約される船舶に適用)とし、IACS UI SC 178(Rev.1)として採択し直しました(添付2参照)。

現在、弊会より、IACS UI SC 178(Rev.1)通りの建造契約日ベースでの適用日とすることを受け入れてもらうよう、各旗国政府に問い合わせしているところです。2011年7月31日現在までに受領した、その回答結果概要について以下2.の通りお知らせ致します。

*備考1) これまで考慮していなかったような浅い喫水状態においても非常用消火ポンプが作動することを要求しており、多くの船舶において、非常用消火ポンプの能力を増大すれば対処できるようなものではなく、非常用消火ポンプの設置場所の変更等の機関室の大幅な設計変更が生じる可能性がある。

2. 非常用消火ポンプの吸込揚程に関する統一解釈に関する各国政府回答

(1) IACS UI SC 178(Rev.1)通り建造契約日ベースの適用日とすることを了解した旗国

- クック諸島
- キプロス
- ギリシャ
- 香港
- パプアニューギニア
- カタール
- セントクリストファー・ネイビス
- セントビンセント・グレナディーン諸島
- ツバル
- ベトナム

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(2) 本統一解釈の適用について特別な指示のあった旗国

- マーシャル諸島

既に設計段階で図面等も承認済みで、起工日が 2012 年 1 月 1 日以降となる船舶は IMO サーキュラーの適用日を免除することを了承するものの、現時点より契約する船舶は IMO サーキュラー通り起工ベース(2012 年 1 月 1 日)で適用すること。

- バハマ

原則的には IMO サーキュラー通りの適用が望ましいが、2010 年 12 月 10 日 (IMO サーキュラー発行日)以前に建造契約した 2012 年 1 月 1 日以降に起工予定の船舶については、MSC サーキュラーを適用することは現実的でないと考え、IACS UI SC 178(Rev.1)通り建造契約ベースの適用を認める。他の例外についても Case by Case で検討する。

- マルタ

既に建造契約し、設計変更の必要性が生じても、2012 年 1 月 1 日以降起工する船舶については IMO サーキュラー通り適用すること。ただし、インパクトの懸念のある船舶があれば、船級協会を通して背景データを基に通知すること。

- パナマ

(i) 現在各造船所より入級申請のある 2012 年 1 月 1 日以降の起工船については、IACS UI SC 178(Rev.1)通り建造契約ベースで本解釈を適用することを了承する。

(ii) 上記(i)以外の船舶についても 2012 年 1 月 1 日以前の建造契約であれば、2013 年 1 月 1 日より前に起工することを条件に IACS UI SC 178(Rev.1)通り建造契約ベースで本解釈を適用すること。

(iii) 上記(i)及び(ii)以外の場合は弊会を通して Case by Case で確認をとること。

追加で上記旗国以外からの回答を受領次第、別途 ClassNK テクニカル・インフォメーションでお知らせ致します。

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なお、本件に関してご不明な点は、以下の部署にお問い合わせください。

[旗国政府回答に関するお問合せ]

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添付:

1. MSC.1/Circ.1388
2. IACS UI SC 178 (Rev.1)



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MSC.1/Circ.1388
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**UNIFIED INTERPRETATION OF CHAPTER 12 OF THE INTERNATIONAL CODE
FOR FIRE SAFETY SYSTEMS**

1 The Maritime Safety Committee, at its eighty-eighth session (24 November to 3 December 2010), with a view to providing more specific guidance for application of the relevant requirements of the International Code for Fire Safety Systems (FSS Code), approved the unified interpretation of chapter 12 of the FSS Code, as set out in the annex, prepared by the Sub-Committee on Fire Protection, at its fifty-fourth session.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying relevant provisions of chapter 12 of the FSS Code for ships constructed on or after 1 January 2012 and to bring the unified interpretation to the attention of all parties concerned.

ANNEX

**UNIFIED INTERPRETATION OF CHAPTER 12 OF THE INTERNATIONAL CODE
FOR FIRE SAFETY SYSTEMS (FSS CODE)**

Chapter 12, paragraph 2.2.1.3 – Emergency fire pumps in cargo ships

1 It should be documented that chapter 12, paragraph 2.2.1.3, of the Code is satisfied and the suction inlet is fully submerged under all conditions given in this unified interpretation.

1.1 Operational seagoing condition for which roll, pitch and heave should be taken into account.

The lightest seagoing condition should be considered, which is defined as the ballast condition which gives shallowest draught at the position of the sea chest and emergency fire pump as given in the approved stability booklet (or preliminary stability calculation for new building). The following table should be applied for the calculation of roll, pitch and heave. The heave combined pitch and heave combined roll are taken into account separately.

1.1.1 Heave combined pitch¹ in head sea

L, m	75 and below	100	125	150	175	200	225	250	300	350 and above
φ , deg	4.5	4	3.2	2.7	2.3	2.1	1.8	1.7	1.6	1.5
H, m	0.73	0.8	0.87	0.93	0.98	1.03	1.07	1.11	1.19	1.25

Note: Values at the intermediate length of ships are to be obtained by linear interpolation.

where:

L: length of the ship, in metres, as defined in the International Convention on Load Lines in force, or length between perpendiculars at the ballast draught, whichever is greater

φ : pitch angle² as defined in figure 1

H: heave amplitude as defined in figure 1.

1.1.2 Heave combined roll in beam sea

Heave combined roll angle² should be taken as:

.1 ships with bilge keels: 11°; and

.2 ships without bilge keels: 13°.

¹ The heave combined pitch is taken into account as in figure 1.

² Angle is to be measured from still waterline and downwards.

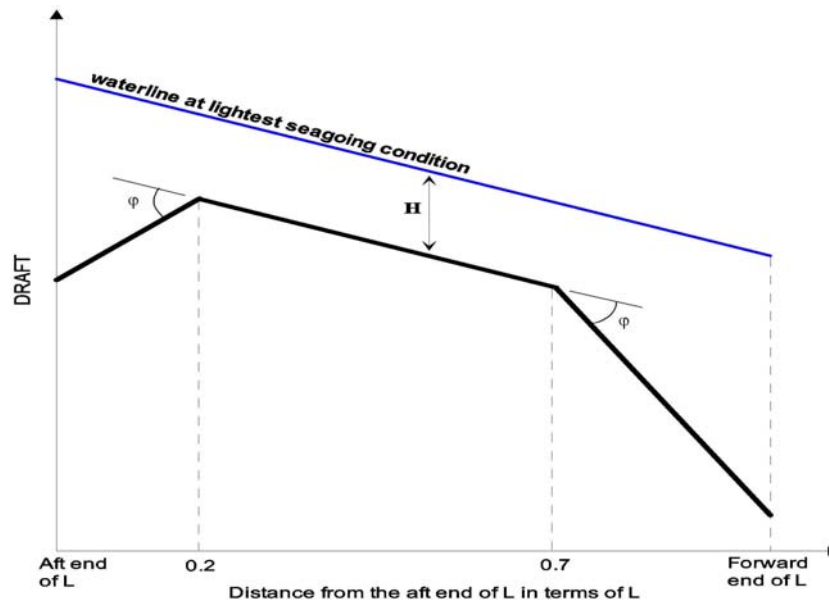


Figure 1 – Waterline for which heave combined pitch is taken into account

1.2 The emergency fire pump suction should be submerged at the waterlines corresponding to the two following conditions:

- .1 a static waterline drawn through the level of 2/3 immersion of the propeller at even keel (for pod or thruster driven ship, special consideration should be given); and
- .2 the ship in the arrival ballast condition, as per the approved trim and stability booklet, without cargo and with 10% stores and fuel remaining.

For either condition, roll, pitch and heave need not be applied.

1.3 A ship operating solely in sheltered water issued with SOLAS Certificates should be subject to compliance with the still water submergence requirements set out in paragraph 1.2.1 above.

2 In all cases the net positive suction head (NPSH) available for the pump should be greater than the NPSH required.

3 Upon completion of the emergency fire pump installation, a performance test confirming the pump's capacity required in the FSS Code, chapter 12, paragraph 2.2.1.1, should be carried out and, if the emergency fire pump is the main supply of water for any fixed fire-extinguishing system provided to protect the space where the main fire pumps are located, the pump should have the capacity for this system. As far as practicable, the test should be carried out at the draught corresponding to the lightest seagoing condition.

SC 178 Emergency Fire Pumps in Cargo Ships (FSS Code, Ch. 12, 2.2.1.3)

(July 2003)
(Withdrawn Apr 2005)
(Rev.1 Apr 2011)

It should be demonstrated by calculation that this paragraph is satisfied at:

- ~~the lightest seagoing condition, with account being taken of 22.5° roll and 10° pitch⁴⁾; and~~

⁴⁾ ~~Where the length of the ship exceeds 100m, the **pitch** may be taken as 500/L degrees where L = length of the ship, in metres, as defined in UR-S2.~~

- ~~a loading condition without cargo or ballast water, with 10% stores and fuel remaining, roll and pitch not being taken into account.~~

~~Upon completion of the emergency fire pump installation, a performance test confirming the capacity required in the FSS Code, Ch. 12, 2.2.1.1 and UI SC163 should be carried out. As far as practicable, the test should be carried out at lightest seagoing draught at the suction position.~~

FSS Code, Chapter 12, paragraph 2.2.1.3 Suction heads

The total suction head and the net positive suction head of the pump shall be determined having due regard to the requirements of the Convention and this chapter on the pump capacity and on the hydrant pressure under all conditions of list, trim, roll and pitch likely to be encountered in service. The ballast condition of a ship on entering or leaving a dry dock need not be considered a service condition.

Interpretation

1. It shall be documented that the suction inlet is fully submerged under “all conditions of list, trim, roll and pitch likely to be encountered in service” as given below.

1.1 Operational seagoing condition for which roll, pitch and heave shall be applied is as follows:

The lightest seagoing condition shall be considered, which is defined as the ballast condition which gives the shallowest draught at the position of the sea chest and emergency fire pump as given in the approved stability booklet (or preliminary stability calculation for new building). The following table shall be applied for the calculation of roll, pitch and heave. The heave combined pitch and heave combined roll are taken into account separately.

Note:

1. This UI is to be uniformly implemented by IACS Members and Associates from 1 January 2004.
2. Rev.1 to the interpretation is applicable to members for ships contracted for construction on or after 1 January 2012.
3. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No.29.

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(cont)

1.1.1 Heave combined pitch¹⁾ in head sea

\underline{L} (m)	<u>75 and below</u>	<u>100</u>	<u>125</u>	<u>150</u>	<u>175</u>	<u>200</u>	<u>225</u>	<u>250</u>	<u>300</u>	<u>350 and above</u>
$\underline{\Phi}$ (deg)	<u>4.5</u>	<u>4</u>	<u>3.2</u>	<u>2.7</u>	<u>2.3</u>	<u>2.1</u>	<u>1.8</u>	<u>1.7</u>	<u>1.6</u>	<u>1.5</u>
\underline{H} (m)	<u>0.73</u>	<u>0.8</u>	<u>0.87</u>	<u>0.93</u>	<u>0.98</u>	<u>1.03</u>	<u>1.07</u>	<u>1.11</u>	<u>1.19</u>	<u>1.25</u>

Note: Values at the intermediate length of ships are to be obtained by linear interpolation.

Where:

\underline{L} : length of the ship, in meters, as defined in the International Convention on Load Lines in force, or length between perpendiculars at the ballast draught, whichever is greater

φ : pitch angle²⁾ as defined in figure 1

\underline{H} : heave amplitude as defined in figure 1

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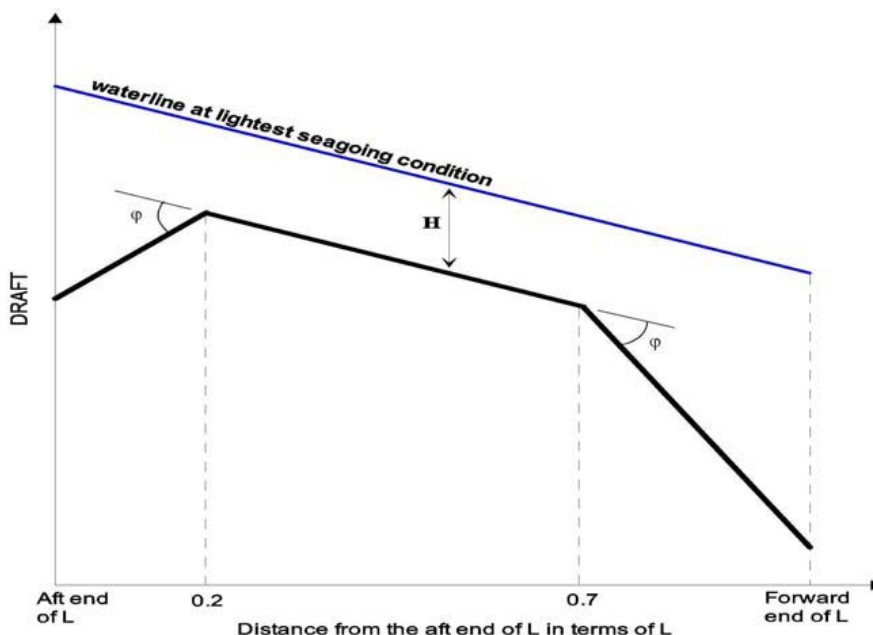


Figure 1 – Waterline for which heave combined pitch is taken into account

¹⁾ The heave combined pitch is taken into account as in figure 1.

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(cont)

2) Angle is to be measured from still waterline and downwards.

1.2 The emergency fire pump suction shall be submerged at the waterlines corresponding to the two following conditions:

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