

To: CCS Plan Approval Center, surveyors and auditors, all relevant shipyards, designers and shipping companies

Notice on the implementation of MSC.1/Circ.1388 - Unified Interpretation of Chapter 12 of the International Code for Fire Safety Systems

- 1 The Maritime Safety Committee's 88th session of International Maritime Organization adopted the unified interpretation of the provision of chapter of the FSS Code Chapter 12.2.2.1.3 regarding the suction heads of fixed emergency fire pumps as MSC.1/Circ. 1388, of which the main content is " the emergency fire pump suction should be submerged at the waterlines corresponding to the level of 2/3 immersion of the propeller at even keel and the arrival ballast condition without cargo and with 10% stores/fuel remaining". MSC.1/Circ. 1388 indicates that this interpretation is applied to ships constructed on or after 1 January 2012 (refers to the Attachment 1 - MSC.1/Circ. 1388).
- 2 International Association of Classification Societies (IACS) adopted UI SC 178(rev.1) in accordance with the prescription MSC.1/Circ.1388 for ships contracted for construction on or after 1 January 2012. IACS considered that it would be difficult for ships to comply with the requirement of UI SC 178(rev.1) by increasing emergency fire pump lift, and the only way to solve it would be to change the location of the emergency fire pump to ensure the pump could work on shallower draft condition, which is expected to bring a large impact to ship designing, especially to engine room arrangement. Therefore, IACS adopted the efficient date of ship's contract for construction. (refers to the Attachment 2 - UI SC 178(rev.1)).
- 3 Among the Administrations of flag States which have granted CCS with authorizations (including the authorizations for each individual ship) to implement statutory surveys and certifications, the flag States with specific requirements for the implementation of MSC.1/Circ. 1388 are summarized as follows:

- Marshall Islands

The unified interpretation of MSC.1/Circ.1388, when applying relevant provisions of chapter 12 of the FSS Code, to be applied for ships constructed on or after 1 January 2012 and were contracted after 10 December 2010 (the issued date of MSC/Circ.1388). However, exemptions may be considered by the Marshall Islands Administrator provided that the RO considers the design/equipment changes are

such that a contract would need to be renegotiated. For each such instance, the RO should provide a recommendation to the Administrator as to how the relevant requirements of the SOLAS Convention and the FSS Code are adequately met.

- **Cyprus/Hong Kong, China/Malta/Singapore**

The unified interpretation of MSC.1/Circ.1388, when applying relevant provisions of chapter 12 of the FSS Code, to be applied for ships constructed on or after 1 January 2012.

- 4 For ships registered in other flag States which are not mentioned in this Circular but have granted CCS with authorization to implement statutory surveys, the statutory survey can be carried out in the light of IACS UI SC 178(rev.1) provided that CCS apply to the administrators for approval on the basis of case by case.
- 5 Upon receiving new requirements for the implementation of MSC.1/Circ. 1388 and/or IACS UI SC 178(rev.1) from flag states, this Circular will be revised and reissued in time.

Hereby notify the above.

Attachment: 1. MSC.1/Circ.1388
2. IACS UI SC 178(rev.1)

This Circular is published on CCS website (www.ccs.org.cn) and is to be forwarded by CCS branches to relevant shipyards, designers and shipping companies in relevance to their business area.

<p>Please contact Classed Ship in Service Dept. of the Headquarters in case of any unclarity during the implementation of this Circular.</p>



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MSC.1/Circ.1388
10 December 2010

**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.

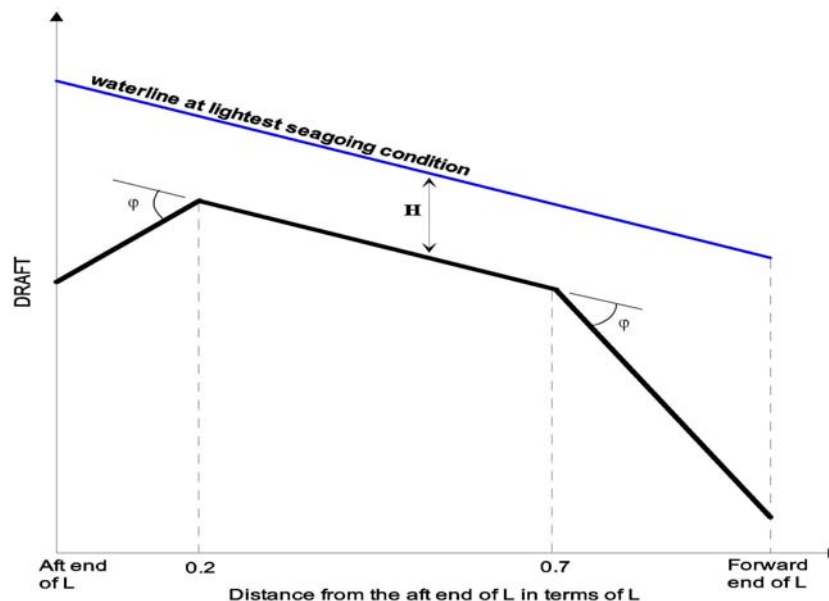


Figure 1 – Waterline for which heave combined pitch is taken into account

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)

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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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 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

H: heave amplitude as defined in figure 1

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Heave combined roll angle²⁾ shall be taken as:

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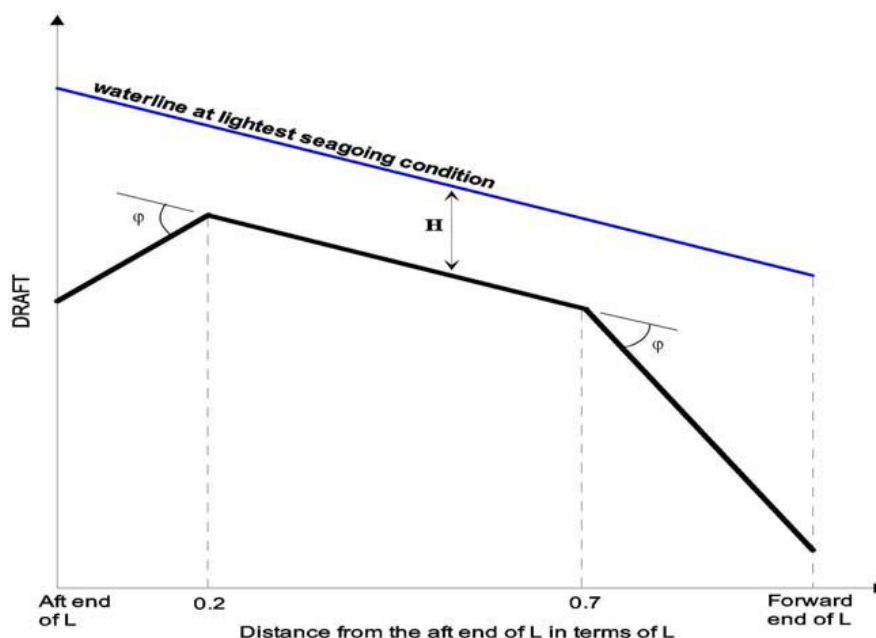


Figure 1 – Waterline for which heave combined pitch is taken into account

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

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

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(cont)

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- .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 shall 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 shall 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, shall 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 spaces where the main fire pumps are located, the pump shall have the capacity for this system. As far as practicable, the test shall be carried out at the draught corresponding to the lightest seagoing condition.

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