

**ANNEX 29**

**RESOLUTION MSC.235(82)**

**(adopted on 1 December 2006)**

**ADOPTION OF THE GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF  
OFFSHORE SUPPLY VESSELS, 2006**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.469(XII) by which the Assembly adopted the Guidelines for the design and construction of offshore supply vessels (OSV Guidelines),

NOTING that the Assembly, by the aforementioned resolution, authorized the Committee to amend the Guidelines, as may be necessary, to incorporate new features of offshore supply vessels,

RECOGNIZING that the OSV Guidelines had been adopted in 1981 and were based on the requirements of the 1974 SOLAS Convention, as amended in that year, while a number of amendments to the Convention and other IMO instruments (such as the Intact Stability Code) have since been adopted which might affect the Guidelines,

BEING DESIROUS of keeping the OSV Guidelines up to date,

HAVING CONSIDERED, at its eighty-second session, the revised OSV Guidelines proposed by the Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, at its forty-eighth session, which was contributed by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers,

1. ADOPTS the Guidelines for the design and construction of offshore supply vessels, 2006, the text of which is set out in the Annex to the present resolution;
2. INVITES Governments to take appropriate steps to give effect to the annexed Guidelines for the design and construction of offshore supply vessels, 2006;
3. SUPERSEDES resolution A.469(XII).

## ANNEX

# GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OFFSHORE SUPPLY VESSELS, 2006

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## PREAMBLE

- 1 These Guidelines have been developed for the design and construction of new offshore supply vessels with a view to promoting the safety of such vessels and their personnel, recognizing the unique design features and service characteristics of these vessels.
- 2 These Guidelines furthermore provide a standard of safety equivalent to the relevant requirements of the International Convention for the Safety of Life at Sea, 1974, as amended, and in particular to the stability criteria of the Code on Intact Stability for all Types of Ships Covered by IMO Instruments (IS Code), as amended.
- 3 Recognizing that for certain limited areas of operation and service characteristics it is unreasonable to apply these Guidelines in full, the possibility of relaxations has been introduced by the concept of “near-coastal voyage”.
- 4 Provisions for offshore supply vessels carrying more than 12 industrial personnel are not included in these Guidelines.
- 5 When an offshore supply vessel is used for special purposes, such as diving assistance or oceanographic surveys, the persons on board in connexion with these special purposes should be treated as special personnel.
- 6 The content of these Guidelines was reviewed in 2006 in order to update the references contained therein, to enhance subdivision and damage stability requirements, to remove duplication of the content between the Guidelines and the IS Code and to introduce an appropriate documentation of compliance with the Guidelines.

## 1 GENERAL

### 1.1 Application

- 1.1.1 Every new decked offshore supply vessel of 24 m and over but not more than 100 m in length should comply with the provisions of Parts 2 and 3 of these Guidelines. The intact and damage stability of a vessel of more than 100 m in length should be to the satisfaction of the Administration.
- 1.1.2 Parts 4, 5, 6 and 7 of these Guidelines apply to every new decked offshore supply vessel of 500 gross tonnage and above.
- 1.1.3 Where these Guidelines set forth alternative safety standards to those contained in the Convention and where the Convention is applicable, these Guidelines may be applied under the equivalency provisions of regulation 5 of chapter I of the Convention.
- 1.1.4 Vessels fitted with dynamic positioning equipment should comply with the guidelines developed by the Organization\*.

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\* Refer to the Guidelines for vessels with dynamic positioning systems (MSC/Circ.645) and Guidelines for dynamic positioning system (DP) operator training (MSC/Circ.738).

1.1.5 For a vessel engaged in near-coastal voyages, the principles in 1.3 of these Guidelines should guide the Administration in the development of its national standards. Relaxations from the requirements of these Guidelines may be permitted by an Administration for vessels engaged in near-coastal voyages off its own coasts provided the operating conditions are, in the opinion of that Administration, such as to render compliance with the Guidelines unreasonable or unnecessary.

1.1.6 Unless expressly provided otherwise, an existing offshore supply vessel should be required to comply with these Guidelines as far as is practicable in the opinion of the Administration.

1.1.7 Where a vessel other than an offshore supply vessel, as defined in 1.2.1, is employed on a similar service, the Administration should determine the extent to which compliance with these Guidelines is required.

## 1.2 Definitions

For the purpose of these Guidelines, unless expressly provided otherwise:

1.2.1 *Offshore supply vessel* means a vessel:

- .1 which is primarily engaged in the transport of stores, materials and equipment to offshore installations; and
- .2 which is designed with accommodation and bridge erections in the forward part of the vessel and an exposed cargo deck in the after part for the handling of cargo at sea.

1.2.2 *New vessel* means a vessel the keel of which is laid or which is at a similar stage of construction six months after the date on which these Guidelines were adopted.

1.2.3 *Existing vessel* means a vessel which is not a new vessel.

1.2.4 The terms “length (L) of a vessel”, “perpendiculars”, “weathertight” and “summer load line” have the meanings as defined in the Protocol of 1988 relating to the International Convention on Load Lines, 1966, as amended.

1.2.5 *Administration* means the Government of the State whose flag the vessel is entitled to fly.

1.2.6 *Offshore installation* means a marine structure located at an offshore site.

1.2.7 *IS Code* means the Code on Intact Stability for all Types of Ships Covered by IMO Instruments, as amended.

1.2.8 *Near-coastal voyage* means a voyage in the vicinity of the coast of a State as defined by the Administration of that State.

1.2.9 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.

### **1.3 Principles governing near-coastal voyages**

1.3.1 The Administration defining near-coastal voyages for the purpose of these Guidelines should not impose design and construction standards for a vessel entitled to fly the flag of another State and engaged in such voyages in a manner resulting in a more stringent standard for such a vessel than for a vessel entitled to fly its own flag. In no case should the Administration impose, in respect of a vessel entitled to fly the flag of another State, standards in excess of these Guidelines for a vessel not engaged in near-coastal voyages.

1.3.2 With respect to a vessel regularly engaged in near-coastal voyages off the coast of another State, the Administration should prescribe design and construction standards for such a vessel at least equal to those prescribed by the Government of the State off whose coast the vessel is engaged, provided such standards do not exceed these Guidelines in respect of a vessel not engaged in near-coastal voyages.

1.3.3 A vessel which extends its voyage beyond a near-coastal voyage should comply with these Guidelines.

## **2 INTACT STABILITY**

The vessel should comply with the relevant provisions for offshore supply vessels contained in the IS Code. Reference should be made to appendix 1 for operational matters related to stability criteria.

## **SUBDIVISION AND DAMAGE STABILITY**

### **3.1 General**

Taking into account, as initial conditions before flooding, the standard loading conditions required by the relevant provisions of Part B of the IS Code and the damage assumptions in 3.2, the vessel should comply with the damage stability criteria as specified in 3.3.

### **3.2 Damage assumptions**

3.2.1 Damage should be assumed to occur anywhere in the vessel's length between transverse watertight bulkheads.

3.2.2 The assumed extent of damage should be as follows:

- .1 longitudinal extent: vessels with the length (L) greater than 43 m, 3 m plus 3% of the vessel's length. For those with length (L) not greater than 43 m, 10% of the vessel's length,
- .2 transverse extent: transverse extent of damage should be assumed as 760 mm, measured inboard from the side of the vessel perpendicularly to the centreline at the level of the summer load waterline,
- .3 vertical extent: from the underside of the cargo deck, or the continuation thereof, for the full depth of the vessel.

3.2.3 A transverse watertight bulkhead extending from the vessel's side to a distance inboard of 760 mm or more at the level of the summer load line joining longitudinal watertight bulkheads may be considered as a transverse watertight bulkhead for the purpose of the damage calculations.

3.2.4 If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements should be made to ensure that progressive flooding cannot thereby extend to compartments other than those assumed to be floodable for each case of damage.

3.2.5 If damage of a lesser extent than that specified in 3.2.2 results in a more severe condition, such lesser extent should be assumed.

3.2.6 Where a transverse watertight bulkhead is located within the transverse extent of assumed damage and is stepped in way of a double bottom or side tank by more than 3.05 m, the double bottom or side tanks adjacent to the stepped portion of the transverse watertight bulkhead should be considered as flooded simultaneously.

3.2.7 If the distance between adjacent transverse watertight bulkheads or the distance between the transverse planes passing through the nearest stepped portions of the bulkheads is less than the longitudinal extent of damage given in 3.2.2.1, only one of these bulkheads should be regarded as effective for the purpose of 3.2.1.

### **3.3 Damage stability criteria**

3.3.1 The final waterline, taking into account sinkage, heel and trim, should be below the lower edge of any opening through which progressive flooding may take place. Such openings should include air pipes and those which are capable of being closed by means of weathertight doors or hatch covers and may exclude those openings closed by means of watertight manhole covers and flush scuttles, small watertight cargo tank hatch covers which maintain the high integrity of the deck, remotely operated watertight sliding doors and sidescuttles of the non-opening type.

3.3.2 In the final stage of flooding, the angle of heel due to unsymmetrical flooding should not exceed 15°. This angle may be increased up to 17° if no deck immersion occurs.

3.3.3 The stability in the final stage of flooding should be investigated and may be regarded as sufficient if the righting lever curve has, at least, a range of 20° beyond the position of equilibrium in association with a maximum residual righting lever of at least 100 mm within this range. Unprotected openings should not become immersed at an angle of heel within the prescribed minimum range of residual stability unless the space in question has been included as a floodable space in calculations for damage stability. Within this range, immersion of any of the openings referred to in 3.3.1 and any other openings capable of being closed weathertight may be authorized.

3.3.4 The Administration should be satisfied that the stability is sufficient during intermediate stages of flooding.

### **3.4 Assumptions for calculating damage stability**

3.4.1 Compliance with 3.3 should be confirmed by calculations which take into consideration the design characteristics of the vessel, the arrangements, configuration and permeability of the damaged compartments and the distribution, specific gravities and the free surface effect of liquids.

3.4.2 The permeability of compartments assumed to be damaged should be as follows:

| <i>Spaces</i>             | <i>Permeability</i> |
|---------------------------|---------------------|
| Appropriated to stores    | 60                  |
| Occupied by accommodation | 95                  |
| Occupied by machinery     | 85                  |
| Void spaces               | 95                  |
| Intended for dry cargo    | 95                  |

The permeability of tanks should be consistent with the amount of liquid carried, as shown in the loading conditions specified in 3.1. The permeability of empty tanks should be assumed to be not less than 95.

3.4.3 The free surface effect should be calculated at an angle of heel of 5° for each individual compartment, or the effect of free liquid in a tank should be calculated over the range of positive residual righting arm, by assessing the shift of liquids by moment of transference calculations.

3.4.4 Free surface for each type of consumable liquid should be assumed for at least one transverse pair of tanks or a single centreline tank. The tank or tanks to be taken into account should be those where the effect of free surface is the greatest.

3.4.5 Alternatively, the actual free surface effect may be used provided the methods of calculation are acceptable to the Administration.

### **3.5 Subdivision**

3.5.1 The machinery spaces and other working and living spaces in the hull should be separated by watertight bulkheads.

3.5.2 Arrangements made to maintain the watertight integrity of openings in watertight subdivisions should comply with the relevant provisions for cargo ships contained in chapter II-1 of the Convention.

3.5.3 A collision bulkhead should be fitted that complies with relevant provisions for cargo ships of chapter II-1 of the Convention.

3.5.4 An afterpeak bulkhead should be fitted and made watertight up to the freeboard deck. The afterpeak bulkhead may, however, be stepped below the freeboard deck, provided the degree of safety of the vessel as regards subdivision is not thereby diminished.

## **4 MACHINERY AND ELECTRICAL INSTALLATIONS**

The vessel should comply with the relevant provisions for cargo ships contained in parts C, D and E of chapter II-1 of the Convention.

## **5 FIRE PROTECTION**

The vessel should comply with the relevant provisions for cargo ships contained in chapter II-2 of the Convention.

## **6 LIFE-SAVING APPLIANCES**

The vessel should comply with the relevant provisions for cargo ships contained in chapter III of the Convention.

## **7 RADIOCOMMUNICATIONS**

The vessel should comply with the relevant provisions for cargo ships of chapter IV of the Convention.

## **8 DOCUMENTATION**

The Administration, its nominated surveyor or duly authorized organization recognized by the Administration should issue a Document of Compliance, the model form of which is set out in appendix 2, after it is satisfied that the vessel complies with the provisions of these Guidelines.

## **9 TRANSPORT OF HAZARDOUS AND LIQUID NOXIOUS SUBSTANCES IN BULK**

A vessel involved in the transport of limited quantities of hazardous and liquid noxious substances in bulk should comply with the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels, as amended\*.

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\* Refer to the Guidelines for the transport and handling of limited amounts of hazardous and noxious liquid substances in bulk on offshore support vessels, as amended (resolution A.673(16), as amended).



## **APPENDIX 1**

### **OPERATIONAL MATTERS PERTAINING TO STABILITY CRITERIA FOR OFFSHORE SUPPLY VESSELS**

The following operational matters should be considered in relation to stability criteria under section 2 of the Guidelines.

- 1 The stability criteria mentioned in the IS Code are minimum values; no maximum values are recommended. It is advisable to avoid excessive values, since these might lead to acceleration forces which could be prejudicial to the vessel, its complement, its equipment and the safe carriage of the cargo.
- 2 Where anti-rolling devices are installed in a vessel, the Administration should be satisfied that the stability criteria in the IS Code can be maintained when the devices are in operation.
- 3 A number of factors such as beam wind on a vessel with large windage area, icing, rolling characteristics, following seas, etc., adversely affect stability and the Administration is advised to take these into account in so far as is deemed necessary.

**APPENDIX 2**

**FORM OF THE OFFSHORE SUPPLY VESSEL DOCUMENT OF COMPLIANCE**

**DOCUMENT OF COMPLIANCE**

*(Official seal)*

Issued under the provisions of the

GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OFFSHORE SUPPLY VESSELS, 2006  
(resolution MSC.235(82))

under the authority of the Government of

.....  
*(full official designation of country)*

by .....  
*(full official designation of the competent person or organization recognized by the Administration)*

**Particulars of the vessel\***

Name of vessel .....  
Distinctive number or letters .....  
Port of registry .....  
Gross tonnage .....  
Deadweight .....  
IMO Number\*\* .....  
Date on which keel was laid or  
on which the vessel was at  
a similar stage of construction .....

The vessel is exempted from compliance with the following provisions of the Guidelines:

.....

THIS IS TO CERTIFY that the design and construction of the vessel complies with relevant provisions of the Guidelines.

Issued at .....  
*(place of issue of Certificate)*

.....  
*(Date of issue)*

.....  
*(signature of authorized official  
issuing the certificate)*

*(Seal or stamp of the authority, as appropriate)*

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\* Alternatively, the particulars of the vessel may be placed horizontally in boxes.

\*\* In accordance with the IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

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