

**Application:** All shipowner/operators, masters and officers of merchant ships and authorised classification societies

This bulletin sets out the amendments to the International Convention for The Prevention of Pollution from Ships in MARPOL Annex II (Control of Pollution by Noxious Liquid Substances in Bulk), and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) taking effect from 1<sup>st</sup> January 2021 and the implications for existing Offshore Support Vessels (OSVs). Existing OSVs shall be modified and re-certified under the new OSV Chemical Code (OSVCC).

## Background

Amendments to the IBC Code which entered into force on 1 January 2021, generally impose stricter carriage requirements for Noxious Liquid Substances (NLS). These new requirements mean that measures to prevent environmental pollution are augmented with measures aimed at safeguarding life, health and material values. Many of the products that are currently assigned with pollution hazard (P) only, will also be assigned with a safety hazard (S). Some of these will also be categorised as toxic products. The amendments to the IBC Code apply to existing OSVs, therefore all OSVs shall comply with the new carriage requirements as applicable, on or after 1<sup>st</sup> January 2021.

IMO Resolution A.673(16), also known as the LHNS Guidelines, the standard under which all OSVs are currently certified, is open for waiving certain requirements for tanks solely certified for “pollution only” products. The amendments to MARPOL Annex II and the IBC Code taking effect from 1st January 2021, poses an urgent and potentially complex challenge for existing A.673(16) OSVs to comply with the revised carriage requirements in Chapter 17 of the IBC Code. This means that it may also be difficult for OSVs to comply with the higher standard in A.1122(30), which contains the OSV Chemical Code. The LHNS Guidelines limit products which may be carried to IMO Type 3 which are non-toxic. For example, methyl alcohol (methanol), will be re-classified as toxic

The BMSR has adopted a similar approach to that described in The Norwegian Maritime Directorate (NMD) Circular - Series V, RSV 23-2020 dated 09-12-2020 and the United Kingdom Maritime and Coastguard Agency (MCA) Marine Guidance Note MGN 649(M).

## 1. Guidance and Transitional Arrangements

1. Existing OSVs complying with A.673(16) are permitted to continue to operate, subject to the CoF remaining valid and carrying only products listed in Appendix 1 of A.673(16), until 31 December 2021. Such OSVs may continue to carry only those products that they are already certified to carry, no additional products may be added during this time.
2. During this transitional period, which runs from 1 January 2021 to 31 December 2021, owners and operators of existing OSVs have the opportunity to transition to the requirements of A.1122(30) in order to carry the broader range and quantity of chemical products as permitted under A.1122(30), or to continue to operate under A.673(16) and carry only those products that are permitted under A.673(16).
3. If, during this transitional period, a renewal survey is required, then the shipowner will need to decide whether to continue to operate as an A.673(16) vessel or to comply with A.1122(30) in full. If the OSV is to continue to operate as an A.673(16) vessel on or after 1 January 2022, then the product carriage requirements in Annex I of this guidance will apply and it should be noted that the list of products that can be carried by the vessel may be reduced accordingly.

4. Additional information regarding the carriage of contaminated bulk liquids and the generation of Hydrogen Sulphide (H<sub>2</sub>S) is contained in Chapter 16 of A.1122(30). During the transitional period, all existing OSVs complying with A.673(16) should comply with MGN 283 or Chapter 16 of A.1122(30) when backloading contaminated bulk liquids. Further, it is recommended that either fixed or portable H<sub>2</sub>S and Lower Explosive Limit (LEL) detection equipment is available onboard the vessel when backloading contaminated bulk liquids. See Annex II below for further information on contaminated bulk liquids.
5. The transitional period is a delay to the implementation of the IBC Code amendments it is not a permanent exemption. The transition period will end on 31 December 2021. From 1 January 2022 onwards, OSVs must comply fully with A.1122(30) or continue to comply with A.673(16) but be restricted to the carriage of products listed in Annex 1 of this MGN. The requirements of Chapter 16 of A.1122(30) will apply in full for all OSVs (A.673(16) and A.1122(30)) carrying offshore contaminated bulk liquids from 1 January 2022 onwards.
6. The transition period applies only to the delayed implementation of the above referenced amendments to MARPOL Annex II and the IBC Code. All other relevant regulations and requirements continue to apply. Owners/operators of OSVs should discuss the specific requirements for their vessels with their Class Society in the first instance.

## **2. New Requirements for Personnel Training**

Irrespective of a ship's date of construction, all personnel involved in NLS bulk cargo operations shall have the knowledge necessary to safely perform the required activities. Therefore, it should be expected that personnel on existing OSVs will have equal requirements for training as personnel on board an OSV certified to comply with the Code. However, presently there are no specific provisions adopted under the auspices of the IMO for such training for the crew on an OSV. The training most relevant is directly referring to the training for the crew on a chemical tanker.

### **References**

1. Norwegian Maritime Authority (NMD) Circular Series V, RSV 23-2020 "Carriage of Hazardous and Noxious Liquid Substance in Bulk on Existing Offshore Support Vessels after 31 December 2020", dated 09-12-2020
2. Maritime & Coastguard Agency Marine Guidance Note MGN 649(M) "Application of Marpol Annex II to Offshore Support Vessels".
3. DNVGL Technical & Regulatory News No. 25/2020 - Statutory "Transport of Liquid Chemical in Bulk for Offshore Support Vessels (OSVs).

### **Annexes**

1. Carriage of Products Listed in Appendix 1 of A.673(16) on Existing OSVs Following the Amendment of the IBC Code
2. Carriage of Offshore Contaminated Bulk Liquid on Existing OSVs Having a CoF Issued based on A.673(16), Following the Amendment to the IBC Code.

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## Annex I

### Carriage of Products Listed in Appendix I of Resolution A.673(16) on Existing OSVs Following the Amendment of the IBC Code.

#### 1. Products with no Substantial Changes in Carriage Requirements

- Oil based mud containing mixtures of products listed in Chapter 17 and 18 of the IBC Code and permitted to be carried under paragraph 1.2 of these Guidelines
- Water based mud containing mixtures of products listed in Chapter 17 and 18 of the IBC Code and permitted to be carried under paragraph 1.2 of these Guidelines
- Acetic acid
- Cesium formate solution
- Ethyl Alcohol
- Triethylene Glycol
- Potassium Chloride Solution
- Potassium Chloride Solutions (less than 26%)
- Sodium chloride solution
- Noxious liquid, NF, (7) n.o.s. (trade name ....., contains ....) ST3, Cat. Y
- Noxious liquid, F, (8) n.o.s. (trade name ....., contains ....) ST3, Cat. Y
- Noxious liquid, NF, (9) n.o.s. (trade name ....., contains ....) ST3, Cat. Z
- Noxious liquid, F, (10) n.o.s. (trade name .., contains ....) ST3, Cat. Z
- Noxious liquid, (11) n.o.s. (trade name ....., contains ....) Cat. Z
- Non-noxious liquid, (12) n.o.s. (trade name ....., contains ....) Cat. OS
- Liquid carbon dioxide
- Liquid nitrogen

#### 2. Offshore related brine, mud and glycol

The following products are assigned with a safety hazard (S). However, experience indicates that the cargo tanks and connected cargo transfer system which are subject to the waiver for “pollution hazard only substances having a flash point exceeding 60°C” in A.673(16) i.e. 3.1.10, 3.2.4 and 3.4.6 may be considered as adequate for these substances.

Please note that a suitably marked decontamination shower and eyewash shall be available on deck in a convenient location, as required in paragraph 5.1 in Resolution A.673(16) (and paragraph 14.4.2 in A.1122(30)).

- Drilling brines (containing calcium bromide)
- Calcium chloride solution (less than 35%)
- Calcium nitrate/Magnesium nitrate/Potassium chloride solution
- Calcium Nitrate Solution (50% or less)
- Potassium Formate Solutions
- Ethylene Glycol

### 3. Ship Type 2 Products and Toxic

Existing OSVs having a CoF issued under the provisions of A.673(16), may be certified to carry Ship type 2 products and the toxic products which are currently listed in Appendix I of A.673(16), based on the transitional arrangements above.

4. The vessel shall comply with the summary of minimum requirements for the product as listed in chapter 17 of the IBC Code (as amended), with the following modifications:
  1. The requirements for ship survival capability and location of cargo tanks for a type 2 ship in the IBC Code, can be replaced by Chapter 2 - Stability and cargo tank location in A.673(16),
  2. Inerting of cargo tanks which is carrying products with a flashpoint not exceeding 60C° is required, and
  3. The requirements described in 15.12.2 in the IBC Code regarding a connection for a vapour-return line to shore may not be fulfilled.
5. This is applicable to the following Ship type 2 products:
  - Drilling brine (containing zinc chloride)
  - Sulphuric acid
  - Xylene

and the following toxic products:

- Ethylene Glycol Monoalkyl Ether
  - Formic Acid (85% or less acid)
  - Formic Acid (over 85%)
  - Hydrochloric acid
  - Methyl Alcohol
  - Sodium Silicate Solution
  - Sulphuric acid [which is also Ship Type 2]
  - Toluene
6. And the following contaminated backload bulk liquids (which do not appear in Appendix 1 of A.673(16)).
    - Offshore contaminated bulk Liquid P (o)
    - Offshore contaminated bulk Liquid Treated (containing less than 0.8% of an H<sub>2</sub>S Scavenger)

### 7. Cargo tank vent system

For OSVs not complying with A.1122(30) but continuing to comply with A.673(16), either after the renewal of their CoF or after 1 January 2022, products listed in this Annex which require controlled venting arrangements may continue to be carried on such vessels, subject to compliance with paragraph 3.4.4 and 3.6.2 of A.673(16) for integral or independent tanks, with the set point of the pressure side of the P/V valves set at a minimum 0.6 bar gauge (consistent with paragraph 4.2.7 of A.1122(30)). For existing A.673(16) vessels that cannot comply with this, alternative arrangements may be considered.

### 8. Cargo tank gauging systems

For OSVs not complying with A.1122(30), either after the renewal of their CoF or after 1 January 2022, but

continuing to comply with A.673(16), consideration should be given to the carriage of products listed in this Annex which require restricted or closed gauging arrangements and whether modifications to current cargo tank gauging systems are required. It should also be noted that existing A.673(16) vessels might have alternative arrangements for high-level alarms agreed under paragraph 3.13 of A.673(16) for which cargo tank gauging systems were taken into consideration. Individual arrangements should be considered and discussed with the vessel's Class Society prior to the end of the transitional period outlined above.

## **9. Design Review by Class**

Individual arrangements not in compliance with sections (7) & (8) above should be considered and discussed with the vessel's Class Society prior to the end of the transitional period outlined above.

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## **Annex II**

### **Carriage of Offshore Contaminated Bulk Liquid on Existing OSVs Having a CoF Issued Based on A.673(16), Following the Amendment to the IBC Code.**

#### **1. General**

1.1 During the transitional period, all A.673(16) OSVs carrying offshore contaminated bulk liquids should comply with Chapter 16 in A.1122(30). After the transitional period, the full requirements of A.1122(30) Chapter 16 will apply to all OSVs carrying contaminated bulk liquids.

1.2 2 OSVs having a CoF issued under the provisions of A.673(16), may be certified to carry the products "Offshore contaminated bulk liquid P (o)" and "Offshore contaminated bulk Liquid treated (containing less than 0.8% of an H<sub>2</sub>S Scavenger) (o)" only, provided they fulfil the requirements for relevant entry.

1.3 OSVs having a CoF issued complying with the provisions of the A.1122(30) Code, may be certified to carry the products "Offshore contaminated bulk Liquid P (o)", "Offshore contaminated bulk Liquid treated (containing less than 0.8% of an H<sub>2</sub>S Scavenger) (o)" and "Offshore contaminated bulk Liquid S (o)".

1.4 A.673(16) vessels should comply with the summary of minimum requirements for the product as listed in chapter 17 of the IBC Code (as amended). However, the requirements for ship survival capability and location of cargo tanks for a Ship Type 2 in the IBC Code, may be replaced by Chapter 2 - Stability and cargo tank location in A.673(16).

1.5 The Master of the OSV should not accept loading of any contaminated bulk liquid which is not properly documented in accordance with Chapter 16.3 of A.1122(30)

1.6 This shall be confirmed by the analysis form and the conclusions of the test result in paragraph 16.3.2.15 of A.1122(30).

#### **2. Offshore Contaminated Bulk Liquid P**

2.1 The shipper and/or the owner of the cargo should ensure the master that this entry can be used by confirming that the following requirements of the Code are fulfilled:

- Is considered as pollutant only and does not present any safety hazards or where the pre-backloading tests do not indicate any safety hazards (the backload may contain components with safety hazards, as long as they are so diluted that the final mixture presents no safety hazard);
- has a flashpoint greater than 60°C; or
- will not have the potential to become more hazardous during transport.

2.2 This shall be confirmed by the Analysis form and the conclusions of the test result in paragraph 16.3.2.15 of A.1122(30).

### **3. Offshore Contaminated Bulk Liquid Treated (containing less than 0.8% of an H<sub>2</sub>S Scavenger) (o)**

3.1 The shipper and/or the owner of a cargo should provide the master with a document which states that this entry can be used by confirming that the following requirements of the Code are fulfilled.

- Has been treated to remove H<sub>2</sub>S
- Contains 0.8% or less scavengers and biocides
- Is expected to present pollution hazard and where the initial pre-backloading tests indicate a potential or actual safety hazard:
- The pre-backloading test do not indicate any safety hazards (the backload may contain components with safety hazards).
- Has a flashpoint > 60deg.C
- Has a Lower Explosive Limit (LEL) level < 10% or:
- Is not expected to become more hazardous during transport.

3.2 The confirmation shall be provided by the analysis form and the conclusions of the test result c.f. 16.3.2.15 of the Code.

#### **Proposed Carriage Requirements**

EXPLANATORY NOTES (Ref. MEPC 74/18/Add.2, Annex7)

d	e	f	g	h	l'	l''	l'''	j	k	l	n	o
P	2	2G	Cont.	No	---	---	Yes	C	No	AC	No	15.15, 15.19.6

Hazards (column d):

“S” means that the product is included in the Code because of its safety hazards; “P” means that the product is included in the Code because of its pollution hazards; and “S/P” means that the product is included in the Code because of both its safety and pollution hazards.

Ship Type (column e)

- 1: Ship Type 1

- 2: Ship Type 2
- 3: Ship Type 3

Tank type (column f)

- 1: independent tank
- 2: integral tank
- G: gravity tank
- P: pressure tank

Tank vents (column g)

- Cont: controlled venting
- Open: open venting

Tank environmental control (column h)

- Inert: inerting
- Pad: liquid or gas padding
- Dry: drying
- Vent: natural or forced ventilation
- No: no special requirements under this Code (inerting may be required under SOLAS)

Electrical equipment (column i)

Temperature classes (i')

- T1 to T6
- Dash indicates no requirements
- blank no information

Apparatus group (i'')

IIA, IIB or IIC:

- Dash indicates no requirements
- Blank no information

Flash point (i''')

- Yes: flashpoint exceeding 60°C
- No: flashpoint not exceeding 60°C
- NF: non-flammable product

Gauging (column j)

- O: open gauging
- R: restricted gauging

- C: closed gauging

Vapour detection (column k)

- F: flammable vapours
- T: toxic vapours
- No: indicates no special requirements under this Code

Fire protection (column l)

- A: alcohol-resistant foam or multi-purpose foam
- B: regular foam; encompasses all foams that are not of an alcohol-resistant type, including fluoro-protein and aqueous-film-forming foam (AFFF)
- C: water-spray
- D: dry chemical
- No: no special requirements under this Code

Materials of construction (column m)

- Deleted

Emergency equipment (column n)

- Yes:
- No: no special requirements under this Code

Specific and operational requirements (column o)

These requirements shall be additional to the requirements in any other column

#### **4. H<sub>2</sub>S Precautions:**

- Contaminated bulk liquid should be discharged from the vessel as soon as possible, preferably at the first port of call.
- The need to clean the dirty tanks should be reviewed on each voyage to minimize the risk of biological activity and H<sub>2</sub>S build up from any residue.
- Prior to backloading to a dirty tank, the potential for biological activity resulting in H<sub>2</sub>S in the dead volume and sludge should be considered. The offshore analysis of the previous contaminated bulk liquid should be compared with analyses of a sample representative for the liquid when unloading.
- If H<sub>2</sub>S or flammable vapour is detected during loading of contaminated bulk liquids, the transfer should be stopped immediately.
- Vessel-specific procedures for measures to be taken when H<sub>2</sub>S is detected during loading, transport, discharge and cleaning of contaminated bulk liquids should be included in the vessel's safety management system.

Additional information on the hazards of H<sub>2</sub>S can be found in A.1122(30) Chapter 16. The International Guidelines for Offshore Marine Operations (GOMO) also provide information on the carriage of contaminated bulk liquids which may be of use to operators.



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