

# **Amendments to Regulations concerning environmental safety for ships and mobile offshore units**

The Norwegian Maritime Authority have laid down amendments to the Regulations concerning environmental safety for ships and mobile offshore units. They entered into force on 1 January 2013.

The Norwegian Maritime Authority (NMA) have laid down amendments to the Regulations concerning environmental safety for ships and mobile offshore units. These regulations entered into force on 1 January 2013.

The amendments are related to the implementation in Norwegian legislation of the following amendments to MARPOL:

- Annex IV Prevention of pollution by sewage (Resolution MEPC.200(62)),
- Annex V Prevention of pollution by garbage (Resolution MEPC.201(62)) and
- Annex VI Prevention of air pollution (Resolutions MEPC.202(62) and MEPC.203(62))

The amendments were adopted in July 2011 by the MEPC (the Marine Environment Protection Committee, the environmental committee of the International Maritime Organization (IMO)), and entered into force on 1 January 2013. Norway has ratified the Convention and the Annexes, and is thus under the obligation to implement these regulations.

## **1. Consultation**

The proposed regulations were circulated for comments from 30 August to 30 November 2012. A total of 15 consultative statements came in, whereof 13 did not include comments to the proposal.

The Norwegian Shipowners' Association (NSA) are positive to the proposal, but request a 6 month transitional arrangement for the new tonnage between 100 and 400 gross tons, which now falls under the requirements for garbage management plans in MARPOL Annex V Regulation 10. According to the NSA, the basis for this is that these ships will have a very short deadline for implementing the revised regulations.

The Norwegian Public Roads Administration mention the tender arrangement for the national road ferry operations. Stricter regulations or the introduction of new official regulations during the duration of a contract will trigger claims for compensation to the State. They therefore request the establishment of transitional arrangements, so that new official regulations can be implemented upon the announcement of new national road ferry contracts.

The NMA cannot allow these requests, as there is no legal basis for this in MARPOL.

## **2. Background**

The International Convention for the Prevention of Pollution from Ships (MARPOL) has regulations for the prevention of pollution by sewage from ships in Annex IV, regulations for the prevention of pollution by garbage from ships in Annex V, and regulations for the prevention of air pollution in Annex VI.

The regulations for the prevention of pollution by sewage are implemented in the Norwegian Regulations on environmental safety, sections 9 and 10. The regulations for the prevention of

pollution by garbage are implemented in the Norwegian Regulations on environmental safety, section 11.

The Regulations for the prevention of air pollution are implemented in the Norwegian Regulations on environmental safety, section 12.

## **MARPOL Annex IV**

### **3.1. The amendments**

The MEPC laid down amendments to Annex IV of MARPOL in Resolution MEPC.200(62). These amendments entered into force on 1 January 2013.

These amendments introduce the concept of special areas to MARPOL Annex IV as well, and the Baltic Sea area has been designated as a special area in this Annex.

In Regulation 11.3 stricter regulations for the discharge of sewage from passenger ships within special areas have been introduced. The discharge of sewage shall be prohibited for new ships from 1 January 2016 onwards. For existing passenger ships, the discharge of sewage within special areas shall be prohibited from 1 January 2018 onwards. New passenger ships are defined in Regulation 1, and include ships the keel of which is laid on or after 1 January 2016.

In Regulation 9.2 stricter requirements for sewage treatment plants have been introduced for passenger ships for which Regulation 11.3 applies while in a special area. The ships shall be equipped with either a holding tank of adequate capacity, or a type-approved sewage treatment plant in accordance with IMO guidelines. These guidelines (2012 Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants) were adopted under MEPC 64, cf. Resolution MEPC.227(64). New strict requirements for the discharge of foodstuffs in sanitary systems from passenger ships have been laid down. The sewage treatment plants shall be type-approved by the flag state. However, if passenger ships to which Regulation 11.3 applies are using said sewage treatment plant, they are permitted to discharge sewage in special areas.

Furthermore, a provision has been added to Regulation 12bis concerning reception facilities for passenger ships in special areas. This provision stipulates that the coastal States in special areas shall ensure that reception facilities of adequate capacity are provided in ports used by passenger ships.

Amendments have also been made to the form of international sewage pollution prevention certificate.

### **3.2. Consequence evaluation**

#### **3.2.1. Introduction**

The actual contents of the amendments to Annex IV of MARPOL have been subject of discussion in connection with the preparation and adoption thereof in the MEPC. The NMA nevertheless give a summary of presumed consequences of the amendments.

#### **3.2.2. The industry**

The amendments may affect passenger ships operating in the Baltic Sea area. We assume that few Norwegian passenger ships, if any, operate in this area. The amendments are therefore presumed to have little consequence for the Norwegian shipping industry.

The Baltic States[1] report that there are companies, hereunder Norwegian companies, which have indicated that it is possible to develop and deliver sewage treatment plants that meet the

new strict standard for foodstuffs. This may thus be a new marketing potential for Norwegian manufacturers.

### **3.2.3. The authorities**

We assume that the amendments will have insignificant consequences for Norwegian authorities. As set out in the amendments, sewage treatment plants are to be type-approved by the flag state. We base this on the assumption that this will be adopted by the European approval system according to the Marine Equipment Directive (Directive 98/96/EC), and will therefore involve a minimal need for resources from Norwegian authorities.

### **3.2.4. The environment**

The Baltic Sea area is one of the most congested sea areas in the world, where the passenger and cruise traffic has increased significantly during recent years. Requirements for the purification of sewage/prohibition of discharge of sewage from passenger ships will in the short term contribute to reduced growth of bluegreen algae (cyanobacteria) along the shipping lanes. In the long term, the reduction of nutrient supply will be an important step in the fight against problems caused by eutrophication (supply of nutrient salts and increased algae growth) in the Baltic Sea.

## **MARPOL Annex V**

### **4.1. Introduction**

The MEPC laid down the revised Annex V of MARPOL in Resolution MEPC.201(62). The revised Annex enters into force on 1 January 2013.

The IMO have furthermore revised the guidelines for the implementation of Annex V, which are laid down in Resolution MEPC.219(63).

The IMO have moreover revised the guidelines for the development of garbage management plans, cf. Resolution MEPC.220(63).

The IMO have also laid down provisional guidelines implemented in MEPC.1/Circ. 791 "Provisional classification of solid bulk cargoes under the revised MARPOL Annex V between 1 January 2013 and 31 December 2014".

### **4.2. Key points**

The revised MARPOL Annex V involves changes compared to the current Annex V.

The current MARPOL Annex V is based on the fact that discharge of garbage is permitted unless it has been expressly stated that discharge of the specific type of garbage is prohibited. It is, for example, prohibited to discharge plastics, see Regulation 3.1 (a).

Strengthened requirements for discharge in special areas are described in Regulation 5 in the current Annex V.

With the revised MARPOL Annex V, the starting point is the opposite, in other words the discharge of garbage is prohibited unless it has been expressly stated that discharge of the specific type of garbage is permitted. See Regulation 3. As a main rule, it is required that the ship, in relation to the permitted discharge of garbage, has to be "en route" and as far as practicable from the nearest land, with the stated minimal distance from land.

Of specific types of garbage, we can mention:

- food wastes (discharge outside special areas permitted not less than 12 nautical miles from the nearest land – if ground or comminuted, discharge is permitted not less than 3 nautical miles from the nearest land),
- cargo residues (discharge outside special areas permitted not less than 12 nautical miles from the nearest land, as long as the substances are not considered harmful to the environment, cf. IMO guidelines to Annex V),
- animal carcasses (discharge outside special areas permitted, but discharge shall occur as far from the nearest land as possible, cf. IMO guidelines to Annex V),
- cleaning agents and additives in wash water (discharge outside special areas permitted as long as the substances are not considered harmful to the environment, cf. IMO guidelines to Annex V).

Strengthened requirements for discharge in special areas are described in Regulation 6 in the revised Annex V.

### **4.3. Review of regulations**

In the following, the amendments related to the individual regulations in the revised Annex V are reviewed.

#### **4.3.1. Regulation 1 Definitions**

A number of new definitions, which do not exist in the current Regulation 1, have been included. In the current Annex V, only the definitions of "garbage", "nearest land" and "special areas" exist.

The desire to get the regulations as clear and as plain as possible is the basis for including a significantly higher number of definitions than what is present in the existing Annex V. Some of the definitions already exist in the current set of regulations in the IMO guidelines to Annex V, while some definitions are brand new.

The definitions of "nearest land" and "special areas" have not been amended in the revision. The definition of "garbage" in the revised Annex has been expanded to include animal carcasses and cargo residues.

Cargo residues, such as the regulations are today, are mentioned in the guidelines to Annex V (included in the definition of operational wastes). With the revised Annex V, cargo residues have been included directly into the definition of garbage, and at the same time a separate definition of the term cargo residues has been included to specify that this comprises both wet and dry cargo residues as well as wash water containing cargo residues.

Animal carcasses have been specified as garbage in the revised Annex V. The background for this is that during the transport of live animals a certain death rate will be expected. The dead animals are discharged into the sea. Such discharge is regulated by MARPOL Annex V to a certain extent. Discharges of a larger scope, however, will instead be regulated by the London Convention/London Protocol (on the prevention of marine pollution by dumping of wastes and other matter). It is somewhat unclear where the division between MARPOL Annex V and the London Convention lies.

The term animal carcasses also includes animal carcasses from the transport of live fish and shellfish. This is set out in point 2.13 in the "2012 Guidelines for the Implementation of MARPOL Annex V".

Cooking oil has been specifically mentioned in the revised Annex V, so that it is now included in the term "garbage". At the same time, a separate definition of the term cooking oil has been included.

A new definition in the revised Annex V is the definition of the term "en route". This definition is the same as the definition in MARPOL Annex II.

#### **4.3.2. Regulation 2 Application**

The regulations apply to all ships, regardless of tonnage and whether they are engaged in international trade. Exceptions apply where expressly provided otherwise. No amendments have been made here in relation to current regulations, see Regulation 2 which has the same wording.

#### **4.3.3. Regulation 3 General prohibition on discharge of garbage into the sea**

The main rule in the revised Annex V is that the discharge of garbage is prohibited unless it has been expressly stated that discharge of the specific type of garbage is permitted.

#### **4.3.4. Regulation 4 Discharge of garbage outside special areas**

The regulation applies to the discharge of garbage outside special areas. Here, a requirement that the ship must be en route when discharge occurs has been introduced. Types of garbage, of which discharge is permitted under specific conditions, have been expressly mentioned. The specific types of garbage have been included because discharge into the sea is here viewed as acceptable from a risk evaluation point of view, with regard to presumed environmental consequences and possible security and health related consequences from discharge. Here, the discharge of food wastes (except cooking oil), cargo residues, animal carcasses as well as cleaning agents and additives in wash water is permitted.

The regulations on the discharge of food wastes have not been amended in the revision, except for the fact that the discharge of cooking oil is no longer permitted, in addition to the requirement that the ship must be en route when discharge occurs.

The discharge of cargo residues has a limited scope, in that it only includes residues remaining following commonly available methods for unloading. It is furthermore not permitted to discharge cargo residues containing substances classified as harmful to the environment, cf. point 3.2 in the IMO guidelines to Annex V.

#### **4.3.5. Regulation 5 Special requirements for discharge of garbage from fixed or floating platforms**

Only minor amendments have been made in connection with the revision of Annex V. The discharge of cooking oil is no longer permitted. We emphasise that the regulations that apply to platforms will not be implemented with these amendments to the regulations, since the NMA are not authorised to implement regulations regarding this. The Norwegian Regulations on environmental safety specify in section 1 that the regulations only apply to ships and mobile offshore units.

#### **4.3.6. Regulation 6 Discharge of garbage within special areas**

The regulation applies to the discharge of garbage within special areas. Here as well, a requirement that the ship must be en route when discharge occurs has been introduced. In order

to achieve compliance with the Antarctic Treaty, a reference to the nearest ice shelf has been included, in addition to regulations on the discharge of avian products in the Antarctic area.

#### **4.3.7. Regulation 7 Exceptions**

A new paragraph has been included regarding the discharge of fishing gear for the protection of the marine environment or for the safety of the ship or its crew.

An exception to the requirement that the ship must be en route for the discharge of food wastes has also been included. The exception applies to cases where it is clear that the retention on board of the food wastes will present an imminent health risk to the people on board.

#### **4.3.8. Regulation 8 Reception facilities**

No amendments of significance have been made to this regulation.

#### **4.3.9. Regulation 9 Port State control on operational requirements**

No amendments worth mentioning have been made to this regulation, except that the revised Annex specifies that port State control may be performed in offshore terminals in addition to ports.

#### **4.3.10. Regulation 10 Placards, garbage management plans and garbage record-keeping**

Minor amendments have been made to this regulation. Inter alia, the requirements for placards now also include fixed and floating platforms. The background for this is that platforms are relatively large, and that the crew is often large. Same as for Regulation 5, we emphasise that the regulations that apply to platforms will not be implemented with these amendments to the regulations, since the NMA are not authorised to implement regulations regarding this. The Norwegian Regulations on environmental safety specify in section 1 that the regulations only apply to ships and mobile offshore units.

The requirement for carrying a garbage management plan has been expanded to apply to ships with a gross tonnage of at least 100, whereas in the current regulations this applies to ships of a gross tonnage of at least 400. The background for this is that a large proportion of the world fleet are ships with a gross tonnage below 400, yet these may be a significant contributor to marine garbage. Furthermore, requirements for garbage management plans for fixed and floating platforms have been implemented.

Amendments have been made to the requirements for the logging of loss of fishing gear and other incidents that fall under Regulation 7, so that these are now expanded to include information regarding where the gear was lost, characteristics of the items lost and which precautions have been taken to prevent such loss.

#### **4.3.11. Form of Garbage Record Book**

As a consequence of the amendments to the regulations in Annex V, corresponding amendments have been made to the template for the garbage record book.

## **4.4. Consequence evaluation**

### **4.4.1. Introduction**

The actual contents of the amendments in the revised Annex V of MARPOL have been subject of discussion in connection with the preparation and adoption thereof in the MEPC. The NMA nevertheless give a summary of presumed consequences of the amendments.

### **4.4.2. The industry**

The amendments represent stricter regulations on the discharge of garbage from ships. This will lead to an increase in types of garbage and larger volumes.

This will have consequences for the industry. The NMA do not have an overview of how great these consequences might be. Some ships might need to increase their storage capacity for garbage or to acquire devices that allow for the compression of garbage. Larger volumes might lead to increased costs for the discharge of garbage to reception facilities.

### **4.4.3. The authorities**

The amendments might have consequences for the port authorities. The NMA presume that a need might arise to adapt existing reception facilities so that they are equipped to handle larger volumes and new categories of garbage (e.g. cargo residue). The NMA do not have an overview of how great the need might be.

### **4.4.4. The environment**

Marine garbage has been an ever increasing concern all over the world over the last three decades. Even though the majority of marine garbage comes from land-based activities, sea-based activities (including maritime activities and platforms) also contribute to the problem. Stricter regulations will contribute to less marine pollution and thus a cleaner ocean.

## **MARPOL Annex VI**

### **5.1. Introduction**

The MEPC have laid down amendments to Annex VI of MARPOL in Resolutions MEPC.202(62) and MEPC.203(62). These amendments entered into force on 1 January 2013.

The IMO have furthermore laid down the following guidelines related to these amendments.

- Guidelines on the method of calculation of the attained energy efficiency design index (EEDI) for new ships, cf. Resolution MEPC.212(63), as amended by Resolution MEPC.224(64).
- Guidelines for the development of a ship energy efficiency management plan (SEEMP), cf. Resolution MEPC.213(63).
- Guidelines on survey and certification of the energy efficiency design index (EEDI), cf. Resolution MEPC.214(63).
- Guidelines for calculation of reference lines for use with the energy efficiency design index (EEDI), cf. Resolution MEPC.215(63).

## **5.2. Amendments to MARPOL Annex VI on the prevention of air pollution**

### **5.2.1. Amendments concerning new emission control area**

In Regulation 13 regarding nitrogen oxides, a new emission control area has been established. The new emission control area is the United States Caribbean Sea area, as specified by the coordinates provided in Appendix VII.

The same new emission control area has also been established in Regulation 14 regarding sulphur oxides and particulate matter. Moreover, a new special provision has been added to Regulation 14.4.4 regarding requirements for the sulphur content of fuel for certain ships operating in the emission control areas the North American area and the United States Caribbean Sea area.

### **5.2.2. Amendments concerning energy efficiency for ships**

A new chapter 4 has been included, which introduces regulations on energy efficiency for ships, in addition to a number of consequential amendments to Regulation 1 and 2 as well as Regulations 5-10. The purpose of the new chapter 4 in MARPOL Annex VI is to improve the energy efficiency of both new and existing ships by introducing requirements for specific energy efficiency requirements for new ships, in addition to a requirement for all ships to have an energy efficiency plan.

#### **5.2.2.1. Application**

The new chapter 4 in MARPOL Annex VI will apply to all ships of 400 GT and above. The energy efficiency requirements will apply to all ships as set out in Regulation 21, whereas all new ships defined in Regulation 2.25 to 2.33 shall calculate their attained energy efficiency design index (attained EEDI) according to Regulation 20.

As set out in Regulation 19.2, the requirements in chapter 4 do not apply to ships solely engaged in voyages within national waters. It is furthermore set out that each State should ensure that such ships which are solely engaged in voyages within national waters are constructed and operate in accordance with the regulations of chapter 4, as far as reasonable and practicable. At present, however, the NMA only propose to implement the requirements for ships engaged on international voyages.

#### **5.2.2.2. Attained energy efficiency design index (attained EEDI)**

All new ships as defined in Regulation 2.25 to 2.33 shall calculate their attained energy efficiency design index (attained EEDI) according to Regulation 20. The index shall be calculated as described in Resolution MEPC.212(63) "Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for New Ships".

#### **5.2.2.3. Requirements for EEDI**

All new ships as defined in Regulation 2.25 to 2.33 shall have an energy efficiency design index (attained EEDI) that is equal to or below a ship type specific reference value given in Table 2 in chapter 4. The requirements for having an index value lower than the reference value will gradually become stricter through four phases. The required EEDI is specified in Table 1 in chapter 4.



#### **5.2.2.4. Ship Energy Efficiency Management Plan (SEEMP)**

All ships shall keep on board a ship-specific Ship Energy Efficiency Management Plan (SEEMP) from 1 January 2013 onwards. (Verification of whether an SEEMP is on board will occur at the first intermediate or periodical survey of the IAPP certificate after 1 January 2013.)

#### **5.2.2.5. Appendix VIII**

A form of International Energy Efficiency (IEE) Certificate has been developed.

### **5.3. Consequence evaluation**

#### **5.3.1. Introduction**

The actual contents of the amendments to Annex VI of MARPOL have been subject of discussion in connection with the preparation and approval in the MEPC. The NMA nevertheless give a summary of presumed consequences of the amendments.

#### **5.3.2. The industry**

The new chapter 4 of MARPOL Annex VI will not have major consequences for existing ships. These ships must develop a ship-specific Ship Energy Efficiency Management Plan (SEEMP) where possible energy-saving measures are identified, considered implemented and followed up. Guidelines for the development of a SEEMP are specified in Resolution MEPC.213(63).

For new ships smaller than the size limitations specified in Table 1 in Regulation 21, the consequences will be moderate. They will have to have a SEEMP on board, in addition to calculating attained EEDI according to Regulation 20.

For new ships that fall within the size limitations specified in Table 1 in Regulation 21, the consequences will be greater. They will have to have a SEEMP on board, in addition to calculating attained EEDI according to Regulation 20. This index value will have to be equal to or below the ship-specific reference value specified in Table 2 in chapter 4 for the applicable phase. A consequence of Regulation 21 may be that the cost of new ships will increase. The requirements may also lead to a decrease in the service speed for new ships as the requirements get stricter.

#### **5.3.3. The authorities**

The amendments will affect the authorities in the form of inspection and verification of attained EEDI. The verification process will be divided into two parts, in that there will be a pre-verification at the design stage to ensure that the ship is theoretically capable of meeting the requirements, while the final verification will occur upon completed sea trial. An International Energy Efficiency Certificate will then be issued by the Administration.

#### **5.3.4. The environment**

The purpose of the new chapter 4 in MARPOL Annex VI is as mentioned to improve the energy efficiency of both new and existing ships by introducing energy efficiency requirements for new ships, in addition to requirements for all ships to have an energy efficiency plan. This will lead to reductions in all fuel-related emissions to air, such as CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, PM etc.

## **6. The Norwegian Regulations on environmental safety, section 10**

In addition to said implementations, a need for a smaller clarification of section 10 of the Norwegian Regulations on environmental safety has also emerged.

When the regulations were laid down, it was not intended to amend the substantive regulations that at the time applied to pollution by sewage, and this also includes the regulations for the discharge of sewage from ships. According to the Pollution Regulations, section 23-4, the discharge of sewage into the sea from ships is prohibited within a distance of 300 meters from the nearest land, except for ships with a sewage treatment plant that meets the IMO requirements for such sewage treatment plants. This still applies.

Following several requests from the industry, it has turned out that this might be difficult to read with regard to the current wording of the Environmental safety regulations, section 10. A minor clarification of section 10 of the Environmental safety regulations has therefore been proposed in order to make this clear.

This will not have any substantive effect, and will therefore not have any administrative and financial consequences.

The text of the regulations is enclosed.

Olav Akselsen  
Director General of Shipping and Navigation

Bjørn Pedersen  
Head of Department