Sjøfartsdirektoratet
Norwegian Maritime Authority

Circular - Series R

Circular Series R (Regulations) supersedes previous Series F.
In the new Series R, relevant legal amendments and amendments to conventions are also published.

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No.: **RSR 17-2020**

Date: 18 December 2020

Journal No.: 2020/43692 KLU / LBU

Supersedes:

Reference to: Regulations of 30 May 2012 No. 488 on environmental safety for ships and mobile offshore units section 7, and Regulations of 1 July 2014 No. 944 on dangerous goods on Norwegian ships sections 5, 6 and 8

The Circular should be entered into a special diagram or as appropriate in the latest editions of relevant NMA publications and kept until the next editions.

Amendments to the Regulations on environmental safety for ships and mobile offshore units and the Regulations on dangerous goods on Norwegian ships

1. Introduction

The Norwegian Maritime Authority (NMA) has laid down amendments to the Regulations of 30 May 2012 No. 488 on environmental safety for ships and mobile offshore units and the Regulations of 1 July 2014 No. 944 on dangerous goods on Norwegian ships.

These amendments incorporate IMO resolutions MEPC.315(74) on amendments to MARPOL Annex II, MSC.460(101) on amendments to the IBC Code and MSC.463(101) on amendments to the BCH Code[1], The amendments to MARPOL Annex II apply to chemical tankers which will carry polluting noxious liquid substances capable of solidifying when in contact with water or at certain temperatures, commonly referred to as "persistent floaters".

The amendments to the IBC Code and the BCH Code stem from comprehensive evaluations of the dangerous properties of all liquid substances. The amendments to the IBC Code will impact all ships transporting liquid cargo in bulk.

Additionally, IMO Resolution A.1122(30) *Code for the Transport and Handling of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels (OSV Chemical Code)* has been implemented for support vessels constructed on or after 1 January 2021. This permits existing offshore support vessels to transport more hazardous chemicals than currently allowed, provided they comply with A.1122(30). The amendments establish exemptions that may be accepted for these ships.

2. Amendments to MARPOL Annex II (MEPC.315(74)) in brief

Requirements for prewash of tanks, etc.

Effective from 1 January 2021, MARPOL Annex II on the control of pollution by noxious liquid substances in bulk was amended to require prewashing of tanks and discharge of wash water residue to port reception facilities for "persistent floaters." These are substances that solidify on contact with water or at certain temperatures.

[1] International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

These requirements apply specifically to chemical tankers carrying such substances in bulk across designated sea areas, namely the North Sea, Baltic Sea, Western European Waters and Norwegian Sea. The boundaries for these areas are detailed in MARPOL Annex II regulation 13 new paragraph 9. The substances covered are listed in MARPOL Annex II regulation 1 new paragraph 23, and the procedures for prewashing are outlined in MARPOL Annex II regulation 13 new paragraph 7.1.4. Examples of affected substances include vegetable oils, fish oils and paraffin-containing products. This amendment aims to protect the marine environment by preventing the discharge of residues from these substances in wash water from chemical tankers.

Amendment of the standard format of the P&A Manual

The amendment requires updating the standard format of the P&A Manual to incorporate the new prewash requirement.

3. Introduction to the amendments in the IBC Code and BCH Code (MSC.460(101) and MSC.463(101))

The amendments to the International Bulk Chemical (IBC) Code and Bulk Chemical (BCH) Code revise the carriage conditions for numerous liquid substances carried in bulk. These changes reflect updated assessments of each substance's dangerous and noxious characteristics. Additionally, significant upgrades have been made to the criteria for improved evaluation and the assignment of carriage requirements in a new chapter 21 of the IBC Code. Generally, this has led to stricter carriage conditions for more substances, although the carriage criteria are now consistently applied across all substances. The purpose of these amendments is to strengthen safety measures, protecting lives, health and material assets.

Additionally, certain newly recognised substances have been added to chapters 17 and 18 of the IBC Code, including two product names related to backloads from offshore installations. To minimise the risk of H_2S gas formation in these loads, a new requirement for H_2S gas measurement has been introduced in new section 15.15 of the IBC Code.

These amendments affect all ships transporting hazardous liquid cargo in bulk.

For chemical tankers, the changes are already applied under MARPOL Annex II on noxious liquid substances in bulk regulation 1.4 and SOLAS regulation VII/8.1.

4. More on the implementation of the OSV Chemical Code (IMO Res. A.1122(30))

Background for the implementation of the OSV Chemical Code

The transport of hazardous and noxious liquid substances in bulk typically requires ships to comply with the IBC Code or IGC Code, depending[2]. Norwegian legislation reflects this requirement in the Environmental Safety Regulations[3] section 7 first paragraph, and in the Regulations on dangerous goods [4] sections 5 and 8.

The Environmental Safety Regulations section 7 third paragraph and the Regulations on dangerous goods sections 6 and 8 provide that offshore support vessels may carry limited quantities of hazardous and noxious substances, provided they adhere to the IMO Guidelines outlined in Resolution A.673(16)[5]. These limitations pertain to both the qualities of the substances and the quantities allowed for transport.

The IMO adopted the OSV Chemical Code by Resolution A.1122(30). This Code does not revoke Resolution A.673(16), but replaces it, effective from 1 July 2018. Consequently, new ships may be designed in accordance with the new OSV Chemical Code as an alternative to the IBC Code, parts of

[2] International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk
[3] Regulations of 30 May 2012 No. 488 on environmental safety for ships and mobile offshore units
[4] Regulations of 1 July 2014 No. 944 on dangerous goods on Norwegian ships
[5] Res. A.673(16) Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk of Offshore Support Vessels

MARPOL Annex II and SOLAS chapter VII. As of this date, Resolution A. 673(16) is no longer applicable to new ships.

The Norwegian Maritime Authority is implementing Res. A.1122(30) through amendments to existing regulations, as decided by the Assembly in December 2017, cf. point 2 in the document A 30/5(b)/1 Annex 2 item 5, where members are encouraged to implement the Code.

Details on the legislation

The Norwegian Maritime Authority implements Res. A.1122(30) in Norwegian legislation through incorporation, similar to the current Res. A.673(16), with certain adjustments. The amendments are made to section 7 third paragraph of the Environmental Safety Regulations, and sections 6 and 8 of the Regulations on dangerous goods.

Res. A.1122(30) serves as an update and extension of Res. A.673(16). Requirements previously applicable through references to the IBC Code have been incorporated directly into the legislative text, and some existing practices have been included as well. This results in Res. A.1122(30) being a more independent piece of legislation compared to Res. A.673(16). The following exemptions apply:

- Chapter 18: All requirements for the carriage of liquid gases are consolidated here, with references made to the IGC Code for simplicity.
- Chapter 9: References to SOLAS chapter II-2 are continued.
- References to the carriage conditions in chapters 17 and 18 of the IBC Code, along with the associated special requirements in chapters 15 and 16.

As with Res. A.673(16), IMO Resolution MSC.235(82) *Guidelines for the Design and Construction of Offshore Supply Vessels, 2006* applies. However, where Res. A.1122(30) sets forth alternative safety standards, these take precedence. Res. A.673(16) maintained the same arrangement.

Res. A.1122(30) has been adjusted to better reflect current practices and the special designs and operational areas of support vessels compared to Res. A.673(16). For example, the requirements for access to the cargo area (chapter 3.3) now include a clearer definition of the cargo area in 1.2.7. Other changes include the allowance for flanges in pipe systems (6.2.2.2 and 6.2.3) and the simultaneous loading and unloading of deck cargo while handling products with a pollution hazard and a flashpoint exceeding 60°C, cf. 15.5.2.

While Res. A.673(16) permitted the use of portable tanks instead of permanently attached deck tanks, the previous requirements for arrangement and operation were inadequate, leading to inconsistent interpretations and practices. For instance, there was confusion regarding when cargo should be defined as dangerous goods in packaged form versus bulk cargo. To address this, a new chapter has been added on the loading and unloading of portable tanks on board (chapter 17), along with an associated Appendix 3, *Model format for the procedure of the discharging and loading of portable tanks containing dangerous goods carried as deck tanks on offshore support vessels.* The chapter includes requirements for arrangement and operation.

New technical and operational requirements have also been incorporated in Res. A.1122(30). These are designed to regulate the carriage of products classified with higher hazard levels than those permitted under A.673(16), specifically toxic products and ship types 1 and 2. Additional requirements have been introduced based on the increased allowances for transporting larger quantities of products with a flashpoint not exceeding 60°C.

The new requirements are primarily located in the following chapters:

2 Vessel Survival Capability and Location of Cargo Tanks
4.3 Toxic Products
7.4 Cargo Tank Gas-Freeing
13 Life-Saving Appliances and Arrangements
14 Safety Equipment
15 Operational Requirements (which has been significantly expanded compared to the corresponding chapter in A.673(16))

Additionally, the contaminated backload requirements in chapter 16 represent another example of new requirements. See "Details on backloads" below.

The criteria for "limited amounts" have been removed regarding the specific rules for transporting hazardous and noxious liquid substances on offshore support vessels. The limitations previously outlined in Res. A.673(16) concerning the amount and quality of the products are not present in the new Code. The title of Res. A.1122(30) has been amended accordingly.

Ships constructed prior to the entry into force of the regulatory amendments may still comply with Res. A.637(16). If they do, they will be subject to the limitations set by this resolution, including those related to amounts. More guidance on the consequences for existing ships is available in our guidance Circular RSV 23-2020 – *Carriage of hazardous and noxious liquid substance in bulk on existing offshore support vessels after 31 December 2020*. This Circular is published on the Norwegian Maritime Authority's website: www.sdir.no/sjofart/regelverk/.

Exemptions and scope of action

Res. A.673(16) contains exemptions requiring decisions by the Administration. The revision aims to limit these, but certain conditions in Res. A.1122(30) still require decisions by the Administration:

- 1.1.4: For ships the keel of which were laid on or after 19 April 1990 but not later than 30 June 2018, the Administration may authorise the carriage of IBC ship type 2 products, excluding the stability provisions of chapter 2, provided stability is to the satisfaction of the Administration. The Norwegian Maritime Authority may grant additional exemptions if compensating measures ensure equivalent safety to Res. A.1122(30) standards. This applies to ships certified under A.673(16) before 1 January 2021 and now seeking certification under the OSV Chemical Code. While full compliance with chapter 2 is the baseline, the original construction damage extent, cf. paragraph 2.6.2 of the Code, may be considered. For P/V valves on tanks carrying toxic substances (paragraph 4.3.7), exemptions may also be necessary for existing vessels, requiring compensating measures to meet safety standards.

  The regulatory amendments to section 7 fifth paragraph of the Environmental Safety Regulations and section 6 fourth paragraph of the Regulations on dangerous goods specify the conditions under which the exemption described in paragraph 1.1.4 of Res. A.1122(30) may be applied.
- 1.1.10: For liquid cargo in bulk not listed in chapter 17 or 18 of the IBC Code or MEPC.2/Circular, the relevant Administrations involved in transporting this cargo must establish a three-party agreement to set preliminary carriage conditions for the specific product. This requirement aligns with the principles outlined in regulation 6.3. of MARPOL Annex II and paragraph 1.1.6 of the IBC Code.
- 11.2.2: Where the installation of gauging devices is impractical due to the cargo properties, the Administration may approve a visual method to indicate the cargo tank level. In such cases, the

Norwegian Maritime Authority or a recognised classification society must evaluate the relevant operational procedures based on current best practice.

- 17.2.4: This is a continuation of Res. A.673(16) paragraph 1.2.3, allowing for the carriage of limited amounts of certain products, including additives, which fall outside the scope defined in paragraph 1.1.19 of the chapter "Application". The Administration is responsible for determining the requirements for such carriage. While current practice is generally upheld, it should be noted that a new assessment may be conducted, potentially leading to future adjustments.
- 17.3.3: Segregation requirements for portable tanks, as detailed in chapters 3 and 4, as well as chapter 7 of the IMDG Code, must be met. These requirements may, however, be relaxed with the Administration's approval. Essentially, this provision continues the existing practice.
- 17.3.4: Cargo tank vent systems of portable tanks should meet the Administration's satisfaction, taking into account the requirements of chapter 6 of the IMDG Code. While current practice is maintained, it is noted that a new assessment may be conducted, potentially leading to future changes.
- 18.1.2: The Administration may permit adjustments to specific requirements in the IGC Code regarding the cargo containment, materials of construction and ventilation systems, provided they are consistent with existing industry standards and practices and at least as effective as the IGC Code's requirements.
- Res. A.1122(30) maintains certain specific adjustments for products with only one pollution risk and a flash point over 60°C, including adjustments specified in 3.1.1.1 and 3.3.1.1. However, the Norwegian Maritime Authority advises against their use due to recent amendments to the IBC Code, adopted through MEPC.318(74) and MSC.460(101).

Details on backloads

The management of contaminated backloads in chapter 16 of Res. A.1122(30) outlines procedures not yet addressed by Norwegian Maritime Authority regulations. Unlike other provisions within the Code, this chapter applies universally to all ships, cf. 1.1.3 and 16.2.1.

The specific requirements of chapter 16 reflect the unique composition of each backload, and a significant reduction in reported accidents and near-misses due to H_2S gas formation on support vessels has been observed. Under favourable conditions, even a small number of unrefined hydrocarbons containing high levels of hydrogen sulphide (H_2S) can lead to H_2S gas formation or the development of an explosive environment.

The Code's guidelines for backload handling derive from British standards and established industry practices, *Guidelines for offshore marine operations (G-OMO), cf. http://www.g-omo.info/.* The chapter along with Appendix 2 – *Guidelines for testing prior to backloading* – specifies requirements concerning:

- cargo information
- operational precautions
- distribution of responsibilities
- equipment
- construction
- establishment of cargo carriage conditions

Since the adoption of IMO Resolution A.1122(30), several aspects of implementing these requirements remain uncertain.

Most of today's backloads are transported in tanks that meet the requirements for carrying products with only one pollution hazard and a flashpoint exceeding 60°C. Many existing vessels already comply with additional equipment requirements for the condition termed "offshore contaminated bulk liquid P", cf. 16.4.4.1 and the carriage conditions in MEPC.318(74), which include:

- visual and audible high-level alarms (cf. 15.19.6 of the IBC Code)
- detection instruments in the tank venting system for H_2S and LEL (low explosive limit) levels, triggering at 5 ppm and 10% respectively (cf. 16.4.2.2.1)
- portable instruments for H_2S and LEL level monitoring, available to all personnel on the working deck (cf. 16.4.2.2.2)

Ships carrying backloads must also satisfy ship type 2 requirements. A.673(16) generally allows carriage for ship type 3 or cargoes with fewer conditions. Existing vessels can still transport backloads if they meet the above requirements. The amendments to section 7 seventh paragraph of the Environmental Safety Regulations and section 6 fourth paragraph of the Regulations on dangerous goods provide for this option.

A large percentage of today's backloads are categorised as "offshore contaminated bulk liquid S", cf. 16.4.4.2, which involves compliance with the conditions above, as well as paragraph 15.12 of the IBC Code and chapter 4.3 of the Code. Res. A.673(16) does not permit transporting products classified as toxic, and most existing vessels do not fulfil the Code's construction standards for such products. The strict carriage requirements are mainly due to original testing on the installation, which detects H_2S or an explosive condition. Even after treatment and subsequent testing that confirms H_2S and LEL levels below allowable limits, the load is still classified as "offshore contaminated bulk liquid S", cf. 16.4.4.2.1 and 16.4.4.2.2.

For ships where the load has been treated for H_2S, effectively lowering the risk level, the NMA assesses that the strictest requirements were not intended to apply. Accordingly, the NMA finds it necessary to clarify and adjust the application of the condition "offshore contaminated bulk liquid S". Based on this assessment, an exemption has been established which, under specified conditions, allows for not applying the requirements for "offshore contaminated bulk liquid S", cf. the amendments to section 7 eight paragraph of the Environmental Safety Regulations and section 8 fourth paragraph of the Regulations on dangerous goods.

Additionally, the NMA has entered into a three-party agreement with the United Kingdom concerning carriage conditions for "Offshore contaminated bulk liquid treated (containing less than 0.8% of an H_2S Scavenger) (o)". Further guidance on the backload carriage can be found in Annex II and III to our Circular RSV 23-2020, as mentioned above.

Details on personnel training

Section 15.3 of Res. A.1122(30) establishes general requirements for the crew to be properly trained in the use of protective equipment and emergency procedures. Additionally, personnel involved in cargo operations must be adequately trained in cargo-handling procedures, and managers are specifically required to be trained in emergency response procedures.

The language in these requirements mirrors that of the IBC Code, which refers to the relevant standards in part A and B of the STCW Convention[6]. However, a notable difference is that while STCW includes requirements directly related to personnel on chemical tankers, it does not address training standards for support vessels.

Persons working on board must have the qualifications and certifications needed for their specific roles.[7] However, specific international guidelines outlining the general requirements for crew on support vessels have not yet been developed. To create more comprehensive training guidelines, the NMA is actively engaging with the industry. The outcomes of this collaboration will be made available at a later stage.

[6]International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
[7] Section 16 of the Ship Safety and Security Act

5. Consultation and consultative statements

Amendments to MARPOL Annex II, the IBC Code and the BCH Code for chemical tankers

The deadline for objections to the amendments to MARPOL Annex II, the IBC Code and the BCH Code was 1 July 2020, according to article 16 of MARPOL. These amendments will apply to all chemical tankers from 1 January 2021.

Although proposals for implementing these resolutions in the Environmental Safety Regulations and the Regulations on dangerous goods have not been formally circulated for review, they have still been adopted, as the amendments enter into force internationally on 1 January 2021. Most affected shipping companies have already adjusted to these requirements. Preparations for the amendments have been underway for some time, with contributions from maritime administrations, industry stakeholders and ROs throughout the IMO's adoption process. The Norwegian Maritime Authority has found that ROs and the affected Norwegian-flagged segment of the industry have proactively addressed the amended requirements and implemented the necessary changes. We believe that ROs and the industry have used MSC-MEPC.5/Circ. 7 – *Guidance on the timing of replacement of existing certificates by revised certificates because of entry into force of amendments to chapters 17 and 18 of the IBC Code* as guidance for some time. Consequently, these amendments could be effectively implemented in 2020, alongside the amendments for A.1122(30).

Amendments to the IBC Code for OSVs

The amendments to the IBC Code affect all OSVs carrying limited quantities of hazardous and noxious substances in bulk under IMO Res. A.673(16). These amendments were part of the consultation process for implementing the OSV Code into Norwegian legislation. The NMA has received many consultative statements from the affected industry regarding these amendments. In June, the Norwegian Maritime Authority published guidance Circular RSV 13-2020, and the amendments for implementing the OSV Chemical Code were circulated for review. Following this circulation, Circular RSV 23-2020 was issued as a revision. Further information about the circulation and consultative comments can be found below.

The Norwegian Maritime Authority recognises the challenges facing the industry in completing the required modifications, documentation and inspections before 1 January 2021. To address these challenges, a transitional arrangement has been established, allowing existing OSVs operating on the Norwegian Continental Shelf to defer compliance with the amended carriage conditions in MEPC.318(74) until 31 December 2021.

Implementation of the OSV Chemical Code (Res. 1122(30))

The proposed amendments to section 7 of the Regulations of 30 May 2012 No. 488 on environmental safety for ships and mobile offshore units and section 6 of the Regulations of 1 July 2014 No. 944 on dangerous goods on Norwegian ships for the implementation of the OSV Chemical Code were circulated for consultative comments from 11 June until 4 September 2020.

A total of seven consultative statements were received, of which two did not include any comments on the proposal. The consultative bodies that responded included Cefor, the Directorate of Fisheries, the Ministry of Justice and Public Security, the Norwegian Radiation and Nuclear Safety Authority, the Ministry of Transport and Communications, the Ministry of Defence, the Norwegian Union of Marine Engineers and the Norwegian Shipowners' Association.

The Norwegian Union of Marine Engineers highlighted that the crew must receive training before a ship is put into operation and emphasised the importance of including crew organisations in the development of detailed training guidelines. Although the general requirements for crew on support vessels have not

been specified internationally, section 16 of the Ship Safety and Security Act mandates that anyone working on board must possess the qualifications and certificates necessary for their specific roles.

The Norwegian Shipowners' Association expressed concerns regarding the challenges posed by the amendments for existing offshore support vessels (OSVs). They noted that almost every existing ship will need to comply with the new requirements of the Code, stating, "Carriage conditions which today's offshore support vessels will not be able to meet to a great extent. Existing vessels will have to rebuild significantly and introduce major operational measures to meet the new requirements of the Code". "There is a great sense of insecurity in the industry concerning what will need to be rebuilt and which measures that will have to be introduced on board." They cautioned that "many of the requirements will simply not be possible to meet on an existing OSV" and warned that introducing the new legislation without special adjustments could severely limit the entire offshore industry.

This autumn, the NMA published guidelines for OSVs in Circular RSV 23-2020. The consultative statements from the Shipowners' Association were received prior to the Circular's publication. The NMA believes that most of these concerns stem from amendments to the IBC Code (see MEPC.318(74)), MSC.460(101)) rather than the implementation of the OSV Chemical Code. The amendments to the IBC Code were part of the consultation process for implementing the OSV Chemical Code and the development of guidance Circular RSV 23-2020, as mentioned above in point 4. A thorough evaluation of the effects of the amendments on existing OSVs was conducted in conjunction with the Circular. The NMA has previously engaged in dialogue with DNV GL, other flag States and the industry (including offshore companies) to find a unified approach to the challenges. The results are detailed in RSV 23-2020. In the NMA's view, the comments and concerns raised by the Norwegian Shipowners' Association have been addressed in this guide.

The Norwegian Shipowners' Association also questioned the proposed transition arrangement and future backload transportation. Their concerns regarding the transition arrangement have been partially upheld, cf. section 7 sixth paragraph of the Environmental Safety Regulations and section 8 third paragraph of the Regulations on dangerous goods. The conditions for existing OSVs to continue transporting backloads have been clarified through amendments to section 7 seventh paragraph of the Environmental Safety Regulations and section 6 fifth paragraph of the Regulations on dangerous goods.

6. Economic and administrative consequences

Amendments to MARPOL, the IBC Code and the BCH Code

The amendments to MARPOL Annex II apply to chemical tankers and for loads taken on board after 1 January 2021. These amendments require updates to the routines for the ship's handling of such loads concerning prewash, delivery to reception facilities and discharge of wash water. Additionally, the vessel's operations manual must be updated. The costs associated with these changes are one-time expenses that will subsequently be part of the vessel's regular operation. For the authorities, one consequence of these amendments is that inspection checklists must be updated. ROs have already implemented the amendments in their systems and are following up with the ships that will meet the new requirements. The purpose of the amendments is to prevent substances from wash water from entering the sea.

Implementation of the OSV Chemical Code (Res. 1122(30))

The NMA anticipates that there will be some new support vessels in the near future. However, the focus will primarily be on ships constructed before 1 January 2021 which the company would like to have certified pursuant to the Code and the rebuilds found there. The implementation of the Code is expected to have economic consequences for shipowners, offshore companies, yards and designers driven by the need for rebuilds and adjustments to fully leverage the opportunities within the legislation. Any approval

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for conversions will incur fees in accordance with section 25 paragraph 1.2 of the Regulations of 2 February 1996 No. 115 on collection of fees to the Treasury for surveys, issue of certificates, etc. carried out pursuant to the Ship Safety and Security Act (Fees Regulations). If a conversion necessitates a new inclining test, it will be charged per section 25 paragraph 1.1 of the Fees Regulations. Changes to existing certificates will also incur charges based on time spent, cf. section 25 paragraph 2.6 of the Fees Regulations. It is challenging to estimate these fees as the complexity and needs vary from case to case. Adjustments to P&A manuals, emergency preparedness plans and procedures for relevant safety management systems should also be anticipated.

In the short term, the implementation of the Code may lead to an increased need for individual case handling for the authority when certifying existing ships. While the practice on several points is now reflected in the legislation, this may still reduce the number of applications for exemptions requiring individual decisions. The implementation of the Code necessitates the development of new routines and the establishment of new practices, particularly for handling backloads. This will result in increased work and costs for the Norwegian Maritime Authority.

Lars Alvestad (by authority)
Acting Director General of Shipping and Navigation

Bjørn Egil Pedersen
Head of Department

This document has been electronically approved, and therefore does not contain handwritten signatures.

Attachment: Regulation concerning amendments to the Regulations on environmental safety for ships and mobile offshore units and the Regulations on dangerous goods on Norwegian ships