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CARGOES AND CONTAINERS  
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Agenda item 11

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**DEVELOPMENT OF MEASURES REGARDING THE DETECTION AND MANDATORY  
REPORTING OF CONTAINERS LOST AT SEA THAT MAY ENHANCE  
THE POSITIONING, TRACKING AND RECOVERY OF SUCH CONTAINERS**

**Standardized procedure for reporting the loss of containers**

**Submitted by Australia, Austria, Belgium, Bulgaria, Cook Islands, Croatia,  
Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece,  
Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New  
Zealand, Poland, Portugal, Qatar, Romania, Saudi Arabia, Slovakia, Slovenia,  
Spain, Sweden, United Arab Emirates, Vanuatu, BIMCO,  
European Commission, IUMI, World Sailing and WSC**

**SUMMARY**

*Executive summary:* This submission suggests amending chapter V of the SOLAS Convention with a view to making mandatory reporting of the loss of containers through a standardized procedure. It also includes a consequential amendment to paragraph (3) of Article V (reporting procedures) of Protocol I (incident report) of the MARPOL Convention (Article 8) to avoid double reporting. The submission also considers the issue of how a ship-board fall detection system might assist in such reporting.

*Strategic direction,  
if applicable:* 4

*Output:* 4.4

*Action to be taken:* Paragraph 30

*Related documents:* CCC 1/12; CCC 7/6/19, CCC 7/14/2, CCC 7/INF.14; CCC 8/INF.9; MSC 101/2/3; MSC 102/21/13, MSC 102/21/19; MSC 103/21, MSC 104/17/4; MEPC 73/8/2, MEPC 73/8/3, MEPC 73/19; MEPC 74/8, MEPC 74/8/2, MEPC 74/WP.10, MEPC 74/18; MEPC 75/8/5; A 30/11/1; resolutions A.950(23) and MEPC.310.(73)

**Introduction**

1 MSC 103 agreed to include in its post-biennial agenda an output on "Development of measures regarding the detection and mandatory reporting of containers lost at sea that may enhance the positioning, tracking and recovery of such containers", with two sessions needed

to complete the item. MSC 103 assigned the CCC Sub-Committee as the coordinating organ, in association with the NCSR Sub-Committee as and when requested by the CCC Sub-Committee. In view of this output, this submission contains a suggested draft amendment to the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, chapter V, regulations 31 and 32, making the reporting of the loss of containers to maritime authorities mandatory through a standardized reporting template. It also contains a suggested amendment to the MARPOL Convention, Article 8, new paragraph (3) of Article V (reporting procedures) of Protocol I (incident report) to avoid double reporting.

## **Background**

2 At CCC 1 (12 September 2014), following recurrent losses of containers, document CCC 1/12 (France and Spain) suggested additional measures, in addition to those already implemented by the Organization. These measures aimed at improving prevention and information for States in order to better deal with these losses, and in particular, measures, such as the mandatory system of formatted declarations of container losses and the establishment of means on board to easily identify the exact number of losses, the obligation to report the loss of container(s) through a standardized procedure, and the follow up of containers lost at sea.

3 At MSC 102 (4 to 11 November, 2020), Vanuatu made a proposal for a new output on mandatory reporting of containers lost at sea (MSC 102/21/13). This was supported by the European Union Member States and the European Commission (MSC 102/21/19) and co-sponsored by the World Shipping Council and BIMCO in a commenting paper, drawing attention to the fact that such reporting is already in place in certain regions and that therefore an effective and practical requirement should be pursued as a matter of priority.

4 At MSC 103 (5 to 14 May, 2021), the Committee decided to include in its post-biennial agenda an output entitled "Development of measures for the mandatory detection and reporting of containers lost at sea that may enhance the location, tracking and recovery of these containers", providing for two sessions to complete the corresponding work. MSC 103 assigned its coordination to the CCC Sub-Committee, in association with the NCSR Sub-Committee as and when requested by the CCC Sub-Committee. This item will therefore be included in the agenda of the CCC Sub-Committee in 2022.

5 At MSC 104 (4 to 8 October 2021), a document entitled "Prevention of Container Losses at Sea" (MSC 104/17/4) was submitted by Australia et al., but due to time constraints, was not considered by the Committee. The document:

- .1 sets out the follow up of incidents involving container loss in Australian waters and the North Sea and discusses the need for the Organization to take a holistic approach; and
- .2 provides information about a joint industry project called Top Tier JIP, which aims to lower the probability of loss of containers at sea, all in order to help ensure that any future regulatory changes suggested to address losses of containers overboard are shaped by and based on factual analysis of global real-world data.

## **Context**

6 It is estimated that the world container fleet comprises more than 25 million units, operated by more than 2,100 owners and operators. Container volume continued to grow and for 2021, after a small dip in 2020, an increase of +- 8% is forecasted. During the

winter 2020-2021 in broadly the same general area of the North-Western Pacific, in over three months, there were five incidents involving the loss of almost 3000 containers<sup>1</sup> with a record of 1,900 containers lost in one incident.<sup>2</sup> While this is far outside of the norm, it has understandably resulted in concerns about the possible contributing factors behind these incidents. Administrations and industry are all awaiting the investigation reports into these recent incidents. However, it appears that no single factor caused the incidents but rather that several factors might have contributed. Initial results from investigations undertaken by the aforementioned TopTier JIP show that parametric rolling in following seas is especially hazardous for container vessels.<sup>3</sup>

## Regulatory framework

7 In the event of a direct danger to navigation, the master of the vessel is required to inform the competent authorities by all means available to them (SOLAS chapter V, regulation 31). However, there is no explicit obligation to report the loss overboard of containers at international level, nor is there an obligation for the flag State to report the loss to IMO.

8 Article 8 of the MARPOL Convention includes a reporting requirement when containers are lost at sea and contain dangerous or polluting goods. In addition, at MEPC 73, in the course of discussion on this issue, it was pointed out that "*...the Group had agreed that the establishment of an obligation to report timely, specific and relevant identification and location information of containers lost at sea would not only have a positive impact on understanding the contribution of lost containers to marine plastic pollution but also potentially improve safety of navigation and the safety of fishing vessels.*" (MEPC 73/19, paragraph 8.24).

9 MEPC 73, however, "*... was uncertain as to whether MARPOL or SOLAS would be the more appropriate instrument to introduce a requirement for reporting containers lost at sea*" (MEPC 73/19, paragraph 8.25). Consequently, the Committee agreed to invite MSC to consider the establishment of a mandatory system for reporting containers lost at sea,<sup>4</sup> and report back to MEPC following its consideration.

10 The co-sponsors believe it is important to establish one single reporting system, and to avoid duplicative submission requirements and confusion with the risk of no reporting of containers lost at sea. This submission therefore suggests a reporting for all containers lost at sea, whether they are DGs or not, and therefore considers a consequential amendment to MARPOL to avoid double reporting. This amendment is a new paragraph (3) of Article V (Reporting procedures) of Protocol I (Incident report) of the MARPOL Convention (Article 8: Reports on incidents involving harmful substances) and could read as follows: "In case of the loss of freight containers, the procedure for the report required by Article II(1)(b) shall be made in accordance with regulations 31 and 32 of chapter V of the SOLAS Convention".

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<sup>1</sup> It should be recalled that based on regular surveys undertaken by WSC of its member companies, for the combined 12-year period from 2008 to 2019, there were on average a total of 1,382 containers lost each year. Containers lost overboard thus represent less than one thousandth of 1% of the roughly 226 million packed and empty containers currently shipped each year. See document CCC 7/14/2.

<sup>2</sup> PC One Apus (Nippon Yusen Kaisha) in December 2020, north of Hawaii.

<sup>3</sup> To prevent further incidents, a Notice to Mariners has been developed. The notice describes succinctly how container vessel crew and operational staff can plan, recognize and act to prevent parametric rolling in following seas. It also contains a decision tree and key formulas for calculating risk. The TopTier Notice to Mariners may be accessed at: [Microsoft Word - TopTier\\_N2M\\_ParametricRollFollowingSeas\\_V1.1 \(squarespace.com\)](#)

<sup>4</sup> Taking into account the discussions of the Working Group on Marine Plastic Litter on this matter (MEPC 73/WP.9, paragraphs 30 to 33) and the corresponding action in the Action Plan (resolution MEPC.310(73), annex, table of actions, row 10).

11 At the European level, the issue of reporting/notification upon detection is addressed in European Union legislation (Directive 2002/59/EC on the establishment of a Community vessel traffic monitoring and information system and Directive 2009/18/EC governing the investigation of accidents in the maritime transport sector). To report containers lost at sea, a reporting model has been developed and has been systematically used since 2012. The system is operational and the obligation to report incidents is, and has been, used to share information with all relevant coastal States, as well as to communicate to mariners the necessary navigational warnings, during recent events.

12 Through the same system it is also possible for EU coastal States to request satellite images<sup>5</sup> covering an area where the incident occurred, enabling tracking (including drift modelling) and monitoring, assisting in providing navigational warnings and in mitigating actions, including recovery operations.

### **Regulatory track**

13 Under Article 1 (4) (c) of the Nairobi International Convention on the Removal of Wrecks, a "wreck" is broadly defined as, following a maritime casualty, a sunken or stranded ship or any part or any object from a sunken or stranded ship. The definition includes any object that is lost at sea from a ship and that is stranded, sunken or adrift, such as lost containers. Containers lost at sea should therefore be considered as falling within the scope of this instrument. However, the manner of transmitting the information and the format is not specified in the Nairobi Convention. An existing notification framework is contained in resolution A.950(23) on Maritime Assistance Services but is not considered to represent a useful paradigm for the reporting of containers lost at sea.

14 The Wreck Removal Convention (WRC) establishes a regime of strict liability for shipowners for the costs of locating, marking and removing hazardous wrecks, including lost containers. WRC applies only within the exclusive economic zone of a State Party. However, States can elect to extend the application of certain provisions to wrecks located within their territory, including the territorial sea.

### **Identified issues**

15 The consequences of the loss of containers at sea can be very damaging for the safety of navigation as well as for the marine environment. The introduction of very large container ships, and the associated increase in the number of containers carried/stacked, may mean that the total number of containers lost at sea in a single incident could be quite large.

16 Container losses have a negative impact on the marine environment. Some of these containers contain dangerous or polluting goods. Containers may also contain a lot of plastic in all its forms, either as protective or packaging products or as commodities. Their release in the ocean therefore risks contributing to pollution by plastics and, in the long term, to the proliferation of microplastics. In addition, the dissemination of the contents of the containers lost at sea can take time depending on the degree of degradation of the containers. Litter from lost containers includes a large variety of transportable items, including dangerous items or toxic chemicals, and some of these items may end up on beaches.

17 In addition, containers at sea also represent a danger to navigation (drifting containers) and fishing (submerged containers floating under the surface or containers resting on the seabed).

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<sup>5</sup> Recently requested in January 2022 by MRCC Delgado.

18 Considering that incidents with lost containers at sea may pose a danger to navigation and to the environment, reporting of the loss of containers from a ship, or of observations of containers in the sea, should be done by the master using a standardized procedure. Accurate reporting using a standardized procedure could also lead to more comprehensive statistics on containers lost at sea than currently exist.

19 Installation of a ship-board system to detect containers lost overboard should be encouraged, as it could assist in more timely reporting, especially in cases where the container loss occurs during bad weather or the hours of darkness. Such a system could also provide masters with real-time information on container loss, which is sometimes difficult to estimate due to the limited view from the bridge. A system of, for example, mechanical, electronic and/or visual aids for detection of the fall of containers from ships in real time or near real time would also allow for better localization of lost containers and their subsequent tracing in the water both for safety of navigation and recovery purposes.

## Proposals

20 To limit the risk to navigation and to the environment, information on the loss of containers at sea should mandatorily be reported by the master in a timely manner and using a standardized procedure upon discovery by the ship's crew, assisted, where available, by a system of mechanical, electronic and/or visual aids for detection of the loss.

21 The reporting should be made to the nearest coastal State as well as to the flag State.

22 Specifically, an obligation should be developed and implemented, upon the discovery of a loss of containers by the ships' crew assisted, where available, by a system e.g. of mechanical, electronic and/or visual aids, for the master to report, through a standardized procedure, the loss of container(s) detailing: the number of such containers, their identification, cargo carried (particularly dangerous goods or harmful substances) or whether such containers lost may float and constitute a risk to navigation. Additionally, the reporting obligation should also apply to the observation of containers drifting at sea. It is recognized that at the time of the initial reporting, many of these information elements may not yet be available. Any complementary information should, therefore, be reported by the master at the earliest opportunity after the initial reporting.

23 Where container losses occur in sensitive areas, such as a recognized fishing zone, the shipowner should, in coordination with the competent authorities, commence the development of a plan for deployment of measures to detect and position the location of container lost overboard. This should also apply, mutatis mutandis, for containers lost at sea carrying hazardous materials, as defined in the IMDG Code.

24 The earliest possible detection and reporting of lost containers also allows for quicker recovery, preventive measures against pollution or the risk of collision or hooking by fishing vessels.

25 In accordance with Article 8 of the MARPOL Convention and Protocol I to MARPOL "Provision concerning reports on incidents involving harmful substances", "Article I – Duty to report – (1) The master or other Officer in charge of any ship involved in an incident referred to in article II of this Protocol shall report the particulars of such incident without delay and to the fullest extent possible in accordance with the provisions of this Protocol." Referring to paragraph II(1)(b) "When to make reports", "The report shall be made when an incident involves: a discharge or probable discharge of harmful substances in packaged form, including those in freight containers, portable tanks, road and rail vehicles and shipborne barges". This article is supplemented by resolution A.851(20) on *General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants*.

26 There is no equivalent provision in the SOLAS Convention specifically aimed at the obligation to notify the loss of containers, with the exception of the reporting requirement for the loss of dangerous goods in packaged form in regulation 6, chapter VII of the SOLAS Convention. It is noted that for both those requirements the reporting is triggered only for situations when there are declared dangerous goods involved and not for all cases. In case declared dangerous goods are involved, more detailed information is not always easily available to the master. Hence, there may be considerable delay in such reporting.

27 The suggested amendments to regulations 31 and 32 of annex V to the SOLAS Convention aim to introduce:

- .1 an obligation on the master to report the loss of containers irrespective of whether it contains dangerous goods or not, or the sighting of containers in water, without delay upon discovery of the loss, including relevant information as available, to the nearest coastal State. This report has to be completed at the ship's first port of call if the number of containers lost is different from the number reported at the time of the discovery of the event and in subsequent reports; and
- .2 an obligation on the master to provide the same information to the flag State who should report it to the Organization using GISIS.

28 To address the above-mentioned issues, it is suggested to amend regulations 31 and 32 of chapter V to the SOLAS Convention as set out in annex 1.

29 To avoid double reporting, attention is drawn to the possible need to add a paragraph (3) to Article V (Reporting procedures) of Protocol I (Incident report) of the MARPOL Convention (Article 8: Reports on incidents involving harmful substances) as set out in annex 2.

#### **Action requested of the Sub-Committee**

30 The Sub-Committee is invited to:

- .1 consider paragraphs 15 to 19 and the suggestions in paragraphs 20 to 29, including the suggested amendments to SOLAS Convention chapter V, regulations 31 and 32 presented in paragraph 27 and annex 1, with a view to MSC approval, and take action as appropriate; and
- .2 consider drawing the attention of MEPC to double reporting risk and forward the suggested new paragraph (3) as an amendment to Article V (Reporting procedures) of Protocol I (Incident report) of the MARPOL Convention (Article 8) presented in paragraph 29 and annex 2, as requested, to MEPC to take action as appropriate.

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## ANNEX 1

### DRAFT AMENDMENTS TO CHAPTER V OF THE SOLAS CONVENTION

#### Regulation 31: Danger messages

[1 No change]

2.1 The master of every ship involved in the loss of containers or the observation of containers drifting at sea, is bound upon discovery to communicate the particulars of such an incident by all means at their disposal without delay and to the fullest extent possible to ships in the vicinity and to the nearest coastal state, and at the same time provide the same information to the flag State.

2.2 In the event of the ship referred to in paragraph 2.1 being abandoned, or in the event of a report from such a ship being incomplete or unobtainable, the company, as defined in regulation IX/1.2, shall, to the fullest extent possible, assume the obligations placed upon the master by this regulation.

2.3 In the event that the ship is, where available, equipped with a ship-board system to detect containers lost overboard, e.g. a system of mechanical, electronic and/or visual aids, the positions of the lost containers upon detection shall be communicated by all means at the master's disposal without delay and to the fullest extent possible to the vessels in the vicinity and to the nearest coastal State, and at the same time provide the same information to the flag State.

2.4 The flag State, once informed in accordance with 2.1 or 2.3, shall report, via GISIS, to the Organization on the loss of containers that occurred during the event and on the containers that have been recovered.

Paragraphs 2, 3 and 4 will be renumbered as paragraphs 3, 4 and 5.

#### Regulation 32: Information required in danger messages

The following information is required in danger messages:

[1 and 2 No change]

#### 3 LOSS OF CONTAINER

##### .1 DATE and TIME (UTC); From/To

The message number (type of report: loss or observation) in chronological order if other container loss messages are sent following the first one. The message shall be marked "final" when it is made from the ship's port of arrival after comparing the ship's stowage plan with the conclusions of the post incident on-deck inspection if it is found that not all lost containers have been reported.

For From indicate: Name, address, telex and telephone number of the ship's owner and representative (charterer, manager or operator of the ship or their agent).

For To: Nearest Coastal Station

.2	TYPE OF REPORT
.1	Loss (ship having lost one or more containers)
.2	Observation (ship noting the presence of containers drifting at sea)
.3	SHIP'S IDENTITY IMO Number/Name/Call Sign/MMSI Number
.4	LAST PRESUMED POSITION OF CONTAINER LOST/LAST SEEN POSITION OF CONTAINERS Last seen position of container at sea, or last position of ship upon discovery that the container was lost. This position can be given, where available, by a system of mechanical, electronic and/or visual aids, allowing near real time reporting of the drop point of the container(s). In case no such system is available or is defective, position in latitude and longitude or true bearing and distance in nautical miles from a clearly identified landmark (where possible), where the loss of container was discovered.
.5	NUMBER OF CONTAINERS
.6	TYPE OF GOODS IN CONTAINERS DG/PG : Y/N IMO/UN/IMDG Code Number (if applicable)
.7	DESCRIPTION OF CONTAINERS Description of containers: dimension, colour, marks, numbers, condition and type of container Identification of container or containers lost at sea – in this case, information listed in sub-paragraphs .1 to .5 below shall be provided for each lost container:  .1 Identification number of the container; .2 Cargo description according to the ship's manifest and dangerous goods manifest; .3 Container operator name and contact information, including address where cargo information can be found (i.e. the shipping line that issued the container bill of lading); .4 Presumed cause of loss of containers; .5 Containers that have been recovered.
.8	CARGO LEAKING? Yes/No/Not visible Description of pollution
.9	WIND DIRECTION AND SPEED Indicates wind direction and speed in degrees and in m/sec. The direction always indicates from where the wind is blowing.

- .10      **CURRENT DIRECTION AND SPEED AND/OR TIDE**  
Indicates current direction and speed in degrees and knots and tenths of knots. The direction always indicates the direction in which the current is flowing.
- .11      **SEA STATE AND VISIBILITY**  
Sea state indicates the wave height in metres. Visibility should be indicated in nautical miles.
- .12      **DRIFT OF CONTAINERS**  
Indicates drift course and speed of pollution in degrees and knots or tenths of knots. In cases of air pollution (gas cloud), drift speed should be indicated in m/sec. To be provided where information is available.
- .13      **ANY OTHER RELEVANT INFORMATION**  
Paragraphs 3, 4, and 5 shall be re-numbered as paragraphs 4, 5 and 6.

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**ANNEX 2**

**DRAFT AMENDMENTS TO ARTICLE V OF PROTOCOL I  
OF THE MARPOL CONVENTION**

1 Add a paragraph (3) to Article V (Reporting procedures) of Protocol I (Incident report) of the MARPOL Convention (Article 8: Reports on Incidents Involving Harmful Substances).

"In case of the loss of freight containers, the procedure for the report required by Article II (1) (b) shall be made in accordance with Regulations 31 and 32 of chapter V of the SOLAS Convention."

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