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AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

Batteries – SP188 exemptions in containerized transport

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SUMMARY

Executive summary: In containerized transport of batteries, there is a significant safety gap wherein multiple batteries, each of which is individually exempt under Special Provision (SP) 188, are loaded within the same cargo transport unit (CTU). Owing to a lack of hazard communication, these shipments are treated as general cargo during transport despite the elevated hazard profile within the CTU. This safety gap has led to safety and fire incidents in maritime transport, a typical example of which is shown in a formal investigation report cited within this document. The existing gap poses wider implications for all involved, including ports, coastal States, seafarers, ships and the marine environment. This document informs that a potential regulatory solution has been tabled at the SCETDG sixty-eighth session owing to the intermodal nature of SP188. In conclusion, CCC 12 is invited to consider this issue from the maritime perspective as a matter of urgency, with a view to improving the regulation within the next amendment (44-28) to the IMDG Code, which enters into force mandatorily on 1 January 2030, and hence follow a dual approach as specified in the action to be taken.

Strategic direction, 7
if applicable:

Output: 7.10

Action to be taken: Paragraph 17

Related document: CCC 10/16

Background

Following up on the invitation for proposals by CCC 10

1 CCC 10 invited interested Member States and international organizations to submit future proposals relevant to risk prevention-related areas in connection with containership fire safety, following the deliberations of one of its working groups (CCC 10/16, paragraph 6.55).

One of the issues that needed a further proposal was Special Provision (SP) 188 of the IMDG Code, which applies to batteries and leads to situations with multiple exempt shipments of batteries being shipped in the same container. The open question that was noted in the working group was whether SP188 may need to be disappplied from maritime transport. This document responds to CCC 10's invitation.

Invisible hazard in cargo transport units under SP188

2 The existing text in Special Provision (SP) 188 in the IMDG Code exempts cells and batteries under UN 3090, 3091, 3480, 3481, 3551 and 3552 (hereinafter referred to as "batteries" for simplicity of reference) from "other provisions of this Code" when they meet lithium content, watt-hour, testing, packaging, package gross mass, short-circuit protection, etc. requirements. Each package shall be marked with the appropriate lithium-ion or sodium.ion battery mark subject to the requirements of the provision, and, except when cells or batteries are installed in or packed with equipment, packages shall not exceed 30 kg gross mass.

3 This means that SP188 shipments are not notified to the carrier through hazard communication (dangerous goods transport document), and there is also no placarding on the cargo transport unit (CTU). In practical terms, these containerized shipments are invisible and untraceable to maritime carriers in the supply chain, but also invisible to ports, coastal States and other shore-based parties who may be called upon to assist in case of an incident. Examples of commodities transported under SP188 typically include, among others, consumer electronics, such as mobile phones, smartwatches, and fitness trackers, laptops, wireless earphones, as well as power banks.

4 Based on available historical information, it is understood that SP188 exemptions were introduced in the 1990s and revised several times since, with the intention being to set a balance by reducing the burden of compliance for small batteries with reduced hazard. Therefore, the understood policy rationale was that these commodities are still Class 9 dangerous goods; however, the regulation only applies to them in part, if tested, packaged to prevent short circuit etc., in accordance with SP188, owing to the reduced level of hazard that each of these individually represents. However, in containerized transport, there is a point at which the above balance that SP188 seeks to set has failed, as explained below.

5 While SP188 includes safeguards in the form of maximum Wh limits or maximum limit of package gross mass, for exemption, there is no similar safeguard (a form of maximum limit) when these batteries are transported within a single CTU. As such, in practice today SP188 is used to allow exemptions even in cases where a CTU is fully packed with small batteries, each of which is individually exempt under the criteria of SP188. Owing to the lack of hazard communication, the practical result is that carriers unknowingly accept, load and transport CTUs with very high levels of hazard, owing to the cumulative energy load of these cargoes when packed within the same CTU. An example of such a situation is: approximately 4,200 laptops of 99 Wh capacity each, all packed within a single 40-foot CTU, representing a cumulative load of approximately 416 kWh – in other words, the equivalent of 3 to 4 electric vehicles (EVs) (depending on model). In this case, each of these laptops is individually exempt under SP188, the carrier receives no hazard communication, there is no placarding on the CTU, and as a result the carrier (or shore-based parties) is unable to take appropriate risk-based prevention, handling and fire mitigation steps prior to and during transport. However, if the same CTU were loaded with a single EV, because of the required hazard communication, the carrier would be able to take such safety steps. This contrast neither appears justifiable nor intended when SP188 was originally drafted. Rather, it is seen as an unintended regulatory gap that needs to be closed.

Significant safety consequences and practical implications

6 This regulatory safety gap leads to fire and safety incidents during transport, at least in maritime transport. The case of the **MV X-Press Godavari** below is a typical example of what is frequently encountered by maritime carriers.

7 In the **MV X-Press Godavari** safety investigation report,¹ a 40-foot container was loaded on deck of a container vessel, on a voyage from Malaysia to India under air temperatures in the range of 27°C to 30°C. At around 4-8 a.m., the container was detected with smoke, which was intensifying despite container boundary cooling using fire hoses. By noon time on the same day, the container was in flames and between 37 to 42 hours later, after unloading the container ashore, the fire was still being tackled by shore fire-fighters.

8 Upon enquiry after the fire was detected, it was revealed that the container was loaded with "500 cartons of lithium-ion batteries having a gross weight of 7,540 kg", "345 cartons of rechargeable torch (6,010 kg) and 248 cartons of rechargeable torch spare (3,301 kg)". Upon enquiry after the fire was detected, the shipper also provided a "Certificate for Safe Transport". This document included details of the packaging and tests on the samples of cargo by a testing company, certifying compliance with SP188 and specifying that each package, which was declared to weigh 10.47 kg each, had to be marked with the appropriate lithium battery mark.

9 The probable cause of the fire was concluded to be prolonged exposure to environmental temperatures reaching 30°C during the four-day voyage to Kolkata and while at anchor, combined with direct exposure to sunlight potentially leading to higher temperatures within the container and thus causing a short circuit. The report further notes that:

- .1 "Over 7,000 kg of lithium-ion batteries were being carried inside the container. Even if a single battery had to catch fire, there was nothing which could have prevented the fire from spreading inside the container and consuming the rest of the cargo.";
- .2 "For approximately 90 minutes, until the charterers confirmed by email that the cargo was rechargeable torches and lithium-ion batteries, the crew members were unaware of the cargo fire, which they were fighting. This was an extremely hazardous situation for the crew, considering that certain cargoes react adversely with water and, therefore, would require a different fire extinguishing media."; and
- .3 "SP188 allowed for the cargo of lithium-ion batteries to be shipped undeclared. The shipper had followed the special provision's instructions and had also been given a Certificate for Safe Transport of the cargo by a certification company. Every package inside the container was labelled in accordance with the requirements of SP188, which automatically did not require further labelling/markings provisions of the IMDG Code to be followed."

10 The above report encapsulates a severe safety problem that has been faced in maritime transport for several years. In the above specific case, the crew and ship were "fortunate" that smoke was detected early and that the vessel was close to shore in order to receive full shore-based assistance for fire fighting despite the initial lack of cargo hazard information. However, this is not always the case: in maritime transport, far larger ships often

¹ Full Safety Investigation Report (Report No.: 21/2021) available here: https://www.transport.gov.mt/MV-X-PRESS-GODAVARI_Final-Safety-Investigation-Report.pdf-f6890

find themselves in need of help in the high seas, away from the shore, or with shore assistance being refused/unavailable – recently with increasing frequency. Ships may also encounter much higher environmental temperatures and exposure to sunlight, for prolonged periods, depending on the season and voyage route (including unpredicted route diversions). All these factors can increase the overall risk of dangerous goods incidents during transport. When a fire occurs on the ship, depending on the location of the CTU, this may also spread to adjacent cargoes, some of which may be equally if not more hazardous. Furthermore, as elaborated in the section below of this document, there are prevention, risk-based and other measures that the carrier, shipmaster, the port or coastal State are not able to take when invisible hazards such as the above-described under SP188 are transported.

11 With the widespread and global adoption of batteries and cells in modern technology, the volume of transported batteries has grown at a sustained pace over the past years, with battery incidents being one of the major challenges for the transport industry. The presence of lithium-ion batteries, typically found among others in consumer goods transported in shipping containers, has been linked to several large fire claims, as reported in the insurance industry.² According to the International Energy Agency (IEA),³ global lithium-ion battery deployment in 2025 was six times as high as in 2020, and battery energy storage accounts for over 15% of total lithium-ion battery deployment. At the same time, it is projected that demand for batteries is expected to double by 2030.

12 As mentioned, it is understood that the described gap for containerized transport under SP188 was not intended by the regulator but rather represents the unintended consequence of not inserting a CTU-level safeguard (maximum limit). This gap is already a significant problem in existing operations, and unless resolved without undue delay, this problem will become unsustainable considering the projected scale of deployment of batteries in the upcoming years, adding pressure on the carrier for increased scrutiny of bookings and cargo acceptance restrictions.

Prevention, risk-based and other measures that are impossible when invisible hazards are transported

13 When such significant invisible hazards are transported, there are knock-on effects on a series of requirements and provisions in the follow-on maritime regulatory nexus for the carrier, shipmaster who has overall responsibility for the safety of the ship's crew, ports, coastal States and other shore-based parties who may be called upon to assist. Some of these are already evidenced in the above incident investigation report while others exist more widely. Indicatively, the following limitations are mentioned:

- .1 Inability for risk assessment prior to acceptance and loading: The carrier is unable to properly consider the vessel's individual risk profile when unknowingly accepting and loading hazardous cargoes of such intensity. This precludes consideration of factors such as the vessel's fire-fighting capacity compared to the entire volume and types of all dangerous cargoes being transported, expected voyage duration and route, including environmental temperatures and other conditions, potential need to reroute through hot geographical regions, etc. The carrier is effectively unable to

² See, Allianz Safety and Shipping Review 2026 (<https://commercial.allianz.com/content/dam/onemarketing/commercial/commercial/reports/commercial-safety-shipping-review-2026.pdf>)

³ See International Energy Agency, Global battery markets are growing strongly – and so are the supply risks, 13 February, 2026 (<https://www.iea.org/commentaries/global-battery-markets-are-growing-strongly-and-so-are-the-supply-risks>)

apply risk-based stowage and handling not only in accordance with existing and any future specific requirements of applicable dangerous goods regulation (IMDG Code), but also in accordance with company policies, best industry practices, and due consideration as the case may be of the ship's Safety Management System (SMS) (under the International Convention for the Safety of Life at Sea, 1974 (SOLAS) regulation IX/3 (ISM Code)).

- .2 Emergency response on the ship in case of incident: Similarly, in case of fire or spillage incident, the ship will not be able to tailor its response in accordance with its contingency plan and the Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS) Guide, which in section 2.1 advises that: "It is essential to identify the dangerous good(s) involved in the fire in order that the specific EmS FIRE SCHEDULE(S) for the cargo(es) may be consulted and appropriate action taken. This is important because some dangerous goods are incompatible with some fire-fighting media and could exacerbate the situation (e.g. use of a water-based extinguishing medium on water-reactive cargoes)."
- .3 First aid to ship's crew: In case of crew injury such as from battery-emitted gases, the ability to rapidly and efficiently put into place first aid measures based on existing international guides including but not limited to ILO Maritime Labour Convention-recommended guides is limited.
- .4 Coastal State information under Ship Reporting Systems for the purposes of preparedness: Without hazard communication from shipper to carrier, it is impossible for the ship to report the presence of batteries in accordance with the various dangerous goods reporting requirements of Ship Reporting Systems (SRS) adopted under SOLAS regulation V/11. It is noted that these systems are established with the objective of improving safety of life at sea, safety and efficiency of navigation and/or to increase the protection of the marine environment. As such, the relevant authorities are unaware of such high intensity hazards on ships sailing in the geographical areas of coverage under these systems, which is a significant gap for safety and environmental protection preparedness, considering that battery fires can be of high intensity, last for several days, and spread to other cargoes on the ship.
- .5 Rapid, informed and efficient coastal State support: Similarly in the case of requesting assistance from the coastal State, including place of refuge, the master is not able to identify the hazard within the container in a timely manner so as to help determine the type and level of fire-fighting assistance required from the coastal State. Conversely, the coastal State may face difficulties carrying out event-specific assessment in the process for granting a place of refuge, while the ship is under fire and in imminent risk of a potential environmental catastrophe.
- .6 Containers lost at sea reporting (SOLAS regulation V/31 and 32) – danger messages: In the event of loss of freight containers at sea, either due to fire or navigational incident, it is impossible to report the presence of batteries under the new requirements in SOLAS regulation V/31 and 32 – danger messages.
- .7 Nairobi International Convention on the Removal of Wrecks, 2007: Similarly in the event of lost containers, the shipmaster or the operator of the ship will not be able to report the nature and quantity of the cargo, in particular the

hazardous nature thereof, thus creating difficulties in the identification of any reasonably expected major harmful consequences to the marine environment.

- .8 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances, as amended by the Protocol of 2010 (2010 HNS Convention): Likewise, there will be difficulties with the triggering of the shipowner's strict liability for damage caused by these cargoes, such as damage by contamination of the environment or the costs of preventive measures taken to minimize damage, in accordance with the provisions of the Convention. Similar difficulties will exist with the ability to readily bring any claim for compensation for damage directly against the shipowner's insurer, under the compulsory insurance provisions of this Convention.

Potential formula to enable visibility of significant SP188 hazards in containerized transport (tabled with the UN Sub-Committee of Experts on the Transport of Dangerous Goods (SCETDG 68) at the time of writing)

14 As evidenced above, the existing safety gap of invisibility of containerized transport of batteries under SP188 needs to be closed as a matter of urgency. Increased visibility of such significant hazards may not only help ease existing pressure on carriers as regards elevated scrutiny of bookings and cargo acceptance restrictions, but first and foremost improve transport safety for all parties involved, including shippers, ports, ships and crews, coastal States and other involved and affected parties.

15 A potential formula for enabling such hazard visibility could be borrowed from existing maritime provision SP963 of the IMDG Code (which applies to UN 3496) which sets a maximum CTU-level threshold over which the requirements for hazard communication under sections 5.4.1 and 5.4.3 are triggered (along with columns 16a and 16b of the Dangerous Goods List in chapter 3.2 which refer to maritime-specific provisions for stowage, handling and segregation). In the case of SP963, the threshold is expressed in gross mass (100 kg gross mass or more). This threshold resembles the maximum 30 kg gross mass package-level limitation in SP188, and it is noted that a gross mass limitation in the case of SP188 may offer practicality for easier measurement, while a Wh limitation may offer precision.

16 Considering the above, a possible suggested pathway to close the SP188 gap for containerized transport was tabled at the SCETDG sixty-eighth session (30 June to 8 July 2026) as at the time of writing, for its consideration under the scope of the Model Regulations to the extent feasible. The same is also shared with CCC 12 for parallel awareness. The suggested pathway could be to adapt SP188, by setting a total CTU-level maximum limit of Wh or gross mass, over which the hazard communication requirements of sections 5.4.1 and 5.4.3, potentially also placarding requirements of section 5.3, are triggered. A possible amendment along these lines could be to add a new paragraph after SP188.8, as follows:

"However, when cells and batteries which are offered for transport and meet the above are loaded in a cargo transport unit in a total quantity of [XXX kg gross mass] [XX Wh] or more, they are subject to the provisions of 5.4.1, 5.4.3 [and the placarding requirements of 5.3 shall apply]."

Action requested of the Sub-Committee

17 The Sub-Committee is invited to consider this issue from the maritime perspective as a matter of urgency, with a view to improving the regulation within the next amendment (44-28) to the IMDG Code which enters into force mandatorily on 1 January 2030, and hence follow a dual approach:

- .1 if needed, forward any views noted by CCC 12 to the SCETDG sixty-ninth session for consideration of insertion of any relevant improvement(s) into the twenty-fifth edition of the Model Regulations; and
 - .2 refer this document, along with any views noted by CCC 12, to Editorial and Technical Group (E&T) 46 for consideration in preparation of draft amendments (44-28) to the IMDG Code and if needed via maritime-specific provisions to improve this issue, noting that E&T 46 is set to incorporate into the IMDG Code the twenty-fifth edition of the Model Regulations, which may or may not include improvements to the above issue.
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