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AMENDMENTS TO THE IMDG CODE AND SUPPLEMENTS

Transport provisions for vehicles

Submitted by Germany, Greece and ICS

SUMMARY

Executive summary: This document comments on the report of the Correspondence Group on the Review of Transport Provisions for Vehicles and provides a proposal for a new special provision (SP) 9xx for the identification of unsafe vehicles and for their exclusion from transport, as well as for consequential amendments to SP961 and SP962.

*Strategic direction,
if applicable:* 7

Output: 7.10

Action to be taken: Paragraph 11

Related documents: CCC 8/6/6 and CCC 10/6/2

Introduction

1 CCC 8 considered document CCC 8/6/6 (United States), containing a proposal to replace SP961 and SP962 with a new special provision SP9xx in response to recent fire incidents occurring on vehicle carriers. After consideration, CCC 8 established a Correspondence Group on the Review of Transport Provisions for Vehicles to continue consideration of amendments to transport provisions for vehicles and to develop and prepare suitable measures to address the hazards arising from shipments of vehicles in the provisions of the IMDG Code. CCC 9 noted the Correspondence Group's discussion on requirements for new vehicles, requirements for damaged vehicles and draft definitions prepared by a subgroup. However, as the Correspondence Group was unable to fully complete the terms of reference at that time, the coordinator of the Group and several participants recommend that a Drafting Group be established during CCC 9 to further progress the work. After considering the result of the Drafting Group, the Sub-Committee agreed to re-establish the Correspondence Group. The Correspondence Group recently had lengthy discussions on the definition for new, in-use and used vehicle, but could not reach consensus on a proposal for revised special provisions for the transport of vehicles. The proposed amendments presented in paragraph 29 of the Correspondence Group's report (CCC 10/6) are one of the possible options that the Group has not yet been able to discuss in sufficient detail owing to time constraints.

Discussion

2 The current discussions in the Sub-Committee originated from the proposal in document CCC 8/6/6, which was supported by the result of the incident investigation (NTSB MAR 21/04) referenced in paragraph 9 of document CCC 8/6/6. This investigation report shows that the incident was caused by vehicles which had been loaded in an unsafe transport condition: the consignment consisted of used vehicles (for resale or disposal); at least some of them were inoperative. Therefore, the carrier required the batteries to be disconnected, which was done in an unsuitable manner; the terminals of the batteries were not isolated and the cables not protected against shifting. The result was a short circuit, generating fire.

3 According to paragraph 1.1.3.1 of the IMDG Code, any substance or article is prohibited from transport which, as presented for transport, is liable to explode, dangerously react, produce a flame or dangerous evolution of heat or dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport, unless otherwise provided by the Code. Therefore, the focus should be to provide criteria for an assessment that a vehicle may present one or more of the above-mentioned dangers, and to exclude such vehicles from transport, rather than defining criteria for a damaged vehicle, which may not be exempted anymore under SP961, but could be transported as dangerous good under SP962. Declaration alone will not mitigate the hazards emanating from a vehicle, which is inherently unsafe. Therefore, a new SP9xx, applicable to all entries for vehicles, is proposed, to define criteria for an unsafe vehicle and to exclude such vehicles from transport, so that they can neither benefit from the exemption in SP961, nor be transported under SP962.

4 An unsafe vehicle should be identified by clear criteria rather than by category, such as new, in-use or used vehicles. These categories do not provide reliable information on the condition of the concerned vehicle, as there is no clear delimitation between the categories and too many scenarios have to be considered that are not well-defined for either category. Consequently, a new SP9xx is proposed that requires the consignor to assess that a vehicle is safe for transport, and which excludes unsafe vehicles from transport. This new SP would provide clear criteria to identify an unsafe vehicle, and the annex of this document presents two different options for this proposed new SP.

5 Option 1 states clearly that consignors are responsible to assess that a vehicle consigned by them is safe for transport and excludes a vehicle from transport when a component or installed article is on fire, when it shows signs of leakage of fuel and other operating liquids or has obvious or suspected damage to electric equipment or supplemental restraint systems. This applies to all vehicles, irrespective whether new, in use or used. Even a new vehicle may suffer damage after being delivered from the factory and before being loaded onto a vessel. In such case, the consignor has the obligation to evaluate whether a recent incident might have possible impacts on the safety of the vehicle. Furthermore, it is clearly stated that any battery which is subject to SP376 shall be removed from the vehicle and that vehicles classified as waste under the applicable regulations in the State of dispatch are not allowed for transport unless otherwise authorized by the competent authorities in the port State of departure, flag State and port State of arrival.

6 The mandatory requirements are supplemented by a note which provides a definition of "operating liquids" and indicates how the consignor can assess transport safety of a vehicle, considering that the appropriate measures may be different for new vehicles, registered and roadworthy used vehicles accompanied by a driver or used vehicles which are no longer registered in the State of dispatch or even no longer able to be registered. In the latter case, it will depend on each legislation whether the vehicle is subject to waste regulations or not.

7 Option 2 as well emphasizes the obligation of the consignor to ensure the transport safety of a vehicle, and waste vehicles are also addressed. As it might be impossible to list all safety-relevant damages for all types of vehicles and not all future developments could be foreseen, this option includes the most obvious two criteria which indicate that the vehicle is not safe for transport (leakage, defective battery), which are already included in the regulations, and adds another criterion, "obvious defect affecting transport safety". To be as generic as possible, no definition for an "obvious defect" is provided in the mandatory text, indications however are provided in a note supplemented to the SP. The proposal also allows a safety-relevant defect to be remedied and thus to restore safety. However, this requires a renewed check to ensure the effectiveness of the measure.

8 The note describes criteria which can be used for the assessment but which are not mandatory. For example, a diagnostic system can only be used, if it is available. The criteria are selected, so that they can also be applied to vehicles other than cars, such as motorcycles, scooters, trucks, bicycles, wheelchairs, lawn tractors, etc. All of these are classified as vehicles for which transport and evaluation should therefore be possible. It is the consignor's obligation to determine which criteria are suitable for an individual vehicle and to carry out the relevant safety checks. The note shows the various options for conducting the investigation and also the depth of the checks which can be different for vehicles that come from a standardized process with a quality management system, for vehicles driven onto a ferry by a private individual or for a used vehicle which is not accompanied.

9 The inclusion of the new SP9xx would require consequential amendments of the existing SPs 961 and 962. Furthermore, the existing exemption for hybrid vehicles requires clarification. It should be made clear that vehicles that are powered with gasoline and a lithium battery and that are not loaded in the vehicle space of a ro-ro vessel are not exempted under SP961, but are subject to SP962. To prevent improper and dangerous disconnection of batteries, clear indication should be provided that battery terminals must be covered with caps whenever batteries are disconnected. Finally, it should be discussed whether CTUs containing vehicles subject to SP962 should be placarded or not: On the one hand the presence of a declared dangerous good in a non-placarded CTU has repeatedly been reported to cause confusion and delay in the ship-port interface. On the other hand, it could cause confusion in multimodal transport (e.g. interruption in road transportation, confusion in authority controls and additional training requirements).

Proposal

10 The proposed text for a new SP9xx is submitted in the form of two options presented in the annex of this document. The Sub-Committee is invited to consider both options and decide, as appropriate. The consequential amendments to SPs 961 and 962 are based upon the actual wording of these SPs in amendment 42-24 of the IMDG Code and submitted in the annex in section 3, where new text is underlined and deleted text is struck-out.

Action requested of the Sub-Committee

11 The Sub-Committee is invited to consider the proposals in paragraph 10 and take action, as appropriate.

ANNEX

PROPOSALS FOR AMENDMENTS

1 Proposal for a new special provision 9xx – option 1

The consignor of a vehicle shall assess that the vehicle is safe for transport. A vehicle shall not be consigned for transport, when a component or installed article is on fire, when it shows signs of leakage of fuel and other operating liquids or has obvious or suspected damage to electric equipment or supplemental restraint systems. Damage is particularly suspected when a recent incident with possible impacts on the safety of such equipment has not been evaluated.

Batteries subject to special provision 376 shall be removed unless otherwise authorized by the competent authority.

Vehicles that are classified as waste according to the applicable regulations in the State of dispatch are not allowed for transport unless otherwise authorized by the competent authorities in the port State of departure, flag State and port State of arrival.

Note: Operating liquids include but are not limited to brake fluid, anti-freeze liquid, battery acid and coolant liquid. Electric equipment includes but is not limited to batteries of any kind and board electric. Supplemental restraint systems include but are not limited to airbags and belt tensioners.

The extent of the assessment to ensure transport safety and required by the consignor depends on the history of the vehicle and may be different for:

- .1 a new vehicle which has never been owned, except by a manufacturer, distributor or dealer, where the end of line inspection by the manufacturer could be sufficient;
- .2 for a vehicle which is registered to a private person or an economic operator and accompanied by a driver, where a visual inspection of the vehicle and appropriate reaction to warnings on the control panel is necessary; or
- .3 for a vehicle which is no longer (able to be) registered in the State of dispatch and not classified as waste, where the use of a comprehensive checklist is most appropriate, to identify safety-related damages or defects and to ensure the transport safety of the vehicle. For this purpose, following items should be checked in particular:
 - .1 leakage of fuel or operating liquids;
 - .2 signs of physical damage, such as deformation of the vehicle in safety relevant areas or cracks in a fuel tank, compressed gas cylinder, accumulator or any other component or article designed to contain dangerous substances;
 - .3 suspected damage to battery or electric equipment or supplemental restraint systems, even when not indicated by a warning signal on the control panel; and
 - .4 previous accidents or non-authorized constructive changes.

2 Proposal for a new special provision 9xx – option 2

A vehicle must be safe for transport when consigned for transport. For the purpose of this special provision, a vehicle shall not be consigned for transport, when it:

- .1 shows signs of leakage of fuel or other operating liquids;
- .2 has obvious or suspected damage to any kind of battery;
- .3 shows any other obvious damage or defect which renders the vehicle not safe for transport.

In the case of an evaluated damage or defect which renders the vehicle not safe for transport, the relevant component shall be removed or otherwise brought in a transport safe status (e.g. disconnect cables, cover terminals with plastic caps). The measures taken to ensure the transport safety of a vehicle shall again be evaluated regarding their effectiveness.

Batteries subject to special provision 376 shall be removed unless otherwise authorized by the competent authority.

Vehicles that are classified as waste according to the applicable waste regulations in the country of dispatch are not allowed for transport unless otherwise authorised by the competent authority.

Note: In assessing the transport safety of a vehicle, an assessment or evaluation should be performed which may include or consider, but is not limited to the following criteria:

- .1 acute hazard, such as fire, smoke, vapour or gas;
- .2 signs of physical damage, such as deformation of the vehicle in safety relevant areas;
- .3 leakage of fuel or operating liquids from the battery, engine, fuel cell, fuel tank, compressed gas cylinder, accumulator or any other component; Operating liquids include but are not limited to brake fluid, anti-freeze liquid, battery acid and coolant liquid;
- .4 signs of damage of any kind of battery or electronic components including board electric;
- .5 relevant warning signals on the instrument panel;
- .6 the use or misuse of the vehicle (e.g. previous accidents or non-authorized constructive changes);
- .7 safety of dangerous goods and other integral components in the vehicle as described in special provision 388 (e.g. airbags, fire extinguisher).

The extent of the assessment to ensure transport safety depends on the history of the vehicle and may be performed in different ways, e.g.:

- .1 use of a comprehensive checklist for vehicles that recently were involved in accidents, no longer are registered in the country of dispatch, but not classified as waste, vehicles with constructive changes etc.;
- .2 end of line inspection by the manufacturer, dealer or other commercial businesses based on a quality management system, e.g. vehicles from production, refurbishment or repair;
- .3 use of the warning signals on the instrument panel and check of engine compartment for vehicles which are registered to a private person or an economic operator and accompanied by a driver, e.g. on Ro-PAX vessels.

3 Consequential amendments to SP961 and SP962

SP 961 Vehicles which are safe for transport (see SP9xx) are not subject to the provisions of this Code, other than those in P912, SP388 and SP977 when applicable, if any of the following conditions are met:

1 vehicles are stowed on the vehicle, special category and ro-ro spaces or on the weather deck of a ro-ro ship or a cargo space designated by the Administration (flag State) in accordance with SOLAS 74, chapter II-2, regulation 20 as specifically designed and approved for the carriage of vehicles, ~~and there are no signs of leakage from the battery, engine, fuel cell, compressed gas cylinder or accumulator, or fuel tank when applicable.~~ When packed in a cargo transport unit the exception does not apply to container cargo spaces of a ro-ro ship;

2 vehicles powered solely by a flammable liquid fuel with a flashpoint of 38°C or above, there are no leaks in any portion of the fuel system, the fuel tank(s) contains 450 L of fuel or less, installed batteries are protected from short-circuit, in case of disconnected cables, the terminals are protected by caps;

3 vehicles powered solely by a flammable liquid fuel with a flashpoint less than 38°C the fuel tank(s) are empty, installed batteries are protected from short circuit, in case of disconnected cables, the terminals are protected by caps; vehicles are considered to be empty of flammable liquid fuel when the fuel tank has been drained and the vehicles cannot be operated due to a lack of fuel. Engine components such as fuel lines, fuel filters and injectors do not need to be cleaned, drained or purged to be considered empty. The fuel tank does not need to be cleaned or purged;

4 vehicles powered solely by a flammable gas (liquefied or compressed), the fuel tank(s) are empty and the positive pressure in the tank does not exceed 2 bar, the fuel shut-off or isolation valve is closed and secured, installed batteries are protected from short circuit, in case of disconnected cables, the terminals are protected by caps.

5 vehicles solely powered by a wet or dry electric storage battery ~~or a sodium battery,~~ and the battery is protected from short circuit, in case of disconnected cables, the terminals are protected by caps;

6 vehicles solely powered by a sodium ion battery, and the battery is short-circuited in a way that the battery does not contain electrical energy. The short circuiting shall be easily identifiable (e.g. busbar between terminals).

A combination of conditions for exemption from .2 to .6 can also be used.

SP 962 Vehicles, not meeting the conditions of special provision 961 shall be assigned to class 9 and shall meet the following requirements:

1 vehicles identified as unsafe for transport by SP9xx shall not show signs of leakage from batteries, engines, fuel cells, compressed gas cylinders or accumulators, or fuel tank(s) when applicable shall not be loaded on board a vessel;

2 for flammable liquid powered vehicles the fuel tank(s) containing the flammable liquid shall not be more than one fourth full and in any case the flammable liquid shall not exceed 250 L unless otherwise approved by the competent authority;

3 for flammable gas-powered vehicles, the fuel shut-off valve of the fuel tank(s) shall be securely closed;

4 installed batteries shall meet the provisions of SP388 or SP977, as applicable, and be protected from damage, short circuit, and accidental activation during transport, in case of disconnected cables, all terminals shall be protected by caps;

The provisions of this Code relevant to marking, labelling, placarding and marine pollutants shall only apply to vehicles that are fully enclosed by packagings, crates or other means that prevent ready identification (e.g. overpack). [However, cargo transport units containing unpacked vehicles shall be placarded with class 9 placards, no other markings are required.]
