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Item 5 (a) of the provisional agenda

Proposals for amendments to RID/ADR/ADN: pending issues

Definitions for consolidation bin and overpack

Submitted by the Council on Safe Transportation of Hazardous Articles (COSTHA)*, **

Summary

Executive summary:	<p>The amount of dangerous goods transported directly to end consumers has increased in volume in recent years. However, the RID/ADR/ADN, as written, predominantly covers transportation between businesses, whether those businesses are manufacturers, shippers, retail locations or distribution sites.</p> <p>The direct delivery to an end consumer has historically been handled by parcel delivery companies, the postal services and the consumer themselves. To that end, the regulations have exceptions intended to limit the transport requirements for some of these types of shipments.</p>
Action to be taken:	<p>Introduce a new definition for "consolidation bin" and update the definition for "overpack" in RID/ADR/ADN.</p>
Related documents:	<p>Informal document INF.31 (COSTHA) of the spring 2022 session, documents ST/SG/AC.10/C.3/2022/27 and ST/SG/AC.10/C.3/2022/28, informal documents INF.20 (COSTHA) and INF.29 (RECHARGE) of the Autumn 2022 session and informal document INF.22 (COSTHA) of the Spring 2023 session.</p>

* A/77/6 (Sect.20), para. 20.76.

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Background

1. At the March 2022 session of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods (WP.15/AC.1), COSTHA presented informal document INF.31 for discussion purposes and gathered initial comments from delegations to prepare a working paper for the September 2022 session of the Joint Meeting. Based on comments and additional research, COSTHA presented an informal document for the spring 2023 session.
2. Working document ECE/TRANS/WP.15/AC.1/2022/28 proposed to either amend the definition of overpack or to amend 3.4.1.1, 3.5.4.3, and special provision 188 of the RID/ADR/ADN to account for the use of overpacks for packages of dangerous goods in limited quantities, in excepted quantities, and those containing small, excepted lithium batteries; and was based on the fact that there is a difference in the definition of "overpack" between the UN Model Regulations and RID/ADR/ADN. Informal document INF.22 of the spring 2023 session was prepared to introduce a concept used in other regulatory texts for potential ways to resolve the issue and provide clarity.
3. As previously mentioned, many carriers (especially parcel delivery and postal services) use a handling device (i.e., bag, tote, bin, etc.) during last mile deliveries. While such handling devices/bags increase the overall safety of these parcels in transport by providing yet another level of containment and protection, they are used mostly to facilitate the carriage of multiple parcels by organizing them in the delivery truck. These "bags" are then unloaded at different stops along a delivery route. Similar bags are utilized in other operations such as deliveries by bike and hand delivery; postal services and other delivery operations involving the hand carriage of parcels will also often utilize bags. Some competent authorities who have derogations on file to except these types of bags from overpack markings, while others follow the RID/ADR/ADN to strictly interpret the markings as being necessary during all legs of the transportation, including the last mile.

Justification

4. It must once again be highlighted that the contents of the bags are constantly changing as the drivers deliver individual parcels. Bags often contains both marked (dangerous) and unmarked (non-dangerous) goods, and drivers do not always know when the final marked dangerous goods consignment is removed from any one of the bags contained within a last mile delivery vehicle during the duration of a run. According to the ADR, once the last consignment containing dangerous goods is removed, the marking required for an overpack (and/or LQ, lithium battery mark) must be removed, since it is no longer applicable or appropriate. Not removing the marking would communicate a hazard that does not exist and violate the ADR requirements. This places additional pressure and responsibility on the driver to constantly watch the content of the bags by looking through the bags and handling the packages to verify compliance (the drivers do not have the space or time to safely carry out this function after every delivery throughout the run) and remove the marks from the handling device as appropriate. COSTHA sees the primary duty and focus of delivery employees on safe navigation, handling, and delivery of the packages to the end consumer.

Definition of overpack

5. In the Model Regulations, an overpack means an enclosure used by a single consignor to contain one or more packages and to form one unit for convenience. Examples of overpacks are a number of packages either:
 - (a) Placed or stacked onto a load board such as a pallet and secured by strapping, shrink wrapping, stretch wrapping, or other suitable means; or
 - (b) Placed in a protective outer packaging such as a box or crate.

6. In RID/ADR/ADN, an overpack means an enclosure used (by a single consignor in the case of radioactive material) to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage. Examples of overpacks:

(a) A loading tray such as a pallet, on which several packages are placed and stacked and secured by a plastics strip, shrink or stretch wrapping or other appropriate means; or

(b) An outer protective packaging such as a box or a crate.

7. In the International Civil Aviation Organization (ICAO) Technical Instructions, the International Maritime Dangerous Goods (IMDG Code), the United States Department of Transportation's Hazardous Material Regulations (US DOT 49 CFR) and in Transport Canada's Transportation of Dangerous Goods Regulations, the definition of an overpack is the same as in the Model Regulations.

Consolidation bins

8. The United States Department of Transportation's Hazardous Material Regulations (US DOT 49 CFR) and Transport Canada's Transportation of Dangerous Goods (TDG) Regulations have utilized a regulatory term, consolidation bin, and have included requirements associated with the use of the bins.

9. Within paragraph 172.404(c) of 49 CFR, consolidation bins used by a single motor carrier:

(a) must be reusable, made of materials such as plastic, wood, or metal and have a capacity of 1.8 m³ or less;

(b) must be properly blocked and braced within the transport vehicle; and

(c) may only be transported by a single motor carrier, or on railcars transporting such vehicles; and

(d) the outside of the consolidation bin must be labelled as required for each class of hazardous material contained therein, unless labels representative of each hazardous material are visible from the outside of the consolidation bin. Alternatively, labelling of a consolidation bin is not required if the consolidation bin is clearly and legibly marked on a tag or fixed display device with an indication of each hazard class or division contained within the bin.

10. Additionally, dangerous goods packages placed in the consolidation bin:

(a) must be marked and labelled as required by the regulations;

(b) must not require segregation;

(c) may only be placed within the consolidation bin, and the bin be loaded on a motor vehicle, by an employee of a single motor carrier; and

(d) must be secured within the consolidation bin by other packages or by other suitable means in such a manner as to prevent shifting of, or significant relative motion between, the packages that would likely compromise the integrity of any package.

11. Within Section 1.4, Definitions, of Transport Canada's TDG Regulations, a consolidation bin is defined as a bin that is used in a road vehicle:

"(a) to secure one or more small means of containment so that, under normal conditions of transport, they will not shift in a way that might compromise their integrity; and

(b) to allow small means of containment to be added or removed during transport."

Note: According to paragraph (b) above, a consolidation bin allows users to add or remove small means of containment during transport (unlike an overpack). A typical user of consolidation bins would be a delivery service that makes many deliveries in one route.

12. Part 4, Dangerous Goods Safety Marks, of the TDG Regulations contains the marking and labelling requirements. Section 4.10.2, Safety Marks on a Consolidation Bin, states that:

"When a label is required by this Part to be displayed on a small means of containment that is inside a consolidation bin, an indication of each class of dangerous goods contained in the consolidation bin must be clearly and legibly marked on a tag or fixed display device that is attached to the bin."

13. Part 5, Means of Containment, of the TDG Regulations contains the packaging requirements. Section 5.18 contains further details on the use of consolidation bins as follows:

"A person must not use a consolidation bin to handle or transport dangerous goods in a road vehicle unless

- (a) the capacity of the consolidation bin is less than or equal to 1.8 m³ (64 cubic feet);
- (b) the consolidation bin is reusable and constructed of plastic, wood or metal; and
- (c) the consolidation bin is blocked or braced within the road vehicle."

14. Similarly, the ICAO Technical Instructions, when dangerous goods packages which require a hazard label are loaded into Unit Load Devices (ULDs), each ULD must display an identification tag on its exterior indicating that dangerous goods are contained within the ULD.

15. COSTHA believes that the requirements within 49 CFR and the TDG Regulations for consolidation bins, and those in the ICAO Technical Instructions for unit load devices (ULDs), present a possible way forward for introducing a definition of a carrier specific handling device that would be subject to appropriate hazard communication requirements.

Proposal 1

16. In 1.2.1 of RID/ADR/ADN add a new definition for consolidation bin as follows:

"Consolidation bin means an enclosure used by a single carrier to secure one or more dangerous goods packages so that, under normal conditions of transport, they will not shift in a way that might compromise their integrity.

- (a) Consolidation bins:
 - (i) must be reusable, made of materials such as plastic, wood, or metal and have a capacity of 1.8 m³ or less;
 - (ii) must be properly blocked and braced within the wagon/vehicle; and
 - (iii) may allow small means of containment to be added or removed during carriage.
- (b) Dangerous goods packages placed in a consolidation bin:
 - (i) must be marked and labelled as required by RID/ADR/ADN;
 - (ii) must not require segregation; and
 - (iii) may only be placed within the consolidation bin, and the bin be loaded in a wagon/vehicle, by an employee of a single carrier."

Proposal 2

17. In 1.2.1 of RID/ADR/ADN amend the definition of overpack to harmonize with the one found in the Model Regulations as follows:

"Overpack means an enclosure used (by a single consignor in the case of radioactive material) to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage. Examples of overpacks:

- (a) A loading tray such as a pallet, on which several packages are placed and stacked and secured by a plastics strip, shrink or stretch wrapping or other appropriate means; or
- (b) An outer protective packaging such as a box or a crate."

Proposal 3

18. Amend 3.4.11 and 3.5.4.3 (Use of overpacks for dangerous goods in limited and excepted quantities) of RID/ADR/ADN by adding the following text after the last paragraph (new text underlined):

"When packages are placed in a consolidation bin, the limited (excepted) quantities mark shall either be clearly visible or be reproduced on the outside of the consolidation bin. For land transport only, this marking requirement does not apply if the consolidation bin contains no more than [XX] packages of dangerous goods packed in limited (excepted) quantities."

19. Amend special provision 188 of RID/ADR/ADN by adding the following text after the last sentence of paragraph (f) (new text underlined):

"188 Cells and batteries offered for carriage are not subject to other provisions of RID/ADR/ADN if they meet the following:

(a) - (e)

(f) ...

When packages are placed in an overpack, the lithium battery mark shall either be clearly visible or be reproduced on the outside of the overpack and the overpack shall be marked with the word "OVERPACK". The lettering of the "OVERPACK" mark shall be at least 12 mm high.

When packages are placed in a consolidation bin, the lithium battery mark shall either be clearly visible or be reproduced on the outside of the consolidation bin. For land transport only, this marking requirement does not apply if the consolidation bin contains no more than [XX] packages of small lithium batteries packed in accordance with this special provision.

..."

Annex

Comparison between "Overpack" and "Consolidation bin"

	<i>Overpack</i>	<i>Consolidation bin</i>
Purpose	Based on the UN definition, this term is primarily intended to cover shippers and their responsibilities.	Similar to a ULD, consolidation bins are utilized for the convenience of carriers. The use of a different term allows for specific and necessary requirements to be included based on scope and applicable limitations.
Definition	An overpack is an enclosure used (by a single consignor in the case of radioactive material) to contain one or more packages, consolidated into a single unit easier to handle and stow during carriage.	A consolidation bin is used in a road vehicle to secure one or more dangerous packages so that, under normal conditions of transport, they will not shift in a way that might compromise their integrity. The use of a consolidation bin also allows packages to be added or removed during transport.
Applicability	Any enclosure of one or more packages.	Limited to transportation by a single motor carrier, or on railcars transporting such vehicles (US specific limitation). This applicability could also require the bin to be prepared by the carrier.
Marking and Labelling	Marked "Overpack" with representative marks/labels replicated as necessary. Marks must be updated as appropriate during transportation.	Labelling is only required when labels are present on packages in the consolidation bin (similar to requirements for ULD within ICAO TI); a tag may be used instead of labels. Requirements would need to be developed for when labels are required to be removed or not (i.e., during transportation)