



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)  
WORKING GROUP MEETING (DGP-W/23)**

**Rio de Janeiro, Brazil, 15 to 19 May 2023**

- Agenda Item 2: Managing air-specific safety risks and identifying anomalies (REC-A-DGS-2025)**
- 2.1: Develop proposals, if necessary, for amendments to Annex 18 — *The Safe Transport of Dangerous Goods by Air***
  - 2.2: Develop proposals, if necessary, for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2025-2026 Edition**

**PROPOSAL TO AMEND THE DEFINITION OF “UNIT LOAD DEVICE”**

(Presented by D. Brennan)

**SUMMARY**

This working paper proposes changes to the definition of “unit load device” to make it specific to “aircraft” unit load devices and to modernize the definition by deleting reference to “igloo” on a pallet as these are no longer in use in commercial aviation.

Action by the DGP-WG is in paragraph 2.

**1. INTRODUCTION**

1.1 Both Annex 18 and the Technical Instructions include a definition for “unit load device” (ULD), which reads as follows:

**Unit load device.** Any type of freight container, aircraft container, aircraft pallet with a net or aircraft pallet with a net over an igloo.

*Note 1.— An overpack is not included in this definition.*

*Note 2.— A freight container for radioactive material is not included in this definition (see 2;7.1.3).*

1.2 This definition has been in Annex 18 and the Technical Instructions almost unchanged since Annex 18 and the Technical Instructions became effective in 1984. However, the wording of the definition does not reflect current ULD technology and is also not specific to “aircraft” ULDs that are certified units that interface with the aircraft cargo loading system.

1.3 The use of “igloos” in conjunction with an aircraft pallet with a net dates back to early narrow-body freighters such as B707 and DC-8 aircraft where the igloo would form the contour for the main deck, with the cargo being loaded inside the igloo placed on the pallet and then a net was placed over the top of the igloo and attached to the pallet to restrain the entire contents of the pallet being the cargo and igloo.

1.4 However, with the introduction of wide-body freighters such as B747, B767, DC-10 and MD-11 aircraft, the use of igloos was discontinued and instead the cargo loaded onto a main deck pallet was built to achieve the contour required to maximize the utilization of the volume of the main deck.

1.5 Based on this, the reference to “aircraft pallet with a net over an igloo” no longer has relevance and should be deleted from the definition of unit load device.

1.6 As identified, the current definition of “unit load device” includes “any type of freight container” as well as then going on to include “aircraft container” and “aircraft pallet with a net”.

1.7 However, in looking at the provisions in the Technical Instructions where ULDs are referred to, particularly in Part 7 — Operator’s responsibilities, it appears that the only ULDs that are being addressed are the aircraft container and the aircraft pallet with a net. This is an important distinction as these devices are subject to specific regulatory requirements for design, testing and maintenance to ensure that the aircraft containers and aircraft pallets with nets ensure that the load in the cargo compartment is correctly restrained in the aircraft throughout all phases of flight.

1.8 On the other hand, “any type of freight container” has no defined standards. These devices are not aircraft equipment and will not interface with the aircraft cargo loading system. The issue here is that there are “freight containers” that are being offered for transport that are not aircraft containers, they are not designed to interface with the aircraft loading system, but that are marked with a “ULD code”.

1.9 The opinion of the author is that the provisions in the Technical Instructions that permit certain dangerous goods, such as dry ice and consumer commodities to be offered in a ULD and for the operator to apply a dangerous goods identification tag to the ULD when the ULD contains dangerous goods bearing a class hazard label applies only to “aircraft” ULDs and not to “freight containers”, which appear to be an overpack and therefore must bear all required marks and labels and the “overpack” mark unless marks and labels representative of all dangerous goods in the overpack are visible.

1.10 Based on the above, it is proposed to revise the definition of “unit load device” to remove reference to “any type of freight container” in Annex 18 and the Technical Instructions.

## 2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to agree to the amendments to Annex 18 and the Technical Instructions as shown in the appendices to this working paper.

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APPENDIX A

PROPOSED AMENDMENT TO ANNEX 18

INTERNATIONAL STANDARDS  
AND RECOMMENDED PRACTICES

CHAPTER 1. DEFINITIONS

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*Aircraft Unit load device (ULD).* ~~Any type of freight container.~~ A device for grouping and restraining cargo, mail and baggage for air transport. It is either an aircraft container, or a combination of an aircraft pallet with a and an aircraft pallet net, or aircraft pallet with a net over an igloo. An aircraft ULD is designed to be directly restrained by the aircraft cargo loading system (CLS).

*Note 1.— An overpack is not included in this definition.*

*Note 2.— A freight container for radioactive material is not included in this definition (see Part 2, paragraph 7.1.3 of the Technical Instructions).*

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APPENDIX B

PROPOSED AMENDMENT TO PART 1 OF THE TECHNICAL INSTRUCTIONS

Part 1

GENERAL

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Chapter 3

GENERAL INFORMATION

*Parts of this Chapter are affected by State Variation BE 1; see Table A-1*

3.1 DEFINITIONS

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**Freight container.** ~~See unit load device~~ the definition of freight container for radioactive material, in 2;7.1.3.

*Note.*— ~~For the definition of freight container for radioactive material, see 2;7.1.3.~~

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**Aircraft ~~U~~unit load device.** ~~Any type of freight container. A device for grouping and restraining cargo, mail and baggage for air transport. It is either an aircraft container, or a combination of an aircraft pallet with a and an aircraft pallet net or aircraft pallet with a net over an igloo. An aircraft ULD is designed to be directly restrained by the aircraft cargo loading system (CLS).~~

*Note 1.*— ~~An overpack is not included in this definition.~~

*Note 2.*— ~~A freight container for radioactive material is not included in this definition (see 2;7.1.3).~~

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