



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/19)**

Montréal, 1 to 5 April 2019

Agenda Item 2: Managing air-specific safety risks and identifying anomalies

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 2021-2022 Edition

**PROVISIONS FOR MOBILITY AIDS POWERED BY NICKEL-METAL HYDRIDE
BATTERIES**

(Presented by D. Brennan)

SUMMARY

This working paper proposes a revision to Part 7;2.13 and Table 8-1 to reintroduce requirements for mobility aids powered by nickel-metal hydride batteries.

Action by the DGP-WG: The DGP-WG is invited to consider the revisions as shown in the appendix to this working paper. The DGP-WG is also invited to consider if this change, if adopted, should be included in a corrigendum to the 2019-2020 Edition of the Technical Instructions.

1. INTRODUCTION

1.1 The provisions for battery-powered mobility aids were revised over the last biennium to separate out the provisions for which operators are responsible, which were incorporated into Part 7 as a new Part 7;2.13, for those that apply to passengers in Part 8, Table 8-1.

1.2 In doing this the provisions in Table 8-1 were simplified and are now grouped under item 4) in Table 8-1 rather than being separated into different items based on the battery type.

1.3 However, in adopting these changes the references to batteries which comply with Special Provision A123 or A199 were lost and the provisions in Part 7;2.13 and in Table 8-1, 4) only refer to non-spillable wet batteries, spillable batteries and lithium ion batteries.

1.4 The issue here is that the absence of any reference to dry batteries (A123) or nickel-metal hydride batteries (A199) raises doubt as to whether these battery types are permitted to be carried when installed in a mobility aid.

1.5 To address this gap, it is proposed to reinstate reference to batteries which comply with Special Provision A123 or A199 into Part 7;2.13.1 and into Table 8-1, item 4).

1.6 In preparing this working paper it was also identified that Table 8-1 makes no reference to spillable wet cell batteries, although these are addressed in Part 7;2.13.2 for the operator's requirements. Again, the absence of a direct reference to spillable batteries being permitted in mobility aids in Table 8-1, item 4) raises questions as Part 8;1.1.1 a) states that only dangerous goods permitted in accordance with Table 8-1 are permitted in passenger baggage.

1.7 To address this it is proposed to include a direct reference to mobility aids powered by spillable batteries into Table 8-1, item 4).

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to consider the revisions as shown in the appendices to this working paper.

2.2 If the proposal in 2.1 is agreed, the DGP-WG is also invited to consider if these changes should be adopted in a corrigendum to the 2019-2020 Edition of the Technical Instructions.

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APPENDIX A

PROPOSED AMENDMENT TO PART 7 OF THE TECHNICAL INSTRUCTIONS

Part 7

OPERATOR'S RESPONSIBILITIES

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Chapter 2

STORAGE AND LOADING

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2.13 LOADING OF BATTERY-POWERED MOBILITY AIDS CARRIED UNDER THE PROVISIONS OF PART 8

2.13.1 Loading of ~~non-spillable wet~~ battery-powered mobility aids powered by non-spillable wet batteries or batteries which comply with Special Provision A123 or A199

2.13.1.1 An operator must secure, by use of straps, tie-downs or other restraint devices, a battery-powered mobility aid with installed batteries. The mobility aid, the batteries, electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo.

2.13.1.2 An operator must verify that:

a) the passenger has confirmed that the battery is:

- 1) a non-spillable wet battery that complies with Special Provision A67; or
- 2) a dry battery that complies with Special Provision A123; or
- 3) a nickel-metal hydride battery that complies with Special Provision A199.

b) the battery terminals are protected from short circuits (e.g. by being enclosed within a battery container);

c) the battery is either:

- 1) securely attached to the mobility aid and the electrical circuits are isolated following the manufacturer's instructions; or
- 2) removed by the user, if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions.

d) a maximum of one spare battery is carried per passenger.

2.13.1.3 An operator must ensure that any battery(ies) removed from the mobility aid and any spare battery are carried in strong, rigid packagings, protected from short circuit and stowed in the cargo compartment.

2.13.1.4 The operator must inform the pilot-in-command of the location of any mobility aids with installed batteries, removed batteries and spare batteries.

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APPENDIX B

PROPOSED AMENDMENT TO PART 8 OF THE TECHNICAL INSTRUCTIONS

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

Chapter 1

PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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Table 8-1. Provisions for dangerous goods carried by passengers or crew

<i>Dangerous Goods</i>	<i>Location</i>		Approval of the operator(s) is required	<i>Restrictions</i>
	Checked baggage	Carry-on baggage		
Batteries				
...				
4) Battery-powered mobility aids (e.g. wheelchairs) <u>powered by:</u> – <u>spillable batteries;</u> – <u>non-spillable wet batteries;</u> – <u>dry batteries;</u> – <u>nickel-metal hydride batteries; or</u> – <u>lithium ion batteries</u>	Yes	(see d))	Yes	a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg); b) the passenger should make advance arrangements with each operator and provide information on the type of battery installed and on the handling of the mobility aid (including instructions on how to isolate the battery); <u>c) in the case of a dry battery or nickel-metal hydride battery, each battery must comply with Special Provision A123 or A199, respectively;</u> e d) in the case of a non-spillable wet battery: i) each battery must comply with Special Provision A67; and ii) a maximum of one spare battery may be carried per passenger; d e) in the case of a lithium ion battery: i) each battery must be of a type which meets the requirements of each test in the <i>UN Manual of Tests and</i>

<i>Dangerous Goods</i>	<i>Location</i>		Approval of the operator(s) is required	<i>Restrictions</i>
	Checked baggage	Carry-on baggage		
				<p><i>Criteria</i>, Part III, subsection 38.3;</p> <p>ii) when the mobility aid does not provide adequate protection to the battery:</p> <ul style="list-style-type: none"> — the battery must be removed in accordance with the manufacturer's instructions; — the battery must not exceed 300 Wh; — the battery terminals must be protected from short circuit (by insulating the terminals, e.g. by taping over exposed terminals); — the battery must be protected from damage (e.g. by placing each battery in a protective pouch); and — the battery must be carried in the cabin; <p>iii) a maximum of one spare battery not exceeding 300 Wh or two spare batteries not exceeding 160 Wh each may be carried. Spare batteries must be carried in the cabin.</p>
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