



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/16)**

Montreal, 17 to 21 October 2016

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)* for incorporation in the 2019-2020 Edition

2.8: Part 8 — Provisions Concerning Passengers and Crew

WATT-HOUR FOR LITHIUM BATTERIES POWERING MOBILITY AIDS

(Presented by Bruno Carrara)

SUMMARY

This working paper proposes discussion on the watt-hour limits applicable to lithium ion batteries powering mobility aids.

Action by the DGP-WG: The DGP is invited to discuss the current requirements of Table 8-1, Item 7.

1. INTRODUCTION

1.1 Table 8-1, Item 7) establishes restrictions for mobility aids powered by lithium ion batteries carried by passengers. In accordance with the text, the battery must not exceed 300 Wh and it is possible to carry one spare battery not exceeding 300 Wh or two spares not exceeding 160 Wh.

1.2 On the one hand, the limits applicable to mobility aids are greater than the limits applicable to other electronic devices, normally 100 Wh or 160 Wh. On the other hand, some mobility aids are powered by batteries greater than 300 Wh.

1.3 After the 2016 Paralympic Games, the Brazilian Civil Aviation Authority (CAA) was questioned by the Rio 2016 Committee about the reason some airlines stopped a number of people in wheelchairs. The wheelchair is connected to a kind of extender which turns it into a tricycle powered by lithium ion batteries. The battery has a Watt-hour rating of 360 Wh and is above the limits established by the Technical Instructions. Searching the internet we found some other types of wheelchair extenders powered by lithium ion batteries with a Watt-hour rating under 300 Wh and others with a rating even greater than 360 Wh. Pictures and more information are presented in the appendix.

1.4 Technology is developing fast and probably other type of batteries with greater Watt-hour ratings will emerge in the next few years. It is understandable that mobility aids are necessary for disabled people and is covered by Annex 9 — *Facilitation*; however, the usage of lithium ion batteries with greater Watt-hour ratings in mobility aids does not eliminate the risk of these batteries.

1.5 This working paper proposes discussion on the current requirements related to the Watt-hour rating for lithium ion batteries powering electronic devices carried by passengers and crew members, specially mobility aids.

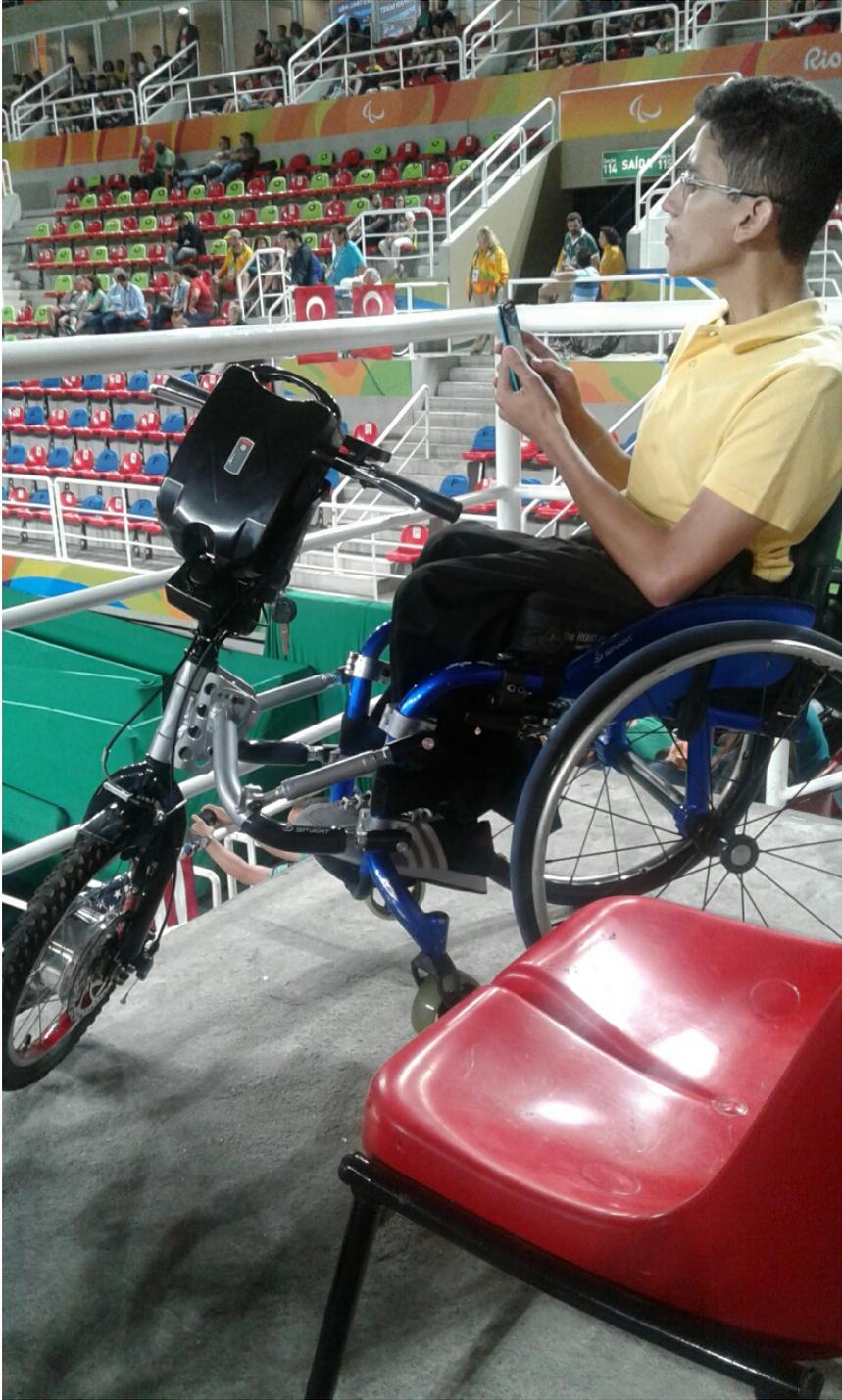
2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to discuss the current requirements applicable to lithium ion batteries used in mobility aids presented in Table 8-1 of the Technical Instructions.

APPENDIX

MOBILITY AIDS POWERED BY LITHIUM ION BATTERIES WITH 360 WH







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O melhor de tudo, sem sair de sua cadeira e seu bom posicionamento habitual, podendo ser facilmente removido a hora e a tempo para entrar em locais internos ou ser transportada no carro, ônibus, avião e outros mais.

<p>Peso do equipamento: 13 Kg Velocidade máxima: 25 Km Tolerância de peso: 120 Kg Cubo motor: XOFO 250W Bateria: Lítio 36v - 10Ah. Carregador: Bi Volt 36v - 2A Freio: freio a disco + V-Brake duplo acionado por manetes. Pneu: 16"x1.75" Levorin, 65 Lbs.</p>	<p>Acoplagem: Abraçadeiras de alumínio com pino receptor (para fixar na cadeira), com 04 "braços" para ajuste de posicionamento milimétrico com terminais de acoplagem de rápida remoção. Tempo de recarga: 4-6 horas. Display: LED-Módulo Controlador Eletrônico de carga de bateria e PAS. (Assistente de Aceleração) Pintura: Eletrostática nas cores preto e prata. Opcionais: Motor 350w-Bolsa de viagem.</p>
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48v – 11Ah

<http://loja.kitlivre.com/kit-livre-pro-elite-para-cadeira-de-rodas-quickie>



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