International Civil Aviation Organization

DGP/24-WP/40
29/8/13

WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-FOURTH MEETING

Montréal, 28 October to 8 November 2013

Agenda Item 5.1: Review of provisions for the transport of lithium batteries

VEHICLES VERSUS EQUIPMENT AND THE APPLICATION OF SPECIAL PROVISION A21

(Presented by D. Brennan)

SUMMARY

This working paper proposes a revision to the wording of Special Provision A21 to remove reference to items such as e-bikes and wheelchairs being considered as "vehicles".

Action by the DGP: The DGP is invited to revise Special Provision A21 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 Special Provision A21, which applies to UN 3171, **Battery-powered equipment** and **Battery-powered vehicle** was revised in the 2013-2014 Edition of the Technical Instructions based on revisions to Special Provision 240 in the UN Model Regulations.

1.2 The basis for the changes to the wording of SP 240 in the UN Model Regulations was to make some differentiation between equipment and vehicles and the assignment to UN 3171 where the equipment is powered by lithium batteries.

1.3 The original proposal to the UN Subcommittee simply proposed to separate vehicles, which would be assigned to UN 3171, even when lithium battery powered and equipment, which when powered by lithium batteries would be assigned to UN 3091 or UN 3481, as applicable.

1.4 Based on an INF paper raising concerns at the proposals in the original paper and the subsequent discussions there was a lunch-time working group that met to develop a compromise position. The end result being the wording in Special Provision A21.

1.5 The issue with the wording in Special Provision A21 is in the examples that are given on what may be considered as a “vehicle” and therefore assigned to UN 3171 and consequently prepared in accordance with Packing Instruction 952; these examples include e-bikes and wheelchairs.

1.6 Based on recent experience and questions being raised by airlines and ground handling agents it is believed that it is inappropriate for such items to be considered as “vehicles” for the purposes of the Technical Instructions.

1.7 While there have been some changes to Packing Instruction 952 to bring in specific reference to Part 2;9.3, Packing Instruction 952 does not contain the net mass limits or the packing requirements that are provided for in Packing Instructions 967 and 970 for lithium batteries contained in equipment. For vehicles such as cars and motor bikes, and if applicable vessels and aircraft, this is probably quite reasonable as there is an expectation that these vehicles, when licenced or approved for use will have undergone some form of crash or certification testing and the lithium battery will be afforded a degree of protection by being installed in the vehicle.

1.8 The same, however cannot be said for items such as e-bikes, wheelchairs, battery powered skateboards and surfboards where the degree of protection for the lithium battery may be non-existent, or at best limited and there is no, or minimal regulatory approval process.

1.9 As such it is proposed to amend Special Provision A21 to limit vehicles containing lithium batteries to those that have received regulatory approval from the appropriate national authority for road, waterway/maritime and aviation. It is also proposed to delete reference to battery-assisted bicycles, wheelchairs and lawn tractors as examples of vehicles and to move them to being examples of equipment.

1.10 The proposal in this paper has also been submitted to the 44th meeting of the UN Subcommittee that meets in late November of this year proposing an equivalent change to Special Provision 240 in the 18th revised edition of the UN Model Regulations. However, as any change for the 19th revised edition UN Model Regulations won’t become effective until 1 January 2017, the panel is requested to consider this proposal for implementation in advance of the UN.

2. ACTION BY THE DGP

2.1 The DGP is invited to revise Special Provision A21 as shown in the appendix to this working paper.

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APPENDIX

PROPOSED AMENDMENT TO PART 3 OF THE TECHNICAL INSTRUCTIONS

Part 3

DANGEROUS GOODS LIST, SPECIAL PROVISIONS AND LIMITED AND EXCEPTED QUANTITIES

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Chapter 3

SPECIAL PROVISIONS

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Table 3-2. Special provisions

TIs	*UN*	
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A21		This entry only applies to vehicles powered by wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries and equipment powered by wet batteries or sodium batteries which are transported with these batteries installed. For the purpose of this special provision, vehicles are self-propelled apparatus designed to carry one or more persons or goods that have received approval from the appropriate national authority for road, waterway/maritime or aviation. Examples of such vehicles are electrically-powered cars, motorcycles, scooters, three- and four-wheeled vehicles or motorcycles~~, battery assisted bicycles, wheelchairs, lawn tractors,~~ boats and aircraft. Examples of equipment are lawnmowers, cleaning machines , e-bikes, battery-powered mobility aids or model boats and model aircraft. Equipment powered by lithium metal batteries or lithium ion batteries must be consigned under the entries UN 3091 **Lithium metal batteries contained in equipment** or UN 3091 **Lithium metal batteries packed with equipment** or UN 3481 **Lithium ion batteries contained in equipment** or UN 3481 **Lithium ion batteries packed with equipment**, as appropriate. Vehicles or equipment that also contain an internal combustion engine must be consigned under the entries UN 3166 **Engine, internal combustion, flammable gas powered** or UN 3166 **Engine, internal combustion, flammable liquid powered** or UN 3166 **Vehicle, flammable gas powered** or UN 3166 **Vehicle, flammable liquid powered**, as appropriate. Hybrid electric vehicles powered by both an internal combustion engine and wet batteries, sodium batteries, lithium metal batteries or lithium ion batteries, transported with the battery(ies) installed, must be consigned under the entries UN 3166 **Vehicle, flammable gas powered** or UN 3166 **Vehicle, flammable liquid powered**, as appropriate. Vehicles or equipment powered by a fuel cell engine must be consigned under the entries UN 3166 **Vehicle, fuel cell, flammable gas powered** or UN 3166 **Vehicle, fuel cell, flammable liquid powered**, or UN 3166 **Engine, fuel cell, flammable gas powered** or UN 3166 **Engine, fuel cell, flammable liquid powered**, as appropriate.

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