International Civil Aviation Organization

DGP/26-WP/37
1/9/17

WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SIXTH MEETING

Montréal, 16 to 27 October 2017

Agenda Item 6: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel:
6.3: Mitigating risks posed by the carriage of lithium batteries by air *(Job card DGP.003.01)*

TRANSPORT OF PEDS BY PASSENGERS AND CREW

(Presented by the Secretary)

SUMMARY

This paper presents a proposal to the DGP to amend the 2017-2018 Edition of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284). The amendment proposal originates from the second meeting of the multidisciplinary Cargo Safety Group (CSG) held in Paris from 19 to 21 July 2017. It addresses the safety impact of recent security restrictions on the carriage of portable electronic devices (PEDs).

Action by the DGP: The DGP is invited to consider whether PEDs carried by passengers or crew should be required to be carried in the cabin only and if so:

a) agree to the amendment proposed in Appendix A restricting all PEDs carried by passengers and crew to the cabin; or

b) agree to the amendment proposed in Appendix B restricting only larger PEDs to the cabin.

1. INTRODUCTION

1.1 The Dangerous Goods Panel (DGP) was informed during its working group meeting in April 2017 (DGP-WG/17, Montréal, 24 to 28 April 2017) of an informal briefing to Council on security restrictions adopted by some Member States, requiring passengers and crew to place large personal electronic devices (PEDs) in checked baggage on certain flights. At the time, ICAO recognized that this would result in greater numbers of PEDs powered by lithium batteries in cargo compartments than would have previously been the case.

1.2 Following that briefing, the ICAO Council established a multidisciplinary Cargo Safety Group (CSG) to address the potential impact on safety from those security measures. The CSG comprises of chairpersons from seven different panels as well as experts from relevant international organizations. It held its introductory meeting in June 2017 (Montréal, 1 to 2 June 2017) and a second meeting in July 2017 (Paris, 19 to 21 July 2017).

1.3 During the second meeting of the CSG, data from the Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) was presented which suggested that:

a) if PEDs were moved from the cabin to the cargo compartment, there would be a potential ten-fold increase in cargo fires which introduces risks and hazards that the existing aircraft fire suppression systems may not be equipped to safely manage;

b) there were additional risks posed by:

1) improperly packed PEDs in checked luggage by passengers; and

2) the combination of permitted dangerous goods in checked baggage such as laptops and aerosols.

1.4 One recommendation of the CSG was for the DGP to consider amending the Technical Instructions so that PEDs may only be transported in carry-on baggage unless approval to transport them in checked baggage is granted by the operator (see DGP/26-IP/1, paragraph 4 a)).

2. ACTION BY THE DGP

2.1 The DGP is invited to consider whether PEDs carried by passengers or crew should be permitted to be carried in the cabin only unless approval to carry in checked baggage is granted by the Operator and if so:

a) agree to the amendment proposed in Appendix A restricting all PEDs carried by passengers and crew to the cabin; or

b) agree to the amendment proposed in Appendix B restricting only larger PEDs to the cabin.

2.2 If the above amendments are agreed, guidance will need to be developed for operators granting approvals for passengers to place PEDs in checked baggage.

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APPENDIX A

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS RESTRICITING ALL PEDS CARRIED BY PASSENGERS AND CREW TO THE CABIN

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

Chapter 1

PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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1.1 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
Consumer articles						
. . .						
20) Portable electronic devices (such as watches, calculating machines, cameras, cellular phones, laptop computers, camcorders)						
Portable electronic devices containing lithium metal or lithium ion cells or batteries (articles containing lithium metal or lithium ion cells or batteries the primary purpose of which is to provide power to another device must be carried as spare batteries in accordance with the item below)	~~Yes~~No	Yes	Yes	No	No	a) carried by passengers or crew for personal use; b) ~~should~~ must be carried as carry-on baggage; c) each battery must not exceed the following: — for lithium metal batteries, a lithium content of 2 grams; or — for lithium ion batteries, a Watt-hour rating of 100 Wh;

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
						d) ~~if~~ devices ~~are~~ may be carried in checked baggage with the approval of the operator provided, at a minimum: — measures ~~must~~ are ~~be~~ taken to prevent unintentional activation and to protect the devices from damage; and — the devices ~~must be~~ are completely switched off (not in sleep or hibernation mode); and e) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
Spare batteries for portable electronic devices containing lithium metal or lithium ion cells or batteries	No	Yes	Yes	No	No	a) carried by passengers or crew for personal use; b) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); c) each battery must not exceed the following: — for lithium metal batteries, a lithium content of 2 grams; or — for lithium ion batteries, a Watt-hour rating of 100 Wh; and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
Portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh	~~Yes~~No	Yes	Yes	Yes	No	a) carried by passengers or crew for personal use; b) ~~should~~ must be carried as carry-on baggage; c) ~~if~~ devices ~~are~~ may be carried in checked baggage with the approval of the operator provided, at a minimum: — measures ~~must be~~ are taken to prevent unintentional activation and to protect the devices from damage; and — the devices ~~must be~~ are completely switched off (not in sleep or hibernation mode); and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
Spare batteries for portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh	No	Yes	Yes	Yes	No	a) carried by passengers or crew for personal use; b) no more than two individually protected spare batteries per person; c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
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APPENDIX B

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS RESTRICITING LARGER PEDS CARRIED BY PASSENGERS AND CREW TO THE CABIN

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

Chapter 1

PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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1.2 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
Consumer articles						
. . .						
20) Portable electronic devices (such as watches, calculating machines, cameras, cellular phones, laptop computers, camcorders)						
Portable electronic devices containing lithium metal or lithium ion cells or batteries (articles containing lithium metal or lithium ion cells or batteries the primary purpose of which is to provide power to another device must be carried as spare batteries in accordance with the item below)	~~Yes~~No	Yes	Yes	No	No	a) carried by passengers or crew for personal use; b) ~~should~~ must be carried as carry-on baggage; c) each battery must not exceed the following: — for lithium metal batteries, a lithium content of 2 grams; or — for lithium ion batteries, a Watt-hour rating of 100 Wh;

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
						d) ~~if~~ devices ~~are~~ may be carried in checked baggage with the approval of the operator provided, at a minimum: — measures ~~must~~ are ~~be~~ taken to prevent unintentional activation and to protect the devices from damage; and — the devices ~~must be~~ are completely switched off (not in sleep or hibernation mode); and e) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
Spare batteries for portable electronic devices containing lithium metal or lithium ion cells or batteries	No	Yes	Yes	No	No	a) carried by passengers or crew for personal use; b) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); c) each battery must not exceed the following: — for lithium metal batteries, a lithium content of 2 grams; or — for lithium ion batteries, a Watt-hour rating of 100 Wh; and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
Portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh	~~Yes~~No	Yes	Yes	Yes	No	a) carried by passengers or crew for personal use; b) ~~should~~ must be carried as carry-on baggage; c) ~~if~~ devices ~~are~~ may be carried in checked baggage with the approval of the operator provided, at a minimum: — measures ~~must be~~ are taken to prevent unintentional activation and to protect the devices from damage; and — the devices ~~must be~~ are completely switched off (not in sleep or hibernation mode); and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.

Items or articles	*Location*			*Approval of the operator(s) is required*	*The pilot-in-command must be informed*	*Restrictions*
	Checked baggage	*Carry-on baggage*	*On the person*			
Spare batteries for portable electronic devices containing lithium ion batteries exceeding a Watt-hour rating of 100 Wh but not exceeding 160 Wh	No	Yes	Yes	Yes	No	a) carried by passengers or crew for personal use; b) no more than two individually protected spare batteries per person; c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); and d) batteries and cells must be of a type which meets the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3.
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