



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*)

SPECIAL PROVISION A154

(Presented by Adrian Tusek)

SUMMARY

Special Provision A154 applies to lithium batteries identified by the manufacturer as being defective for safety reasons. It is proposed to amend this special provision to align with Special Provision 376 of the UN Model Regulations which does not require that the defect be first identified by the manufacturer.

Action by the DGP: The DGP is invited to consider a new Special Provision A154 as outlined in Appendix A to this Working Paper.

1. INTRODUCTION

1.1 A recent inquiry from a company in Australia presented what appears to be a less restrictive practice in the transport of damaged or defective lithium cells or batteries by air compared to road transport when Special Provision A154 is applied.

1.2 Special Provision 376 of the UN Model Regulations applies to “Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the Manual of Tests and Criteria”.

1.3 Special Provision 376 then gives clarification of the circumstance in which something is damaged or defective as follows:

For the purposes of this special provision, these may include, but are not limited to:

- *Cells or batteries identified as being defective for safety reasons;*
- *Cells or batteries that have leaked or vented;*
- *Cells or batteries that cannot be diagnosed prior to transport; or*
- *Cells or batteries that have sustained physical or mechanical damage.*

NOTE: In assessing a battery as damaged or defective, the type of battery and its previous use and misuse shall be taken into account.

1.4 It is noted that Special Provision 376 does not require that safety deficiency must be identified by the manufacturer of the cells or batteries.

1.4.1 It is further noted that Special Provision 376 includes “Cells or batteries that cannot be diagnosed prior to transport”.

1.4.2 Special Provision A154 only forbids the transport of lithium batteries if they are identified by the manufacturer as defective.

1.4.3 Therefore, if the diagnosis of the batteries as being defective for safety reasons or not defective is unable to be made prior to transporting them, Special Provision A154 permits the transport of these potentially defective batteries on aircraft.

1.5 It is believed that Special Provision A154 should be enhanced with additional information to assist industry and civil aviation authorities in regard or damaged or defective lithium batteries.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider the text of Special Provision 376 of the UN Model Regulations presented in Appendix B and the proposed amendment to Special Provision A154 provided in Appendix A to this working paper.

2.2 The DGP is further invited to consider if this is an immediate risk to the safety of air navigation to the extent that an addendum to the Technical Instructions should be released.

APPENDIX A

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

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A154

~~Lithium batteries, identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).~~

Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the UN *Manual of Tests and Criteria* are forbidden for transport.

For the purposes of this special provision, these may include, but are not limited to:

- a) cells or batteries identified as being defective for safety reasons;
- b) cells or batteries that have leaked or vented;
- c) cells or batteries that cannot be diagnosed prior to transport; or
- d) cells or batteries that have sustained physical or mechanical damage.

Note.— In assessing a battery as damaged or defective, the type of battery and its previous use and misuse must be taken into account.

Cells and batteries liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport are forbidden for transport.

APPENDIX B

SPECIAL PROVISION 376 OF THE UN MODEL REGULATIONS

376 Lithium ion cells or batteries and lithium metal cells or batteries identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the Manual of Tests and Criteria shall comply with the requirements of this special provision.

For the purposes of this special provision, these may include, but are not limited to:

- Cells or batteries identified as being defective for safety reasons;
- Cells or batteries that have leaked or vented;
- Cells or batteries that cannot be diagnosed prior to transport; or
- Cells or batteries that have sustained physical or mechanical damage.

NOTE: In assessing a battery as damaged or defective, the type of battery and its previous use and misuse shall be taken into account.

Cells and batteries shall be transported according to the provisions applicable to UN 3090, UN 3091, UN 3480 and UN 3481, except Special Provision 230 and as otherwise stated in this special provision.

Cells and batteries shall be packed in accordance with packing instructions P908 of 4.1.4.1 or LP904 of 4.1.4.3, as applicable.

Cells and batteries identified as damaged or defective and liable to rapidly disassemble, dangerously react, produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive or flammable gases or vapours under normal conditions of transport shall be packed and transported in accordance with packing instruction P911 of 4.1.4.1 or LP906 of 4.1.4.3, as applicable. Alternative packing and/or transport conditions may be authorized by the competent authority.

Packages shall be marked “DAMAGED/DEFECTIVE” in addition to the proper shipping name, as stated in 5.2.1.

The transport document shall include the following statement “Transport in accordance with special provision 376”.

If applicable, a copy of the competent authority approval shall accompany the transport.

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