



International Civil Aviation Organization

DGP/24-WP/58¹
6/9/13

WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-FOURTH MEETING

Montréal, 28 October to 8 November 2013

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 2015-2016 Edition

TRANSPORT OF ELECTRONIC DEVICES WHEN ACTIVE AND PREVENTION FROM SENDING OUT SOUND OR LIGHT ALARMS FOR NON-AVIATION SAFETY REASONS

(Presented by Q. Xu)

SUMMARY

This working paper proposes adding a new provision to Packing Instructions 967 and 970 requiring that electronic devices permitted for transport when active do not send out sound or light alarms during transport as a result of non-aviation safety reasons.

Action by the DGP: The DGP is invited to agree to amend Packing Instructions 967 and 970 by imposing further restrictions on the transport of electronic devices permitted for transport when active in accordance with these packing instructions, as shown in Appendix A to this working paper.

¹ Chinese version provided by the People's Republic of China

1. INTRODUCTION

1.1 Although under most circumstances, relevant battery-driven equipment must be transported in a non-operational state, some equipment which does not generate heat or interfere with navigation instruments are still allowed to be transported in an active state in accordance with Packing Instructions 967 and 970. Many electronic devices send out buzzing alarms when their electric power is too low or errors occur when reading data. In the event of buzzing alarms from cargo during transport, corresponding emergency procedures will be triggered, giving rise to excessive emergency response on the part of field operating units.

1.2 As the example in Appendix B illustrates, in the event that alarms coming from cargo occur not in the storage stage after completion of the flight but during airborne transport or when waiting to be stored on a ramp, the consequence of its emergency response could be more complicated.

1.3 Disregarding alarms caused by inappropriate operations during transport, alarms caused by such cargo may be attributable to the following:

- a) the equipment contains activated batteries;
- b) the equipment is susceptible of sending out alarms under circumstances such as low battery or reading errors.

As reason a) is permissible under current rules, it is imperative to restrict reason b).

1.4 The example in Appendix B is an infrequent occurrence. Despite this, the amount of cargo that contains such instruments and equipment in an operational state such as temperature loggers, direction recording equipment and position recording equipment has been increasing in recent years. Therefore, the panel is invited to consider a new requirement to ensure that electronic devices permitted for transport when active do not send out sound or light alarms as a result of non-aviation safety reasons.

1.5 The panel is invited to discuss the necessity of imposing restrictions on such cargo so that they will not send out sound or light alarm during transport.

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APPENDIX A

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

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Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

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Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents), 8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium ion cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

Lithium ion cells and batteries may be offered for transport if they meet all of the following:

- 1) for lithium ion cells, the Watt-hour rating (see the Glossary of Terms in Attachment 2) is not more than 20 Wh;
- 2) for lithium ion batteries, the Watt-hour rating is not more than 100 Wh;
— the Watt-hour rating must be marked on the outside of the battery case except for those batteries manufactured before 1 January 2009;
- 3) each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3;

Note 1.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

Note 2.— Batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, subsection 38.3 may continue to be transported.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2;9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems and it must be ensured that such devices will not send out sound or light alarms during transport due to non-aviation safety reasons (such as low electric power, reading errors, etc.).

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Packing Instruction 970

Passenger and cargo aircraft for UN 3091 (contained in equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents), 8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium metal cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

Lithium metal cells and batteries may be offered for transport if they meet all of the following:

- 1) for a lithium metal cell, the lithium content is not more than 1 g;
- 2) for a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g.
- 3) each cell or battery is of the type proven to meet the requirements of each test in the *UN Manual of Tests and Criteria*, Part III, subsection 38.3;

Note 1.— Batteries are subject to these tests irrespective of whether the cells of which they are composed have been so tested.

Note 2.— Batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, subsection 38.3 may continue to be transported.

- 4) cells and batteries must be manufactured under a quality management programme as described in 2;9.3.1 e).

Devices such as radio frequency identification (RFID) tags, watches and temperature loggers, which are not capable of generating a dangerous evolution of heat, may be transported when intentionally active. When active, these devices must meet defined standards for electromagnetic radiation to ensure that the operation of the device does not interfere with aircraft systems and it must be ensured that such devices will not send out sound or light alarms during transport due to non-aviation safety reasons (such as low electric power, reading errors, etc.).

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APPENDIX B

In September 2012, one inbound cargo which had been sitting in a storing area at Pudong Airport for four days suddenly sent out too-tooing noises in a regular pattern on the fifth day. The Airport immediately started the appropriate emergency activation procedure, and segregated the cargo from its location with an explosion-proof drum to ensure safety.

The owner of the cargo confirmed, when contacted for the incident, that the cargo in question comprised equipment which contained a lithium battery, the too-tooing noises should have come from that equipment, and that the equipment was in a normal state of circumstances and contained no explosive therein.

Disposal Photo:



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