



INFORMATION PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-THIRD MEETING

Montréal, 11 to 21 October 2011

Agenda Item 5: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel:

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

ADDITIONAL INFORMATION TO BE CONSIDERED WITH DGP/23-WP/72: LITHIUM BATTERY STANDARDS

(Presented by J. McLaughlin)

1. INTRODUCTION

1.1 This paper is intended to supplement DGP/23-WP/72 and its proposal to eliminate Section II from Packing Instructions 965 and 968. It is offered as a result of comments provided by industry to DGP/23-WP/72. By incorporating special provisions for lower risk shipments and referencing to a detailed industry IEC standard, a significant amount of the risks described in DGP/23-WP/72 can be mitigated while recognizing the significant role that e-commerce plays in the lithium battery and portable electronic industries.

1.2 With reference to the special provisions presented in the appendix:

- a) The 0.3 g lithium metal and [2.7] Wh threshold for lithium metal and lithium ion cells and batteries represents an exception for small button and coin-type cells and batteries regardless of whether they are round (we have recently been made aware of “thin-film” cells that are square and contain very small quantities of lithium metal (see <http://www.infinitepowersolutions.com/>). These small lithium metal and lithium ion cells and batteries are often utilized in medical devices and installed on circuit boards in computers for memory back-up. The inner packaging methods would depend on the shape of the cell or battery and would be addressed in an IEC standard.
- b) The second tier of 8 cells or 2 batteries is intended to address the needs of e-commerce and very small shipments of cells and batteries that occur via Internet sales and service. In such a large and diversified industry with endless applications for lithium batteries, it is reasonable to assume that the DGP will need to make amendments in the future to reflect changes in the industry.

1.3 The IEC standard provides an industry platform to convey the packaging methods many have developed to protect their batteries in transportation. Shippers only using the exceptions are unlikely to purchase the Technical Instructions and they are not always required to have full training. Therefore,

many shippers are not likely to understand what “protection against short circuiting” or “enclosed in inner packaging” is directing them to do, and it would be impracticable to put such detailed instructions in the Technical Instructions.

1.4 The proposed new special provisions presented in the appendix will assist in everyone’s goal of safe transportation without damage to cargo (and ultimately risk to aircraft and those on-board aircraft). Damaged cargo results in millions of dollars of costs every year for both shippers and airlines.

1.5 The text proposed in DGP/23-WP/69 on marking and labelling of overpacks with lithium batteries has been included in square brackets in the new special provisions. Note that this paper does not take a position on DGP/23-WP/69.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider the special provisions proposed in the appendix to this working paper in conjunction with the proposal in DGP/23-WP/72.

— — — — —

APPENDIX

PROPOSED NEW SPECIAL PROVISIONS

Against UN 3480, Lithium ion batteries

Axxx Lithium ion cells and batteries with a Watt-hour rating of not more than [2.7] Wh may be shipped in packages not exceeding 2.5 kg. Up to 8 cells with a Watt-hour rating of not more than 20 Wh each or 2 batteries with a Watt-hour rating of not more than 100 Wh each may be shipped in packages not exceeding 3.0 kg. All cells and batteries shipped under this special provision must be prepared in accordance with IEC Standard 62281 Section XXX and meet the requirements of the UN *Manual of Tests and Criteria*. [When packages are placed in an overpack, the lithium battery handling label required by the IEC Standard 62281 Section XXX must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".]

Against UN 3090, Lithium metal batteries

Axx2 Lithium metal cells and batteries with a lithium content of not more than 0.3 g may be shipped in packages not exceeding 2.5 kg. Up to 8 cells with a lithium metal content of not more than 1 g each or 2 batteries with a lithium metal content of not more than 2 g may be shipped in packages not exceeding 3.0 kg. All cells and batteries shipped under this special provision must be prepared in accordance with IEC Standard 62281 Section XXX and meet the requirements of the UN Manual of Tests and Criteria. [When packages are placed in an overpack, the lithium battery handling label required by the IEC Standard 62281 Section XXX must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".]

— END —