



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE**

Auckland, 4 to 8 May 2009

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

5.3: Review of provisions for dangerous goods relating to batteries

- a) lithium batteries
- b) battery-powered devices
- c) battery-powered mobility aids

LITHIUM BATTERIES

(Presented by G. A. Leach)

SUMMARY

The working group is invited to consider whether the wording of the UN *Manual of Tests and Criteria* in respect of testing of lithium batteries is sufficiently clear.

1. INTRODUCTION

1.1 A recent request for a State of Origin approval for the transport of prototype lithium batteries highlighted a possible need for clarification of the text in the UN *Manual of Tests and Criteria*. The text in question is para 38.3.2.1 which states:

“Lithium cells and batteries shall be subjected to the tests, as required by (the Model Regulations)”

1.2 In the United Kingdom it is understood that the intent of this text is that both cells and batteries must be tested, i.e. if a battery is formed of a number of cells which have themselves been tested, the battery itself must also undergo testing. This interpretation was proved valid during recent approval tests when a battery consisting of tested cells was subjected to tests 1 -7 of sub-section 38.8 of the UN *Manual of Tests and Criteria*. The battery failed, because during the vibration test, parts of the battery assembly detached, causing a short circuit, rendering the battery unsafe for transport. Had it been accepted that no further testing was required (because the cells had been tested) this failure mode would not have been discovered.

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to consider whether the text of para 38.3.2.1 of the UN *Manual of Tests and Criteria* clearly require lithium batteries, which are made up of tested cells, also to be subject to testing. If the working group believes there is some ambiguity, the UN could be asked to add the following note under para 38.3.2.1:

“NOTE: Batteries are subject to the tests required by special provisions 188 and 230 of Chapter 3.3 of the Model Regulations irrespective of whether the cells of which they are composed have been so tested.”

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