International Civil Aviation Organization

DGP-WG/12-WP/53
12/10/12

WORKING PAPER

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

Montréal, 15 to 19 October 2012

Agenda Item 5: Issues related to lithium batteries

HAZARD COMMUNICATION FOR ENERGY STORAGE DEVICES

(Presented by the Secretary)

SUMMARY

This working paper informs the working group of discussions held at the 41st Session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods on hazard communication for energy storage devices.

Action by the DGP-WG is in paragraph 2.

1. INTRODUCTION

1.1 Hazard communication for fully regulated batteries was discussed at the DGP Working Group of the Whole Meeting on Lithium Batteries (DGP-WG/LB/1, 6 to 10 February 2012) (see paragraph 3.1.1.8 b) of the report of that meeting (DGP-WG/LB/1-WP/15)). It was suggested that Class 9 hazard labels on packages containing lithium batteries did not provide appropriate hazard communication in that this class included dangerous goods which did not pose the same type or level of risk as lithium batteries (e.g. dry ice, environmentally hazardous material). It was felt that the subject should be reviewed and discussed at the UN.

1.2 The Secretary presented an information paper to the 41st Session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods (attached as an appendix to this working paper). The Sub-Committee agreed that this subject should be considered during the next biennium. Below is an extract from the report of the Sub-Committee (forty-first session):

> 107. The Sub-Committee noted the proposal by ICAO that energy storage devices should constitute a specific group of dangerous goods with specific provisions and agreed that this issue should be considered in the next biennium

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to form a working group by tasked with developing material for consideration at the 43rd Session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods. Recognizing that the deadline for submission of working papers to the UN for consideration is 27 March 2012 and that the Spring DGP working group of the whole meeting might only take place after this date, it is proposed that this working group meet through correspondence.

— — — — — — — —

APPENDIX

INFORMATION PAPER PRESENTED TO THE UN SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS ON HAZARD COMMUNICATION FOR ENERGY STORAGE DEVICES

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods **21 June 2012**

Forty-first session
Geneva, 25 June – 4 July 2012
Item 4 (e) of the provisional agenda
Electric storage systems: miscellaneous

Energy storage devices

Transmitted by the International Civil Aviation Organization (ICAO)

Introduction

1. In the introduction to the UN Guiding Principles for the Development of the UN Model Regulations, the following two principles are presented:

- The transport of dangerous goods is regulated to prevent or mitigate, as far as possible, incidents that could endanger public safety or harm the environment.
- Regulations should be framed so that they do not hamper the movement of dangerous goods, other than those too dangerous to be accepted for transport.

2. In Part 2 of the same document, explanatory material is provided outlining the rationale behind the development of the nine classes of dangerous goods:

- To accommodate the large number of dangerous goods and the consistent, rapid development of new *substances*, the unusual chemical names used to describe them and the different emergency response for them, the UNSCETDG devised tests and criteria to be used to determine which *substances* could be identified as dangerous goods in transport. The UNSCETDG then devised a system of nine classes for *substances* with the objective of dividing all current and future dangerous goods into these classes. The system of classes was established keeping in mind the type of containment to be used, the chemical and physical characteristics of the *substances* and response procedures that would be most appropriate in the event of an accidental release.

3. Over the biennia, there has been considerable discussion on various energy storage devices (e.g. lithium batteries, fuel cells, ultracapacitors) with resulting differing classifications. Noting that class 9 includes miscellaneous dangerous substances and articles but that only one danger label is assigned to this class, it is queried whether this is sufficient to communicate correctly the potential risks posed by these articles e.g. lithium batteries present both electrical and chemical (flammable electrolyte) hazards which are rather different to those posed by dry ice or environmentally hazardous substances. Additionally, with constantly developing new technology, it can be anticipated that new articles will be brought to the UNSCETDG, some of which may well be classified as class 9.

4. Due to the particular danger posed by fire on board an aircraft and recognizing the specific hazards posed by lithium batteries, the ICAO Dangerous Goods Panel has devoted considerable effort to develop adequate packing instructions and hazard communication for most batteries excepted under special provision 188 (see UN/SCETDG/41/INF.YY).

Proposal

5. ICAO requests an informal working group be convened to discuss if assignment to class 9 with the consequential danger label (No. 9) is sufficient to convey the specific dangers posed by electric storage devices such as lithium batteries. Depending upon the outcome of the discussion, a formal paper will be submitted to the SCETDG or SCEGHS, if appropriate.