

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

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LISTING, CLASSIFICATION, AND PACKING

Comments on ST/SG/AC.10/C.3/2005/44
Proposed amendment of lithium ion cell and battery size limits in SP 188

Transmitted by the expert from the United States of America

1. ST/SG/AC.10/C.3/2005/44 submitted by PRBA contains two proposals: (1) to amend SP 188; and (2) to amend 38.3.2.2 of Test Manual (ST/SG/AC.10/11/Rev. 4, published in 2003) (Note: PRBA's paper cited 38.3.3.2 based on Rev. 3 published in 1999). The expert from the United States of America does not support these proposals because the amendments are not appropriately risk based and are not supported by a safety analysis.
2. PRBA proposes to amend SP188 by increasing the current non-regulated size limitation on lithium ion cells to 25 Wh and lithium ion batteries to 200 Wh. This amendment would result in a significant increase from the current size which is based on the lithium content. Currently, the limit is 1.5 g (ELC) for cells which equates to approximately 18 Wh (5 Ah x 3.6 volts = 18 Wh) and 8 grams aggregate ELC for batteries (about 5.3 cells of 5.0 Ah capacity) which equates to approximately 100 Wh (can be as many as 12 cells as shown in the Table in 2005/46). The proposal will increase the current limit on lithium ion batteries from 8 grams ELC to 16 grams ELC.
3. The expert from the United States of America further opposes the use of "state of charge" as one of the conditions for non-regulated batteries because it is not practical or enforceable. The state of charge may be controlled by the manufacturer when the batteries are transported to other facilities for further assembly into various articles and distributed. Once the battery leaves the control of the manufacturer, there is no way to verify or to reasonably ensure the battery's state of charge, or to expect other consignors (e.g. consumers) will comply with such a requirement. In addition, a 50% charged battery will still function as a battery which can short circuit and generate heat. The potential for electrical hazard still exists in a battery at a 50% state of charge (see U.S. comments on ST/SG/AC.10/C.3/2005/43).