CETDG/21/INF.52

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS
(Twenty first session,
Geneva, 4-13 December 2000,
agenda item 2(b))

WORK OF THE SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Draft Amendments to the Recommendations on the Transport of Dangerous Goods

Model Regulations on the Transport of Dangerous Goods
Lithium Batteries

Comments on ST/SG/AC.10/2000/13 and ST/SG/AC.10/2000/25

Transmitted by the
International Electrotechnical Committee

Introduction

The International Electrotechnical Committee (IEC) welcomes the continuing work being carried out by the experts from Japan and the United States to develop revised model regulations on the transport of lithium batteries that reflect changes in battery technology. Representatives of the IEC participated in the Working Group convened in Ottawa in March of this year and have worked closely with the expert from the United States to improve the text of the Manual of Tests and Criteria and Special Provisions pertaining to lithium batteries. The proposals submitted by the experts from the United States and Japan (ST/SG/AC.10/2000/13 and ST/SG/AC.10/2000/25) contain many of the recommended changes that were discussed in Ottawa and are supported by the IEC.

The IEC is providing the following additional comments and proposals on ST/SG/AC.10/2000/13 and ST/SG/AC.10/2000/25, which also are endorsed by the Portable Rechargeable Battery Association (PRBA), National Electrical Manufacturers Association (NEMA), and Battery Association of Japan (BAJ):[1]

Proposal 1 (ST/SG/AC.10/2000/13)

Comment: A change in the temperature requirement for the Test 6 Internal Short Circuit is recommended in order to harmonize it with other international standards such as the IEC.

Proposal: Replace the temperature requirement of 160ºC in 38.3.4 6.3 (Test 6: Internal Short Circuit) to 170ºC.

[1] PRBA is a trade association whose nearly 100 members include many of the world's leading manufacturers of rechargeable lithium ion batteries, portable computers, telephones, and other battery powered devices. NEMA, a trade association with close to 500 members, has been developing standards for nearly 70 years for the electrical manufacturing industry and is today one of the leading standards development organizations in the world. BAJ is Japan-based trade association whose members constitute the world's leading manufacturers of primary and rechargeable consumer batteries.

Proposal 2 (ST/SG/AC.10/2000/25)

Comment: Lithium button (coin) cells should be excepted from testing requirements since they contain very small amounts of lithium by weight, are generally placed in trays that provide an extra layer of safety, are packaged in a very low-density packaging scheme, and when crushed, generate very little heat.

Proposal: Insert the following text where appropriate in Special Provision 188: *"…except for cells containing less than 0.3g of lithium (or lithium equivalent) and batteries containing less than 0.6g of lithium (or lithium equivalent), which are excepted from testing requirements."*

Proposal 3 (ST/SG/AC.10/2000/25)

Comment: Due to changes in technology over the past 20 years and the record of safe transport for liquid cathode cells and batteries, the distinction between solid and liquid cathodes is obsolete and no longer necessary.

Proposal: Special Provision 188(a) should be amended to read as follows: *"For a lithium metal or alloy cell, the lithium content is not more that 1 g, and for a lithium-ion cell, the equivalent lithium content is not more than 1.5 g."*

Special Provision 188(b) should be amended to read as follows: *"For a lithium metal or alloy battery, the aggregate lithium content is not more that 2 g, and for a lithium-ion battery, the aggregate equivalent lithium content is not more than 8 g."*

Proposal 4 (ST/SG/AC.10/2000/25)

Comment: Requiring testing for pre-production prototypes and small production runs of lithium and lithium ion cells and batteries is not feasible under the currently proposed testing requirements due to the large number of cells and batteries required to complete Test 1 through Test 8.

Proposal: The following Special Provision should be added: *"Pre-production prototype and small production runs of less than 500 units (not to exceed 50 units per package) of lithium or lithium ion cells and batteries are excepted from all testing requirements provided the packaging requirements as described in 188(e) are met."*

Proposal 5 (ST/SG/AC.10/2000/25)

Comment: Concerns over the safety of lithium batteries in transport have always pertained to shipments by air. Thus, the proposed packaging, marking, and documentation requirements in 188(e) should apply only to lithium and lithium ion cells and batteries shipped by air.

Proposal: In the first sentence of Special Provision 188(e), insert *"shipped by air"* after "Each package…"

Proposal 6 (ST/SG/AC.10/2000/25)

Comment: It is standard industry practice to ship lithium and lithium ion cells and batteries in multiples of 6. Thus, a change to "24 lithium cells and 12 lithium batteries" in 188(e) is appropriate.

Proposal: Change the reference to "20 lithium cells and 10 lithium batteries" in the first sentence of 188(e) to *"24 lithium cells and 12 lithium batteries."*

Proposal 7 (ST/SG/AC.10/2000/25)

Comment: The proposed testing, packaging, marking, and documentation requirements in ST/SG/AC.10/2000/25 would appear to apply to both UN 3090 and UN 3091. Lithium and lithium ion cells and batteries contained in or packed with equipment (UN 3091), however, already are shipped in robust packaging. Thus, additional testing, packaging, marking, and documentation requirements are unnecessary for this category (UN 3091).

Proposal: New testing, packaging, marking, and documentation requirements should apply only to category UN 3090, not UN 3091.

Proposal 8 (ST/SG/AC.10/2000/25)

Comment: In order to provide for an orderly transition for new testing, packaging, marking, and documentation, a provision should be added to clarify that only those lithium and lithium ion cells and batteries manufactured after a certain date (*i.e.*, December 31, 2002) are required to undergo UN tests and be shipped with new packaging, marking, and documentation (a "grandfather clause").

Proposal: In the first sentence of Special Provision 188 insert after "Lithium cells and batteries offered for transport…." the following phrase *"and manufactured after December 31, 2002…"*

Proposal 9 (ST/SG/AC.10/2000/25)

Comment: Lithium and lithium ion cells and batteries as described in subparagraphs (g) through (h) of the current Special Provision 188 (also known as "Category B" cells and batteries) should continue to be excepted from the UN Model Regulations if they pass the required UN tests and the appropriate packaging, marking, and documentation is utilized as provided in 188(e). These cells and batteries are most often used in industrial and military applications (non-consumer) and thus are not shipped in the same large quantities as cells and batteries described in subparagraphs (a) through (f).

Proposal: Reinstate the exception for the lithium ~~and lithium ion cells and batt~~eries as described in subparagraphs (g) through (h) of the current Special Provision 188 provided they pass the required UN tests and the appropriate packaging, marking, and documentation is utilized as described in proposed Special Provision 188(e).

Filename: inf-52.doc
Directory: C:\MyFiles\INTERNET\TRANS\DANGER\MEETINGS\ECOSOC\2000_12
Template: C:\Program Files\Microsoft Office\Templates\Normal.dot
Title: COMMITTEE OF EXPERTS ON THE
Subject:
Author: H&S User
Keywords:
Comments:
Creation Date: 01/12/00 17.20
Change Number: 3
Last Saved On: 01/12/00 17.22
Last Saved By: UN/ECE
Total Editing Time: 2 Minutes
Last Printed On: 06/12/00 16.51
As of Last Complete Printing
Number of Pages: 3
Number of Words: 1,001 (approx.)
Number of Characters: 5,707 (approx.)