

**COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS**

(Twentieth session,
Geneva, 7-16 December 1998,
agenda item 2 (c)(iii))

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

**Draft Amendments to the Model Regulations
on the Transport of Dangerous Goods**

**Modification of ST/SG/AC.10/1998/14 and ST/SG/AC.10/1998/15 to Allow Integration of
Proposals from ST/SG/AC.10/1998/30 and INF.17 into the Text on Lithium Batteries**

Transmitted by the Expert from Canada

Introduction

1. At the 15th Session of the Sub-Committee proposals were adopted concerning large lithium batteries (see ST/SG/AC.10/1998/14 and ST/SG/AC.10/1998/15). The purpose of this document is to make changes to -/1998/14 and -/1998/15 that are necessary to allow the incorporation of the proposals from ST/SG/AC.10/1998/30 and INF.17 into the whole.

Proposal

2. Proposals in this section address the text in ST/SG/AC.10/1998/15 concerning Special provision 188 and 230 of the Recommendations on the Transport of Dangerous Goods.

(a) Delete proposed changes to Special provision 188.

(b) Amend proposed changes to Special provision 230 by deleting the amendment to the first sentence.

3. Proposals in this section address the text in ST/SG/AC.10/1998/14 concerning the Manual of Tests and Criteria PART III Section 38.

(a) Delete paragraph 38.3.3.2 since added definitions of “Large battery”, “Large cell”, “Small battery” and “Small cell” are no longer required. This distinction is made in 38.3.1 and 38.4.1 of the text proposed in -/1998/30.

(b) Replace paragraph 38.3.4.1.2.2 with the following:

“38.3.4.1.2.2 The number and condition of cells and batteries to be tested are:

- (a) Only when cells are to be transported individually:
 - (i) ten cells which should be tested, at first cycle, in both fully charged and fully discharged states; and
 - (ii) ten cells which should be tested after deep cycling a minimum of 50 times, in both fully charged and fully discharged states;
- (b) Four batteries, which should be tested, at first cycle, in both fully charged and fully discharged states;
- (c) Four batteries, which should be tested after deep cycling a minimum of 50 times, in both fully charged and fully discharged states.”

(c) Delete paragraph 38.3.4.1.2.3.

(d) Amend paragraph 38.3.4.2.2.2 to read:

“38.3.4.2.2.2 The number and condition of cells and batteries to be tested are:

- (a) Only when cells are to be transported individually:
 - (i) ten cells which should be tested, at first cycle, in both fully charged and fully discharged states; and
 - (ii) ten cells which should be tested after deep cycling a minimum of 50 times, in both fully charged and fully discharged states;
- (b) Four batteries, which should be tested, at first cycle, in both fully charged and fully discharged states;
- (c) Four batteries, which should be tested after deep cycling a minimum of 50 times, in both fully charged and fully discharged states.”

(e) Delete paragraph 38.3.4.2.2.3.

(f) Amend paragraph 38.3.4.2.3.2 by replacing the last two sentences with the following:

“In each case, the cell or battery is accelerated in such a manner that a peak acceleration of not less than 50 times the local acceleration of gravity is achieved over a maximum duration of 11 milliseconds.”

(g) Amend paragraph 38.3.4.3.2.1 by replacing the second sentence with the following:

“The shock test apparatus should be constructed to give the minimum accelerations required by 38.3.4.2.3.2 for the size of the cell or battery being tested, e.g., apparatus to IEC 68-2-27.”

(h) Replace the proposed paragraph 38.3.4.3.2.2 with the following:

“38.3.4.3.2.2 Test need not be performed on batteries, and the number and condition of cells to be tested are as follows:

(a) Ten cells which should be tested, at first cycle, in the fully charged state; and

(b) Ten cells which should be tested after deep cycling a minimum of 50 times, in the fully charged state.”

(i) Delete paragraph 38.3.4.3.2.3.

(j) Replace the section proposed for the last two sentences of paragraph 38.3.4.3.3.2 with the following:

“In each case, the cell or battery is accelerated in such a manner that a peak acceleration of not less than 50 times the local acceleration of gravity is achieved over a maximum duration of 11 milliseconds.”

(k) In the case of paragraph 38.3.4.3.3.3, retain the amendment to the fifth sentence but replace the proposed text for the new sixth sentence as follows:

“Where this average current draw cannot be achieved employing this test procedure, the current draw required is the maximum current attainable according to this test procedure at the ambient temperature at which the test is performed.”

(l) In paragraph 38.3.4.4.2.2 transfer the first two sentences as proposed but change the third sentence to read as follows:

“Ten cells should be tested, at first cycle, in the fully charged state.”

(m) Delete paragraph 38.3.4.4.2.3.

(n) Replace the proposed second sentence for paragraph 38.3.4.5.2.1 with the following:

“ The shock test apparatus should be constructed to give the minimum accelerations required by 38.3.4.5.3.2 for the size of the cell or battery being tested, e.g., apparatus to IEC 68-2-27.”

(o) Replace the proposed paragraph 38.3.4.5.2.2 by the following:

“Batteries should be constructed with uncycled cells except for one in each series string which is deep cycled a minimum of 50 times, and then brought to a 60% state of charge. Four batteries are tested at first cycle in the fully charged state.”

(p) Delete paragraph 38.3.4.5.2.3.

(q) Replace the proposed last two sentences of paragraph 38.3.4.5.3.2 with the following:

“In each case, the cell or battery is accelerated in such a manner that a peak acceleration of not less than 50 times the local acceleration of gravity is achieved over a maximum duration of 11 milliseconds.”

(r) In paragraph 38.3.4.5.3.3 amend the proposed new sentence to be inserted before the last sentence as follows:

“Where this average current draw cannot be achieved employing this test procedure, the current draw required is the maximum current attainable according to this test procedure at the ambient temperature at which the test is performed.”

(s) Replace the proposed paragraph 38.3.4.6.2.2 by the following:

“38.3.4.6.2.2 Test need not be performed on batteries, and need only be performed on component cells when the battery voltage does not exceed 12 volts. When required to be tested, the number and condition of cells to be tested are as follows:

(a) Ten cells which should be tested, at first cycle, in the fully discharged state; and

(b) Ten cells which should be tested after deep cycling a minimum of 50 times, in the fully discharged state.”

(t) Delete proposed paragraph 38.3.4.6.2.3.

(u) In paragraph 38.3.4.6.3 change the proposed new sentence, to be inserted after the sixth sentence, as follows:

“Where this average current draw cannot be achieved employing this test procedure, the current draw required is the maximum current attainable according to this test procedure at the ambient temperature at which the test is performed.”

(v) Delete proposed change to paragraph 38.3.4.7.2.
