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

Atlantic City, United States, 4 to 8 April 2011

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

5.1: Review of provisions for the transport of lithium batteries

#### LITHIUM BATTERIES IN THE POST

(Presented by the Universal Postal Union (UPU))

#### **SUMMARY**

This working paper presents the proposal to change the Technical Instructions for the Safe Transport of Dangerous Goods by Air to have limited quantities of lithium batteries transported by Post.

Action by the DGP-WG is in paragraph 24.

#### 1. **INTRODUCTION**

- 1.1 Reference is made to DGP-WG/09-WP/60 Lithium Batteries in the Post, presented by the Universal Postal Union. Decision taken by DGP-WG/09 was in order to have limited quantities of lithium batteries to transit the international mail stream, the UPU Convention would need to be modified.
- 1.2 On 10 August 2010, a circular letter was distributed to member countries informing them that the 2010 Postal Operations Council (POC) session had approved proposals to amend articles 15 (Items not admitted. Prohibitions) and 16 (Admissible radioactive materials and infectious substances) of the UPU Convention. This was in compliance with article 104.9.5 (Functions of the POC) of the General Regulations, which states that the POC may formulate proposals to amend the Convention between Congresses, which shall be submitted for the approval of member countries in accordance with the procedure stipulated in article 125 of the General Regulations.
- 1.3 On 18 October 2010, circular letter was distributed to member countries with an invitation to vote on proposed amendments to articles 15 and 16 of the Universal Postal Convention.
- 1.4 In total, 111 member countries participated in the vote:
  - a) 106 voted for the proposals;

- b) three voted against the proposals; and
- c) two abstained.
- 1.5 Under article 35.3 of the Convention, to become effective, proposals introduced between Congresses relating to the Convention and to its Final Protocol must obtain two thirds of the votes, and at least half of the member countries of the Union with the right to vote must have participated in the ballot.
- 1.6 The minimum number of votes in this case was 83, given that 165 member countries currently have the right to vote. As 109 countries voted, the majority required was 73 votes in favour of the proposals, representing two thirds of the total votes.
- 1.7 Given the results of the ballot, the proposals meet the conditions necessary for their adoption, and articles 15 and 16 of the Universal Postal Convention will be amended accordingly.
- 1.8 It should be noted this is the first time in the history of the UPU (Established 1874) that a significant change to the Convention has occurred in the middle of a Congress cycle.
- 1.9 These changes will allow member countries or designated operators to accept items containing a small quantity of lithium batteries installed in equipment (four or fewer lithium cells, or two or fewer lithium batteries), in view of the recent changes made in the 2009–2010 Edition of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284).

#### 2. **RELEVANT ISSUES**

- 2.1 Lithium batteries have evolved in the consumer market and now are in many electronic devices.
- 2.2 With the increase in e-commerce and the prevalence of online auction and shopping sites products with lithium batteries are inserted into the post (domestic and international).
- 2.3 Without the change to the UPU Convention, very limited quantities of lithium batteries would continue to be prohibited.
- 2.4 The UPU has taken a very conservative but practical approach to allow lithium batteries (4 cells or 2 batteries installed in equipment) in the international post.
- 2.5 Awareness-raising material will be prepared by the PSG to be distributed to member countries before changes to the UPU Convention become effective. The material can be used to educate postal employees and customers.

# 3. CHANGES TO UPU CONVENTION ARTICLES 15 AND 16; PROPOSED NEW LETTER POST AND PARCEL POST REGULATIONS

3.1 Convention change – Article 15 – "Items not admitted. Prohibitions" is attached as Annex 1 (see Appendix A to this working paper).

- 3.2 Convention change Article 16 "Admissible radioactive materials and infectious substances" is attached as Annex 2 (see Appendix B to this working paper).
- 3.3 The Postal Operations Council will meet in April/May 2011 in Berne, Switzerland. The Letter Post and Parcel Post Regulations will be submitted to the POC Plenary for approval.
- 3.4 The proposed text of new article RL 131bis of the Letter Post Regulations is attached as Annex 3 (see Appendix C to this working paper).
- 3.5 The proposed text of new article RC 120bis of the Parcel Post Regulations is attached as Annex 4 (see Appendix D to this working paper).
- 3.6 Subsequent to POC Plenary endorsement of Letter Post and Parcel Post Regulations, measures would go into effect in October 2011.

#### 4. **ACTION BY THE DGP-WG**

- 4.1 The DGP-WG is invited to modify the Technical Instructions to include the limited quantities of lithium batteries outlined in Appendices A and B.
- 4.2 If modifications to the Technical Instructions are accepted, the DGP-WG is requested to have changes to TI go into effect in October 2011.

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#### APPENDIX A

#### CONVENTION CHANGE - ARTICLE 15 - "ITEMS NOT ADMITTED. PROHIBITIONS"



Annex 1

Convention - Proposal

Article 15

Items not admitted. Prohibitions

#### POSTAL OPERATIONS COUNCIL

Amend paragraph 3.3.3 as follows:

- 3.3 Exceptionally, the following dangerous goods shall be admitted:
- 3.3.1 the radioactive materials sent in letter-post items and postal parcels mentioned in article 16.1;
- 3.3.2 the infectious substances sent in letter-post items and postal parcels mentioned in article 16.2;
- 3.3.3 the lithium cells and lithium batteries sent in letter-post items and postal parcels mentioned in article 16.3.

**Reasons.** – The aim of the proposal is to allow designated operators to accept items containing a small quantity of lithium batteries installed in equipment (four or fewer lithium cells, or two or fewer lithium batteries) in view of the recent changes made in the 2009–2010 edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air, published by the International Civil Aviation Organization (ICAO).

Please refer to document POC PSG 2010.1–Doc 5.Rev 1 available at <a href="www.upu.int/en/resources/documentation-centre/poc-documents.html">www.upu.int/en/resources/documentation-centre/poc-documents.html</a> (see Appendix E), which provides further details of this proposal.

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#### APPENDIX B

## ARTICLE 16 — "ADMISSIBLE RADIOACTIVE MATERIALS AND INFECTIOUS SUBSTANCES"



Annex 2

Convention - Proposal

Article 16

Admissible radioactive materials and infectious substances

#### POSTAL OPERATIONS COUNCIL

Amend the title and add the following new paragraph 3:

Admissible radioactive materials, and infectious substances and lithium cells and lithium batteries

- A maximum of four lithium cells or two lithium batteries, installed in equipment, shall be admitted in letter-post items and parcels under the following conditions:
- 3.1 for a lithium metal or lithium alloy cell, the lithium content shall not be more than 1 g, and for a lithium ion cell, the Watt-hour rating shall not be more than 20 Wh;
- 3.2 for a lithium metal or lithium alloy battery, the aggregate lithium content shall not be more than 2 g, and for a lithium ion battery, the Watt-hour rating shall not be more than 100 Wh; lithium ion batteries subject to this provision shall be marked with the Watt-hour rating on the outside case;
- 3.3 cells and batteries, when installed in equipment, shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation; when lithium batteries are installed in equipment, they shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the batteries are afforded equivalent protection by the equipment in which they are contained;
- 3.4 each cell or battery shall be of the type proved to meet the requirements of each test in the United Nations Manual of Tests and Criteria, Part III, sub-section 38.3.

**Reasons.** – Consequential proposal to the proposal to amend article 15.

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#### APPENDIX C

#### PROPOSED TEXT OF NEW ARTICLE RL 131BIS OF THE LETTER POST REGULATIONS



Annex 3

#### Article RL 131bis

Conditions of acceptance of letter items containing lithium cells and batteries contained in equipment

- Letter-post items may only contain lithium batteries where those lithium batteries are contained (installed) inside a device (equipment). If the lithium batteries are packed with equipment, the item is prohibited.
- Subject to the acceptance of the recipient country and transit country, letter-post items that contain lithium metal or lithium ion cells and batteries where the lithium cells or batteries are contained (installed) inside equipment may be transported through the mail, provided that the lithium cells and batteries conform to the requirements of Packing Instruction 967, Section II (lithium ion cells and batteries) or Packing Instruction 970, Section II (lithium metal cells and batteries), as applicable, of the current edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) published by the International Civil Aviation Organization (ICAO). Senders must consult the most recent edition of the ICAO Technical Instructions. Each letter item must contain no more than four cells or more than two batteries contained in equipment.
- Cells and batteries that have been identified by the manufacturer as being defective for safety reasons, or that have been damaged, or that have the potential of producing a dangerous evolution of heat, fire or short circuit (e.g. those being returned to the manufacturer for safety reasons) are forbidden for transport.
- Any person preparing or offering equipment containing lithium cells or batteries for transport must receive adequate instruction on these requirements commensurate with his responsibilities.
- Designated Operators shall report any dangerous goods accidents and incidents to the appropriate authorities in the operator's country and in the country in which the accident or incident occurred, in accordance with the reporting system of those appropriate authorities. Additionally, Designated Operators shall report any dangerous goods accidents and incidents to the International Bureau (Program Manager Postal Security)

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#### APPENDIX D

#### PROPOSED TEXT OF NEW ARTICLE RC 120BIS OF THE PARCEL POST REGULATIONS



Annex 4

#### Article RC 120bis

Conditions of acceptance of parcels containing lithium cells and batteries contained in equipment

- Parcel-post items may only contain lithium batteries where those lithium batteries are contained (installed) inside a device (equipment). If the lithium batteries are packed with equipment, the item is prohibited.
- Subject to the acceptance of the recipient country and transit country, parcels that contain lithium metal or lithium ion cells and batteries where the lithium cells or batteries are contained (installed) inside equipment may be transported through the mail, provided that the lithium cells and batteries conform to the requirements of Packing Instruction 967, Section II (lithium ion cells and batteries) or Packing Instruction 970, Section II (lithium metal cells and batteries), as applicable, of the current edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) published by the International Civil Aviation Organization (ICAO). Senders must consult the most recent edition of the ICAO Technical Instructions. Each parcel item must contain no more than four cells or more than two batteries contained in equipment.
- Cells and batteries that have been identified by the manufacturer as being defective for safety reasons, or that have been damaged, or that have the potential of producing a dangerous evolution of heat, fire or short circuit (e.g. those being returned to the manufacturer for safety reasons) are forbidden for transport.
- Any person preparing or offering equipment containing lithium cells or batteries for transport must receive adequate instruction on these requirements commensurate with his responsibilities.
- Designated Operators shall report any dangerous goods accidents and incidents to the appropriate authorities in the operator's country and in the country in which the accident or incident occurred, in accordance with the reporting system of those appropriate authorities. Additionally, Designated Operators shall report any dangerous goods accidents and incidents to the International Bureau (Program Manager Postal Security)

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#### **POSTAL OPERATIONS COUNCIL**

#### **Postal Security Group**

#### Proposal to amend UPU Convention articles 15 and 16 (lithium batteries)

Berne, 26 April 2010 (10.30 to 13.30 and 15.00 to 18.00), Montgomery Blair Hall

#### Memorandum by the International Bureau

(Agenda item 5)

1 Propo	Subject osal to modify articles 15 and 16 of the UPU Convention.	References/paragraphs §§ 1 to 29 and Annex 2	
2	Decisions expected		
_	Take note of the document and make any comments deemed necessary.	§ 30	
_	Approve the timetable.	§ 31	
_	Approve the proposal to modify the Convention.	§ 32	

#### I. Background

- 1 The 2009–2010 edition of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air*, published by the International Civil Aviation Organization (ICAO), incorporated a number of changes to requirements for the transport of lithium batteries.
- 2 The ICAO guidance document on the transport of lithium batteries reads as follows:
  - "A lithium battery handling label is not required when a package contains no more than 4 cells or 2 batteries installed in equipment prepared in accordance with Section II of Packing Instructions 967 and 970. This applies to UN 3481 Lithium ion batteries contained in equipment (See section II of Packing instructions 967) and UN 3091 Lithium metal battery contained in equipment (See section II of Packing instructions 970). Additionally, because there is no labelling requirement, the accompanying document mentioned in the additional packing requirements is not required."
- In most cases the size and lithium content of the cells and batteries comply with the provisions set out in Special Provisions (SP 188) in the *Recommendations on the Transport of Dangerous Goods: Model Regulations* published by the United Nations. Lithium cells and batteries meeting the requirements of SP 188 are excluded from most of the regulations applicable to the transport of dangerous goods.
- 4 According to article 15 of the Convention, dangerous goods are not admitted except:

- the radioactive materials mentioned in article 16.1; and
- the infectious substances mentioned in article 16.2.
- 5 Lithium cells and batteries are classified as Class 9 dangerous goods and are prohibited in line with the UPU Convention. These cells and batteries can, however, be transported by air when they meet the requirements specified in the ICAO-IATA regulations concerning packing instructions, documentation, marking and labelling, and additional conditions such as a drop test.
- At the PSG meeting held in March 2009, Japan Post stated that there was a high potential demand for sending electronic equipment by post, including personal computers, mobile phones and digital cameras, which often contain lithium cells and batteries.

#### II. Action undertaken

- At the March 2009 meeting, the PSG decided to refer the issue of lithium batteries in the post to the PSG Dangerous Goods Project Group, made up of experts in the field and representatives from ICAO and IATA.
- 8 Representatives of the UPU attended the meeting of the ICAO Dangerous Goods Panel (DGP) held in Auckland (New Zealand), from 4 to 8 May 2009.
- The UPU presented a working paper to the DGP entitled "Lithium Batteries in the Post". The working group was asked to consider the possibility of sending limited quantities of lithium batteries by post, as outlined in § 2, where no more than four lithium cells or no more than two lithium batteries (contained in equipment) may be conveyed by air. The working group confirmed that an amendment to the UPU Convention would be necessary should the conveyance of lithium batteries in international postal items be required.
- 10 The DGP expressed concern about the number of incidents involving fires caused by lithium batteries that had occurred in post offices. In view of the problems that existed (for example, batteries purchased by hobbyists via the Internet would simply be sent by the seller through the post) it was suggested that designated operators needed to be educated and trained and it was agreed that the panel should serve as liaison with them.
- 11 At its meeting held on 29 October 2009, the PSG endorsed the following two-phased approach:
- First phase (before the 2012 Doha Congress):
  - a Amend the wording of articles 15 and 16 of the UPU Convention.
  - b Limit the scope to "Lithium batteries contained in equipment" (no more than four lithium cells or no more than two lithium batteries), in which case a "lithium battery label" is not required in accordance with the current ICAO regulations.
  - c Procedures to amend the Convention would have to follow the UPU General Regulations.
- Second phase (at the 2012 Doha Congress):
  - Present a proposal to the 2012 Doha Congress to increase the number to no more than five cells or three batteries contained in equipment and to include lithium batteries packed with equipment, in which case a lithium battery label would be required.
- 12 The Director of Legal of Affairs explained the procedures for amending an article of the Convention between Congresses. Her analysis is outlined in Annex 1.
- The ability of the CA to formulate proposals between Congresses is based on article 102.6.22 of the General Regulations. For the POC, this competence is based on article 104.9.5 of the General Regulations. These two provisions are analogous in that they enable the two Councils to "formulate proposals which shall be submitted for the approval either of Congress or of member countries in accordance with article 125".
- 14 The reference to the procedure provided for in article 125 of the General Regulations confirms that both the CA and the POC may formulate proposals between Congresses. In this case, contrary to what

applies to a proposal made by a member country, the CA or POC proposal does not require the support of two member countries, since it is approved by the competent UPU body in accordance with its Rules of Procedure. In other words, where a proposal to amend a UPU technical treaty between two Congresses is approved by the CA or POC, the International Bureau sends it to member countries for their comments, and then launches the voting procedure, in line with article 125 of the General Regulations.

#### III. Proposal to amend articles 15 and 16

- / 15 The revised wording for articles 15 and 16 is attached as Annex 2.
  - Article 15 has been revised to add the lithium cells and lithium batteries sent in letter-post items and postal parcels mentioned in article 16.3.
  - 17 Article 16 has been revised to add that no more than four lithium cells or no more than two lithium batteries, installed in equipment, may be admitted in letter-post items and postal parcels.
  - 18 If the proposal is approved, lithium cells and batteries would still need to meet the packaging requirements outlined in paragraph 2.
  - 19 If approved, there will be no labelling requirements for lithium cells and batteries.
  - 20 If approved, awareness-raising will need to be addressed to DOs and customers on proper procedures to be followed.
- With regard to the limitations placed on batteries installed in equipment, a subsequent proposal will be presented at the 2012 Doha Congress to expand the scope outlined in this proposal.
- The detailed requirements specified in the ICAO-IATA regulations should be stipulated in the Letter Post Regulations and the Parcel Post Regulations.

#### IV. Timetable for the proposal

- 23 A proposal will be presented to the 2010 POC for approval.
- 24 Consultations with member countries will be carried out from May to July 2010 on the basis of article 125.
- Voting by the member countries will take place in October to December 2010. A 50% reply rate and two-thirds approval are required to move forward.
- A guidance document for UPU member countries will be prepared together with information on admittance and packaging requirements.
- Draft changes to the Letter Post and Parcel Post Regulations will be ready by January 2011.
- 28 Related changes to the Letter Post and Parcel Post Regulations will be presented to the 2011 POC.
- The proposed date for the entry into force of the revised wording of articles of the Convention and of the related articles of the Letter Post Regulations and the Parcel Post Regulations is 1 October 2011.

#### V. Conclusion

- The PSG is requested to review this document and make comments.
- 31 It is also requested to approve the timetable outlined in §§ 23 to 29.
- 32 It is further requested to approve the proposal outlined in Annex 2.



Note to the Quality of Service Coordinator No. 1/DAJ of 14 January 2010

Subject: Proposal to amend an article of the Convention between Congresses – procedural question

#### I. The facts

A discrepancy has been noted in the Convention which it appears necessary to correct promptly. The question is whether the POC has the authority to submit proposals to amend the Convention between Congresses.

#### II. Legal aspects

Article 29 of the Constitution states that:

- "1 A member country shall have the right to present, either to Congress or between Congresses, proposals concerning the Acts of the Union to which it is a party.
- 2 However, proposals concerning the Constitution and the General Regulations may be submitted only to Congress."

This means that the Constitution and the General Regulations may not be amended between Congresses. Only the Convention and the Agreements (treaties of a technical nature), and the Regulations, may be amended between Congresses on the proposal of a member country. In this context, it is normally very difficult to have an amendment to the Acts of the Union approved between Congresses because of the low response rate relating to the procedure provided for in article 125 of the General Regulations.

Article 124 of the General Regulations states that:

"1 To be eligible for consideration every proposal concerning the Convention or the Agreements submitted by a member country between Congresses shall be supported by at least two other member countries. Such proposals shall lapse if the International Bureau does not receive, at the same time, the necessary number of declarations of support."

The competence of member countries is established in article 125 of the General Regulations. A proposal submitted by a member country generally has less of a chance of being approved than a CA or POC proposal, insofar as a CA or POC proposal is already supported by the majority needed within the Council concerned. Nevertheless, according to International Bureau comments regarding article 125:

"A country submitting a proposal between Congresses may ask the POC to examine it and prepare observations on it, which the International Bureau will annex to the proposal before submitting it for approval to the member countries."

A country can thus determine how much potential support a proposal has among member countries, and even secure a certain amount of support from the POC.

The CA's ability to formulate proposals between Congresses is based on article 102.6.22 of the General Regulations. For the POC, this competence is based on article 104.9.5 of the General Regulations. These two provisions are analogous in that they enable the two Councils to "formulate proposals which shall be submitted for the approval either of Congress or of member countries in accordance with article 125".

The reference to the procedure provided for in article 125 of the General Regulations confirms that both the CA and the POC may formulate proposals between Congresses. In this case, contrary to what applies to a proposal made by a member country, the CA or POC proposal does not require the support of two member countries, since it is approved by the competent UPU body in accordance with its Rules of Procedure. In other words, where a proposal to amend a UPU technical treaty between two Congresses is approved by the CA or POC, the International Bureau sends it to member countries for their comments, and then launches the voting procedure, in line with article 125 of the General Regulations.

O. Meylan Bracchi Director of Legal Affairs, Ethics Office

### Proposed draft changes to articles 15 and 16 for 2010 POC

Current article 15		Draft article 16		
1	General (omitted).	1	General (omitted).	
2	Prohibitions in all categories of items (omitted).	2	Prohibitions in all categories of items (omitted).	
3 Explosive, flammable, or radioactive materials and dangerous goods.		3 goods	Explosive, flammable, or radioactive materials and dangerous s.	
3.1	The insertion of explosive, flammable, or other dangerous goods as well as radioactive materials shall be prohibited in all categories of items.	3.1	The insertion of explosive, flammable, or other dangerous goods as well as radioactive materials shall be prohibited in all categories of items.	
3.2	The insertion of replica and inert explosive devices and military ordnance, including inert grenades, inert shells and the like, shall be prohibited in all categories of items.	3.2	The insertion of replica and inert explosive devices and military ordnance, including inert grenades, inert shells and the like, shall be prohibited in all categories of items.	
3.3	Exceptionally, the following dangerous goods shall be admitted:	3.3	Exceptionally, the following dangerous goods shall be admitted:	
3.3.1	the radioactive materials sent in letter-post items and postal parcels mentioned in article 16.1;	3.3.1	the radioactive materials sent in letter-post items and postal parcels mentioned in article 16.1;	
3.3.2	the infectious substances sent in letter-post items and postal parcels mentioned in article 16.2.	3.3.2	the infectious substances sent in letter-post items and postal parcels mentioned in article 16.2;	
		3.3.3	the lithium cells and lithium batteries sent in letter-post items and postal parcels mentioned in article 16.3.	
4	Live animals (omitted).	4	Live animals (omitted).	
5	Insertion of correspondence in parcels (omitted).	5	Insertion of correspondence in parcels (omitted).	
6	Coins, bank notes and other valuable articles (omitted).	6	Coins, bank notes and other valuable articles (omitted).	
7	Printed papers and literature for the blind (omitted).	7	Printed papers and literature for the blind (omitted).	
8	Treatment of items wrongly omitted (omitted).	8	Treatment of items wrongly omitted (omitted).	



#### E-7Current article 16 Draft article 16 Admissible radioactive materials, infectious substances, and lithium cells Admissible radioactive materials and infectious substances and lithium batteries Radioactive materials shall be admitted in letter-post items and parcels in rela-Radioactive materials shall be admitted in letter-post items and partions between member countries which have declared their willingness to admit them cels in relations between member countries which have declared their either reciprocally or in one direction only under the following conditions: (omitted). willingness to admit them either reciprocally or in one direction only under the following conditions: (omitted). 2 Infectious substances, with the exception of category A infectious substances Infectious substances, with the exception of category A infectious affecting humans (UN 2814) and affecting animals (UN 2900) shall be admitted in substances affecting humans (UN 2814) and affecting animals (UN 2900) letter-post items and postal parcels, under the following conditions: (omitted). shall be admitted in letter-post items and postal parcels, under the following conditions: (omitted). A maximum of four lithium cells or two lithium batteries. installed in equipment, shall be admitted in letter-post items and parcels under the following conditions: for a lithium metal or lithium alloy cell, the lithium content shall not be more than 1 g, and for a lithium ion cell, the Watt-hour

for a lithium metal or lithium alloy battery, the aggregate lithium content shall not be more than 2 g, and for a lithium ion battery, the Watt-hour rating shall not be more than 100 Wh; lithium ion batteries subject to this provision shall be marked with the Watt-hour rating on the outside case;

rating shall not be more than 20 Wh;

- 3.3 cells and batteries, when installed in equipment, shall be protected from damage and short circuit, and the equipment shall be equipped with an effective means of preventing accidental activation; when lithium batteries are installed in equipment, they shall be packed in strong outer packagings constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the batteries are afforded equivalent protection by the equipment in which they are contained;
- each cell or battery shall be of the type proved to meet the requirements of each test in the United Nations Manual of Tests and Criteria, Part III, sub-section 38.3.