



**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

**Report of the Sub-Committee of Experts on the Transport of
Dangerous Goods on its thirty-ninth session**

held in Geneva from 20 to 24 June 2011

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Report

I. Attendance

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its thirty-ninth session from 20 to 24 June 2011.
2. Experts from the following countries took part in this session: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Finland, France, Germany, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, South Africa, Spain, Sweden, Switzerland, United Kingdom and United States of America.
3. Under rule 72 of the rules of procedure of the Economic and Social Council, observers from Romania also took part.
4. The European Union and the Intergovernmental Organisation for International Carriage by Rail (OTIF) were also represented.
5. Representatives of the International Atomic Energy Agency (IAEA), the International Maritime Organization (IMO) and the World Health Organization (WHO) were also present.
6. Representatives of the following non-governmental organizations took part in the discussion of items of concern to their organizations: Australian Explosives Industry Safety Group (AEISG); Compressed Gas Association (CGA); Council on Safe Transportation of Hazardous Articles (COSTHA); Dangerous Goods Advisory Council (DGAC); European Association of Automotive Suppliers (CLEPA); European Cosmetic, Toiletry and Perfumery Association (COLIPA); European Industrial Gases Association (EIGA); European Metal Packaging (EMPAC); Federation of European Aerosol Associations (FEA); Institute of Makers of Explosives (IME); International Air Transport Association (IATA); International Association for Soaps, Detergents and Maintenance Products (AISE); International Association for the Promotion and Management of Portable Rechargeable Batteries (RECHARGE); International Confederation of Drum Manufacturers (ICDM); International Confederation of Plastics Packaging Manufacturers (ICPP); International Council of Chemical Associations (ICCA); International Dangerous Goods and Containers Association (IDGCA); International Electrotechnical Commission (IEC); International Federation of Airline Pilot's Association (IFALPA); International Tank Container Organisation (ITCO); International Vessel Operators Dangerous Goods Association (IVODGA); KiloFarad International (KFI); Portable Rechargeable Battery Association (PRBA); Responsible Packaging Management Association of Southern Africa (RPMASA) and Sporting Arms and Ammunition Manufacturers' Institute (SAAMI);

II. Adoption of the agenda (agenda item 1)

Documents: ST/SG/AC.10/C.3/77 (Provisional agenda)
ST/SG/AC.10/C.3/77/Add.1 (List of documents)

Informal documents: INF.1, INF.2/Rev.1 (List of documents)
INF.27 (Provisional timetable)
INF.19 (SAAMI) (Reception by NGOs)
INF.52 (Draft list of participants)

7. The Sub-Committee adopted the provisional agenda prepared by the secretariat after amending it to take account of informal documents (INF.1 to INF.63).

8. The Chairman, noting that a large number of informal documents had been submitted late, pointed out that in principle decisions were taken on the basis of official documents and that informal documents should only contain comments on proposals already submitted or proposals related to corrections or questions of interpretation. They should also be submitted earlier.

9. On behalf of the Sub-Committee, he welcomed the publication of the seventeenth revised edition of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, and the fourth revised edition of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

III. Explosives and related matters (agenda item 2)

A. Preliminary consideration in plenary session

10. Following a preliminary discussion in the plenary, most of the questions relating to this agenda item were assigned to the Working Group on Explosives, which met from 20 to 22 June 2011 under the chairmanship of Mr. E. De Jong (Netherlands).

11. In respect of the proposal of AEISG (informal document INF.24) that test series 8 requires a more fundamental review by the Working Group on Explosives, some experts considered that a mandate should be first defined.

12. For the deflagration to detonation transition (DDT) test and criteria for flash compositions, the expert from the United States pointed out that a basic proposal already existed (ST/SG/AC.10/C.3/2010/31). Some experts considered that the test results provided in the informal documents had been sent too late to be evaluated, and considered that no decision should be taken at the current session.

13. As for the principle proposed by IME in informal document INF.23 to take into consideration, when classifying, the actual risk posed during transport and not only the intrinsic danger of a substance, some experts considered that such a principle required discussion in the plenary on the basis of official documents, and pointed out that it would also affect global harmonization in the context of GHS.

14. The proposal by the secretariat to amend special packing provision PP43 was supported by several delegations, but it too was assigned to the Working Group on Explosives, as it was remarked that it applied as well to UN No. 0342.

15. Regarding the comments by the expert from Canada concerning difficulties in carrying out classification tests from the Manual of Tests and Criteria (informal document INF.25), several experts considered that before carrying out a general review of tests for Class 1, it would be necessary to identify in greater detail all the problems encountered and also to keep the experts of the GHS Sub-Committee informed. Several experts were also reluctant to initiate more extensive work concerning other classes or divisions, as the difficulties encountered for example under divisions 4.1, 5.1 and 5.2 had not been specified. The Working Group could thus only begin a preliminary discussion on such topics, and should for the moment discuss only clearly identified difficulties.

16. In response to a question from the secretariat, it was specified that the decision had been taken not to introduce a definition in the glossary for the name "CARTRIDGES FOR TOOLS, BLANK", added under UN No. 0014, since there is only one single generic definition for "cartridges, blank". A definition might be needed in RID/ADR/ADN where there is no generic definition but two specific definitions for "CARTRIDGES FOR WEPPONS, BLANC" and "CARTRIDGES, SMALL ARM, BLANK".

B. Report of the Working Group on Explosives

Informal document: INF.58

17. The Sub-Committee approved the conclusions of the Working Group, as indicated below.

1. Test Series 8

Informal documents: INF.4 (IME)
INF.5 (IME)
INF.6 (IME)
INF.7 (IME)
INF.24 (AEISG)

18. IME should prepare official proposals reflecting the conclusions of the Working Group for submission at the forty-first session as follows:

(a) For the miscellaneous changes in test series 8(b)(INF.4), Table 18.5.1.1 of the 8(b) test procedure should be corrected and not deleted. The proposals in sections 3.2 and 3.3 could also be adopted.

(b) For the recommendation regarding the 50/50 pentolite donor (INF.5) section 18.5.1.2.1 (b) of the Test Manual should be amended to read :

"95 mm diameter by 95 mm long 50/50 pentolite or 95/5 RDX/WAX pellet with densities of $1\ 600\ \text{kg/m}^3 \pm 50\ \text{kg/m}^3$ ".

(c) For the recommendation regarding cold-drawn carbon steel tube (INF.6), specifying a minimum wall thickness and a minimum ID would be a way forward; and the comments from the Working Group should be taken into account;

(d) For the recommendation on the use of Extruded PMMA Rod as an alternative to Cast PPMA(INF.7), the proposals by IME could be made.

19. For the Test Series 8 Review (INF.24) it was generally accepted that retesting of products was not required unless changes to the approved formulation of the substances were involved. This would not generally involve variations in process normally controlled by management systems, e.g., plant site, ingredient source changes. The continuing importance of Test Series 8 in ensuring that ANEs are properly identified as dangerous goods was recognized.

2. Screening test for substances that may have explosive properties

Informal document: INF.21 (Japan and ICCA)

20. There was wide support of the proposal and a formal proposal for the forty-first session is anticipated.

3. DDT Test and Criteria for flash composition

Informal documents: INF.31 (United States of America)
INF.16 (Germany)
INF.22 (Japan)
INF.30 (United Kingdom)
INF.44 (United States of America)

21. It was agreed that the DDT test proposed by the United States of America was a good way forward. Taking note of the Working Group's comments, the expert from the United States of America and others will continue their work to refine and prove the reliability of the test, particularly, concerns related to the weight of the tube, the sample mass, and results related to granulated material.

4. Additional criteria for Division 1.4 classification

Informal document: INF.23 (IME)

22. IME will take into account the comments of the Working Group and may present an additional paper for consideration in the forty-first session.

5. Miscellaneous

Informal document: INF.17 (Secretariat): Amendments to packing instructions for explosives – Consequential amendments

23. The Sub-Committee agreed with the recommendation for packing instruction P111 (INF.17) and that packing instruction P114 (a) should not apply to UN 0159 but should refer to UN 0342, as indicated by the expert from China. This should be a correction (see annex I).

Informal document: INF.25 (Canada): Difficulties in carrying out classification tests

24. As an interim solution, the Sub-Committee referred to section 1.1.2 of the Manual that advises that the Competent Authority can and should use its discretion in applying the tests and allowing variations in test materials and procedures described in the Manual. The Sub-Committee also agreed that it should conduct a review of the tests mentioned in Parts I and II of the Manual with a view to:

- Better defining the specifications of the tests;
- Better defining the tolerances associated with those specifications; and
- Removing any unnecessary or over-specifications.

25. The review should first be focused on identifying errors and defining key parameters, tolerances and acceptable alternative materials. Additional review may also be necessary to evaluate the appropriateness of the tests and procedural details. The expert from Australia offered to coordinate a survey of experts on the basis of permitted variations to Test Series 8 and IME offered to coordinate the work, along with the expert from the United States of America and Canada, on Test Series 6. Many other experts of the Sub-Committee expressed their willingness to work on this review and the chairman of the Working Group will coordinate these activities.

Informal document: INF.26 (SAAMI): Implementation of the definition of Division 1.4, Compatibility Group S

26. The Sub-Committee noted that the existing test criteria fully implement the 1.4S definition, particularly as it relates to emergency responders, and any additional criteria used at the discretion of a competent authority should be objective and not subjective.

Informal document: INF.35 (United Kingdom): Special Packing Provision PP70

27. The Sub-Committee agreed that this was a reasonable concept that should be developed further into a formal proposal. Any comments should be provided to the expert from the United Kingdom.

Informal document: INF.43 (Canada): Possible use of the 5 (a) Cap Sensitivity Test as an Alternative to UN Test Series 6 for Certain Substances

28. There was no general consensus that this should be recommended.

Informal document: INF.47 (United States of America): Consideration on Test Series 6

29. Some experts recognized that certain propellants may demonstrate detonative, deflagrative, and thermal hazards. However, there was general consensus that the current test scheme adequately addresses the hazard posed by such substances.

Informal document: INF.11 (Germany): Substances and mixtures with explosive properties which are exempted from classification as explosives

30. It was agreed that the proposal should be considered more fully by the Working Group during the forty-first session.

Informal document: INF.53 (AEISG): Comments on the Koenen Test

31. The Working Group was encouraged to review the paper in detail and to provide comments to AEISG.

IV. Listing, classification and packing (agenda item 3)

A. Proposals of amendments to the list of dangerous goods of Chapter 3.2

1. Transport of asbestos under UN No. 2212

Document: ST/SG/AC.10/C.3/2011/9 (United Kingdom)

32. The Sub-Committee noted that the entry "0" in column (7a) of the list of dangerous goods under Chapter 3.2 prohibited the transport of UN No. 2212 under Chapter 3.4, but that the substance was of packing group III, and transport under Chapter 3.4 was authorized for asbestos under UN No. 2590, of packing group II.

33. The Sub-Committee noted that an error had thus appeared in the twelfth revised edition of the Recommendations, and that the quantity to be indicated in that column should be 5 kg. The secretariat was asked to publish a correction (see annex I).

34. Some experts considered, however, that the transport of asbestos packed in limited quantities in accordance with Chapter 3.4 should not be authorized. They were requested to prepare official proposals with the appropriate justifications if they deemed it necessary.

2. Classification of mercurous chloride

Informal document: INF.11 (United Kingdom)

35. The Sub-Committee noted that RID, ADR and ADN classified mercurous chloride under Class 9, UN No. 3077, but that according to certain data the substance should be under Division 6.1 (UN No. 2025). If that were the case, the question would arise as to whether the substance was transported in sufficient quantities to justify assignment of a specific UN number for it.

36. The expert from the United Kingdom was invited to prepare a proposal for the next session presenting the data available for classification of the substance.

3. Amendments to the proper shipping name for UN No. 1263

Document: ST/SG/AC.10/C.3/2011/10 (Republic of Korea)

Informal documents: INF.32 (IPPIC)
INF.46 (United States of America)
INF.55 (United States of America)

37. The Sub-Committee decided to add special provision 367, applicable to UN Nos. 1210, 1263, 3066, 3469 and 3470 (see annex II).

B. Classification of Class 3 viscous liquids in packing group III

Document: ST/SG/AC.10/C.3/2011/20 (IATA)

38. The Sub-Committee adopted the proposal by IATA to clarify the provisions of 2.3.2.2, 2.3.2.3 and 2.3.2.5, with some amendments (see annexes II and III). It confirmed that the current provisions for classification in packing group III or for exemption from Class 3 were applicable only for receptacles with capacities not exceeding 450 litres.

39. Some delegations considered that the capacity limitation should be removed. However, that would require that a proposal and appropriate justification be submitted.

40. It was also noted that the capacity limits for air and sea transport were 30 litres, not 450 litres, and it was thus suggested to use the more restrictive limit of 30 litres, which would not prevent the land transport regulations from applying a less severe capacity limit.

41. It was decided to first ask IMO and ICAO why they had established more severe capacity limits, and whether they had any objections to the adoption of the 450 litre limit. The Joint Meeting on RID/ADR/ADN could also be consulted.

C. Miscellaneous

1. Amendment of packing instruction P404

Document: ST/SG/AC.10/C.3/2011/4 (ICCA)

42. The proposed amendment was adopted with some amendments (see annex II).

2. Packing instruction P906

Document: ST/SG/AC.10/C.3/2001/3 (Switzerland)

Informal document: INF.56 (Switzerland)

43. The revised proposal contained in informal document INF.56 was adopted with some amendments (see annex II).

3. Packing instruction P602

Document: ST/SG/AC.10/C.3/2011/19 (DGAC)

Informal document: INF.59 (DGAC)

44. The Sub-Committee agreed to include, as a new paragraph 4.1.1.5.2, new general provisions concerning the use of supplementary packagings, and to amend paragraph (2) of Packing Instruction P602. The same amendment should be made to P601 paragraph (2) (see annex II).

V. Electric storage systems (agenda item 4)

A. Testing of lithium batteries

1. Verification of amendments to section 38.3

Informal documents: INF.31 (Secretariat)
INF.60 (France)

45. The Sub-Committee adopted the corrections proposed in informal document INF.60 (see annex IV). The Sub-Committee also agreed that cells and batteries manufactured before 1 January 2014 in accordance with the provisions contained in the fifth revised edition of the Manual of Tests and Criteria could continue to be transported after that date (see annex II).

2. Comments on T.6 tests

Informal document: INF.36 (China)

46. The expert from China proposed reducing to 18 mm (from 20 mm) the diameter of cylindrical cells used to determine whether a cell should be subject to an impact and crush test in 38.3.4.6 (see ST/SG/AC.10/38/Add.2). He was asked to submit an official proposal at the next session with more detailed justification.

B. Lithium-ion capacitors

New proper shipping name for asymmetric capacitors

Document: ST/SG/AC.10/C.3/2011/14 (Japan)

47. The discussion revealed diverging views on the fundamental question of whether specific entries should be created for each article of this kind, considering that they could be generically handled with other articles presenting similar hazards.

48. Bearing in mind that such capacitors would remain in the programme of work and that they are excluded from the already adopted entries for capacitors (UN No. 3499), delegations concerned were requested to present their arguments in writing at the next session to support one or the other approval.

49. Delegations were invited to send their detailed comments to the expert from Japan, who said that he would submit a new proposal at the next session.

C. Waste or damaged/defective lithium batteries

Document: ST/SG/AC.10/C.3/2011/15 (Germany)

Informal document: INF.13 (PRBA/RECHARGE)

50. Opinions on the proposals diverged. Several experts considered it illogical to designate a specific UN number to an article that already had one but that had been damaged. Such damaged articles could, for example, be transported in salvage packagings. A distinction should also be made between batteries transported as waste those which, owing to a defect, were transported for repair.

51. Consideration of such questions was assigned to a lunchtime working group, which was given the mandate of studying whether the case of damaged or defective batteries

could be distinguished from that of waste batteries and to consider the provisions that should apply in each case, in particular in respect of packagings.

52. Following discussions within the working group, new provisions would be submitted at the next session.

D. Packagings for large batteries

Special provision 310

Document: ST/SG/AC.10/C.3/2011/21 (PRBA)

53. Several experts were not in favour of the proposal to amend special provision 310, in particular because it would do away with the need for outer packagings to meet the performance level requirements of packing group I. Some considered that the specific cases of large batteries could be resolved by agreement among the competent authorities concerned, as in ADR multilateral agreement M 228. It was also noted that while the proposal was based on multilateral agreement M 228, its conditions were not the same.

54. The representative of PRBA said he would submit a new proposal taking into consideration the comments made.

E. Miscellaneous

Lithium battery marking

Informal document: INF.45 (United States of America)

55. Several delegations welcomed the idea of a marking indicating that batteries were tested for transport. However, there already existed mandatory markings indicating compliance with international or domestic standards which allowed batteries to be put on the market, and that there was a need to avoid confusion among such markings. Some experts also expressed concern that the marking “UN” on packagings might lead people to believe that the batteries were tested under the auspices of the competent authority, while the testing was actually performed under the responsibility of the manufacturer. Other experts felt that the test procedure should be monitored by the competent authority.

56. The expert from the United States said that he would submit an official proposal at the next session.

VI. Miscellaneous proposals of amendments to the Model Regulations on the Transport of Dangerous Goods (agenda item 5)

A. Packagings

1. Vibration tests for IBCs over 1,500 kg gross mass carrying liquids

Document: ST/SG/AC.10/C.3/2011/7 (United Kingdom)

Informal document: INF.40 (ICPP/ICCR)

57. Some experts questioned the usefulness of the vibration tests for IBCs while the majority believed it was necessary for safety, based on experience gained from performing the test. However, most experts noted that the issue had been discussed at length and the

decision had been taken to make such tests obligatory. As test laboratories had made arrangements to acquire the necessary testing equipment, the experts did not think it would be a good idea to change that decision when it had just taken effect in the regulations, although they accepted that testing large IBCs might be problematic in countries that were not suitably equipped.

58. The expert from the United Kingdom withdrew his proposal.

2. Packagings with a capacity exceeding 450 litres

Document: ST/SG/AC.10/C.3/2011/11 (Austria and Germany)

Informal document: INF.12 (DGAC)

59. The majority of experts who spoke expressed the view that the 450-litre capacity limit for packagings applied only to packagings for liquids, and was not intended to limit the capacity of packagings for solids or combination packagings for which the original limit was 400 kg of net mass with no volume limit. However, as the proposal did not seem to take account of all the editorial amendments that would need to be made to the regulations, the expert from Germany said she would submit a new proposal at the next session.

3. Prevention of dangerous electrostatic discharge

Document: ST/SG/AC.10/C.3/2011/12 (Germany)

60. Several experts supported the principle behind the proposal, namely, to require that measures be taken to prevent electrostatic discharge in the case of plastic packagings used for the transport of flammable liquids, as was already required in the case of plastic IBCs.

61. Other experts thought it was more difficult to earth small plastic packagings in vehicles than to earth IBCs. The problem of electrostatic discharge concerned operations to fill and empty the packagings and, unlike certain IBCs, packagings that met the requirements of chapter 6.1 were not filled or emptied when on the vehicle, and measures to prevent electrostatic discharge were usually governed by labour regulations.

62. The expert from Germany said she would reflect on how to follow up on her proposal.

4. Mass of salvage packagings

Document: ST/SG/AC.10/C.3/2011/13 (Germany)

Informal document: INF.54 (Belgium)

63. The solution proposed by the expert from Belgium, whereby large salvage packagings would be used to recover large packagings or IBCs that were defective, was preferred over the solution proposed by the expert from Germany. The expert from Belgium would therefore submit a new proposal in the course of the biennium.

B. Portable tanks

1. Amendment to Section 6.7.2.15

Document: ST/SG/AC.10/C.3/2011/1 (Spain)

Informal document: INF.50 (ITCO)

64. The expert from Spain revised his proposal to limit it to the addition of one example to the last sentence of paragraph 6.7.2.15.1. Views on the proposal differed, with some

experts considering the text to be sufficiently clear as it stood. At the request of the expert from Spain, the proposal was put to a vote, and it was rejected.

2. Interpretation of the requirements of the framework test, specified in ISO 1496-3:1995

Informal document: INF.9 (Germany)

65. The delegations who spoke generally considered that Finite Element Methods (FEM) were very useful at the design stage for tanks and containers but should not be a substitute for actual tests, which were more reliable for ensuring performance requirements were met and more pertinent in a regulatory setting. The expert from Germany said she would consider what the next step should be.

3. Transitional arrangements for portable tanks intended for the transport of liquids

Informal document: INF.15 (United Kingdom)

66. Delegations interested in the problems raised in this informal document were invited to send their comments in writing to the expert from the United Kingdom.

C. Marking and labelling

1. Description of labels, placards, symbols, marking and marks

Document: ST/SG/AC.10/C.3/2011/5 (United Kingdom)

Informal documents: INF.38 (Switzerland)
INF.48 (Norway)

67. There was general support for the principle of improving the requirements concerning specifications of marks, labels and placards in chapters 3.4, 3.5, 5.2, 5.3, 5.5, 6.5 and 6.6. Nevertheless several experts felt that the requirements should not be too specific and should remain reasonably flexible to avoid fines and penalties by too zealous enforcement authorities for infringements that would not jeopardize safety. It was also suggested that cooperation with the GHS Sub-Committee should be sought at the relevant stage of discussions.

68. Delegations were invited to provide their comments in writing to the expert from the United Kingdom in due time so that she could prepare a new proposal for the next session.

2. Marking on gas cylinders

Document: ST/SG/AC.10/C.3/2011/16 (EIGA)

Informal document: INF.62 (EIGA)

69. The Sub-Committee adopted the amendment to 5.2.1.1 proposed in INF.62 (see annex II) and invited IMO, ICAO and the RID/ADR/ADN Joint Meeting to reflect this amendment in the 2013 version of the ICAO Technical Instructions, RID, ADR and ADN and in amendment 36-12 to the IMDG Code.

3. Marking of the date of manufacture on packagings of types 1H and 3H

Document: ST/SG/AC.10/C.3/2011/17 (ICPP)

70. Several experts supported the proposal to allow the marking of the year in the center of the mark intended to show the month of manufacture in 6.1.3.1 (e), as shown for IBCs in 6.5.2.2.4. However, it was recalled that the methods described were only examples of

appropriate methods to indicate the month of manufacture, and it was emphasized that the year indicated should be the same as that indicated in the marking.

71. The representative of ICPP said that he would submit a new proposal to take account of the comments made.

4. Application of the air limited quantities mark

Document: ST/SG/AC.10/C.3/2011/18 (DGAC)

Informal documents: INF.39 (Switzerland)
INF.61 (DGAC)
INF.63 (DGAC)

72. It was recalled that the principle that had been agreed when paragraph 3.4.8 was adopted was that the "Y" air mode limited quantity mark could be applied only if all relevant requirements of the ICAO Technical Instructions were observed. For the comments by the expert from Switzerland, it was also underlined that paragraph 3.4.1 (e) specified clearly the marking and labelling requirements that had to be observed for each mode of transport.

73. Following explanation by DGAC and discussion the Sub-Committee agreed by consensus on the principle that the "Y" mark could also be applied on packages containing dangerous goods within the ICAO Technical Instructions limits packed in accordance with the ICAO Technical Instruction, which are not marked and labelled according to the ICAO Technical Instructions, when they are carried by modes of transport other than air. A lunch-time working group was convened in order to develop the necessary provisions.

74. The Sub-Committee adopted the modifications to 3.4.8 and 3.4.9 proposed in INF.63 with some modifications (see annex II).

5. Size of "OVERPACK" and "SALVAGE" markings

Informal document: INF.3/Rev.1 (United Kingdom)

75. The proposal of amendments to 5.1.2.1 and 5.2.1.3 was adopted (see annex II).

D. Miscellaneous

1. "Structurally serviceable"

Document: ST/SG/AC.10/C.3/2011/2 (Spain)

Informal document: INF.49 (ITCO)

76. The Sub-Committee noted that RID, ADR and ADN require all freight containers intended for the transport of dangerous goods to be structurally serviceable, while this requirement applies only to freight containers for explosives in the Model Regulations, and the requirements are not exactly the same. After discussion, the expert from Spain withdrew his proposal and said that he would raise the issue with the RID/ADR/ADN Joint Meeting before submitting a new proposal to the Sub-Committee for harmonization..

2. Assignment of bulk container codes

Informal document: INF.10 (Germany)

77. After an exchange of views, the expert from Germany said that he would submit a proposal at the next session.

3. Special Provision 251 and Packing Instruction P 901

Informal document: INF.33 (IATA)

78. The proposal to amend special provision 251 and Packing Instruction P 901 was adopted with minor modifications (see annex II).

4. Meaning and application of the term "Hermetically sealed".

Informal document: INF.37 (IATA)

79. The general feeling was that this term meant an air and vapour tight sealed closure. It was noted that the term is used in a number of other places in the Model Regulations that might make a single definition difficult to achieve. The representative of IATA agreed to consider the matter further.

5. Technical names for environmentally hazardous substances

Informal document: INF.42 (IPPIC)

80. The Sub-Committee took note of the proposal submitted to IMO.

VII. Electronic data interchange for documentation purposes (agenda item 6)**Progress on pilot project: e-freight for dangerous goods**

Informal document: INF.34 (IATA)

81. The Sub-Committee took note of the progress report submitted by IATA.

VIII. Cooperation with the International Atomic Energy Agency (agenda item 7)**Updates to the IAEA Regulations**

Informal documents: INF.8 and Adds 1-3 (IAEA)
INF.28 (Secretariat)

82. The Sub-Committee noted the list of draft changes to the 2009 edition of the IAEA Regulations for the Safe transport of Radioactive Material that would be reflected in the next version to be published by IAEA and should also be reflected in the corresponding provisions of the next revised edition of the United Nations Model Regulations. Nevertheless the Sub-Committee noted that significant changes to this list had been made at the IAEA TRANSSEC session which took place from 13 to 17 June and therefore it was too early to discuss how to introduce them in the Model Regulations.

83. Since the 2009 edition of the IAEA Regulations corresponded to the fifteenth revised edition of the United Nations Recommendations, it would be desirable to check whether the next edition of the IAEA Regulations will incorporate the changes that had been incorporated in the sixteenth and seventeenth revised editions of the United Nations Recommendations (ST/SG/AC.10/36/Add.1 and ST/SG/AC.10/38/Add.1).

84. The changes to the 2009 edition of the IAEA Regulations that will be adopted in 2011 could be submitted to the Sub-Committee at its June 2012 session for final adoption in December 2012 and incorporation in the eighteenth revised edition of the United Nations Recommendations.

85. The Sub-Committee noted with satisfaction that its Chairman and secretariat were corresponding with the Chairman of the TRANSSEC Committee and the IAEA in order to define improved procedures for cooperation and clarify the review process proposed by IAEA in informal document INF.29, paras 3-7.

86. Concerning the request by IAEA for a new UN number for uranium hexafluoride in excepted packages, it was recalled that the issue had been discussed at the last session (ST/SG/AC.10/C.3/2010/78, informal document INF.29, ST/SG/AC.10/C.3/76, para.95) but the decision had been postponed at the request of IAEA since the transport conditions had not yet been approved by IAEA. The IAEA was therefore invited to submit a proposal for the next session covering transport conditions in the light of the comments made by the Sub-Committee at the last session.

IX. Global harmonization of transport of dangerous goods regulations with the Model Regulations (agenda item 8)

A. Assignment of packing group I to various UN numbers (differences between the UN Model Regulations and RID/ADR/ADN)

Document: ST/SG/AC.10/C.3/2011/8 (United Kingdom)

87. The Sub-Committee considered that there was no demonstrated need to provide for packing group I entries for UN Nos 1169, 1197, 1266, 1286 and 1287 since, according to the industry, none of these products met packing group I criteria.

B. Harmonization of RID/ADR/ADN with the Model Regulations

Informal document: INF.28 (Secretariat)

88. The Sub-Committee considered the issues raised by the Ad Hoc Working Group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods (document ECE/TRANS/WP.15/AC.1/30) and concluded as follows:

Paragraph 9

89. Solutions and mixtures are inconsistently referred to as "solutions and mixtures" or "mixtures and solutions" both in the Model Regulations and in RID/ADR/ADN, but there is no need to amend the Model Regulations for such an editorial inconsistency.

Paragraph 15

90. The designations "AUXILIARY EXPLOSIVE COMPONENT ISOLATED" and "EXPLOSIVE, EXTREMELY INSENSITIVE SUBSTANCES (EIS)" should appear in lower case in the Glossary of the Model Regulations (see annex I).

Paragraphs 18 and 19

91. The note added to 2.6.3.2.3.3. is wrong and should be corrected to read "Medical equipment which has been drained of free liquid is deemed to meet the requirements of this paragraph and is not subject to these Regulations" (see annex I).

Paragraph 22

92. The new provisions for testing lithium batteries need not to be applied to cells and batteries manufactured before 1 January 2014 (see also paragraph 45).

Paragraph 23

93. The Sub-Committee agreed that Special Provision 300 should have been assigned to the Packing Group III entry for Krill meal, UN No. 3497 (see annex I).

Paragraph 28

94. The Sub-Committee agreed that pyrophoric gases should be prohibited as propellants for aerosols and as components of chemicals under pressure, and the secretariat was invited to prepare a proposal of amendment to special provisions 63 and 362 accordingly.

Paragraph 31

95. There was no consensus on the best way to draft paragraph 3.5.1.4. Some experts felt that the way it is drafted is consistent with other exemptions which can be found in special provisions, while others felt that the goods referred to in this paragraph remained subject to certain provisions of the Regulations and therefore could not be described as not subject to the Regulations.

Paragraph 32

96. The Sub-Committee considered that there was no need to amend the headings of the packing instructions PIXX to reflect the possibility of use of arrangements such as dividing partitions described in the column, which form parts of packagings.

Paragraph 33

97. The Sub-Committee considered that the word "compressed" in paragraph (1) of P201 was not needed, but reference to tubes and pressure drums would not be appropriate since they are not used for the transport of samples. The wording could be "cylinders and gas receptacles" (see annex II).

Paragraph 34

98. The representative of CGA explained that the term "pressure vessel" is used by the industry to refer to static or stationary pressure receptacles rather than transportable pressure receptacles. However, since the definition of pressure receptacle in 1.2.1 covers these "pressure vessels", and since this different terminology causes translation problems, it was agreed to replace "pressure vessel" by "pressure receptacle" wherever necessary (see annex II).

Paragraph 35

99. The Sub-Committee agreed that the conditions of transport of devices such as radio frequency identification tags when active should be further discussed during the biennium and that the last sentence of paragraph (4) of packing instruction P903 might not have been located at the appropriate place in the Regulations.

Paragraph 36

100. The representative of CGA said that the term "filling ratio" used in T50 is correct because it is defined in section 1.2.1.

Paragraphs 37 and 39

101. The Sub-Committee agreed that 5.5.3.1.3 should refer to MEGCs in addition to portable tanks and that the word "packagings" in 5.5.3.4.2 should be replaced by "packages" (see annex I).

Paragraph 40

102. The Sub-Committee noted that the NOTE to 6.6.3.3 contained a reference to repaired large packagings while there was no definition, nor provision, for repaired large packagings. Nevertheless there was no consensus on the need for deleting this reference, since the repair of large packagings could be an opportunity for displaying the stacking load symbol.

Paragraphs 43 and 44

103. The Sub-Committee agreed that the acronym "FBC" should not be used in the provisions for the time being, and that some corrections had to be made in section 6.8.5 (see annex I).

Paragraph 46

104. The Sub-Committee agreed that special provision 354 should not apply to packing group II substances (see annex I).

C. Harmonization of the IMDG Code with the Model Regulations

Informal document: INF.41 (Secretariat)

105. The Sub-Committee considered the issues raised by the IMO Editorial and Technical Group and concluded as follows on those which had not yet been considered.

Paragraph 3

106. Special provision 172 has not been assigned to UN Nos 2977 and 2978 in the Model Regulations because the subsidiary risk is defined and the packing conditions as well. Nevertheless, since new provisions for transport of uranium hexafluoride in excepted packages are going to be developed at IAEA request, the entries for UN Nos. 2977 and 2978 could be discussed again during this biennium, but the Sub-Committee recommends that IMO should not amend the IMDG Code in this respect at this time.

Paragraph 4

107. The Sub-Committee noted the need for consistency in the assignment of special packing provisions between the different modal regulations or for assignment of specific modal packing provisions and that proposals might be submitted to this effect.

Paragraph 5

108. The Sub-Committee agreed to correct 5.4.2.3 and 5.4.2.4 as proposed (see annex I).

Paragraph 7

109. The Sub-Committee noted the work being carried out by IMO on questions related to surviving of information on labels and placards after immersion in water.

Paragraphs 8 and 9

110. The Sub-Committee invited IMO to keep it informed of further developments regarding proposed requirements for the transport of polymeric beads and plastics moulding compounds (UN Nos. 2211 and 3314) since these were likely to have consequences for multimodal transport.

D. Outcome of the RID/ADR/ADN Joint Meeting autumn 2010 session

Informal document: INF.51 (Secretariat)

111. The secretariat was invited to submit this paper at the next session.

X. Guiding principles for the Model Regulations (agenda item 9)

Document: ST/SG/AC.10/C.3/2011/6 (United Kingdom)

112. Delegations were invited to provide comments in writing to the expert from the United Kingdom.

113. The secretariat was invited to post on its website updated Guiding Principles corresponding to the sixteenth revised edition of the Recommendations. Delegations were invited to check them and provide feedback if necessary.

XI. Issues relating to the Globally Harmonized System of Classification and Labelling of Chemicals (agenda item 10)**Update on work of the informal joint correspondence group on corrosivity criteria**

Informal document: INF.14 (United Kingdom)

114. The Sub-Committee took note with satisfaction of the progress made by the group and expressed its commitment to further involvement as the work evolves in the future.

XII. Other business (agenda item 11)**A. Transport of dangerous goods conference and GHS training, March 2011, South Africa**

Informal document: INF.57 (RPMASA)

115. The Sub-Committee took note of the acknowledgements expressed by RPMASA.

B. Corrections to the seventeenth revised edition of the Recommendations

Informal document: INF.18 (Secretariat)

116. The Sub-Committee confirmed the corrections proposed by the secretariat (see annex I).

C. Shipments of certain dangerous goods by post

Informal document: INF.20 (CEPE/COLIPA/FEA)

117. The Sub-Committee was informed that an increasing number of consignments of dangerous goods were illegally carried by postal services since apart from certain radioactive material and infectious substances, dangerous goods are normally not authorized for such carriage. The Sub-Committee felt that, should the Universal Postal Union wish to authorize such transport in future, it should cooperate with the Sub-Committee in order to define appropriate conditions of transport which would not conflict with applicable modal regulations.

D. Tribute to Mr. C. Ke (United States of America) and Mr. M. Morrissette (DGAC)

118. The Sub-Committee was informed that Mr C. Ke and Mr. M. Morrissette would no longer participate in its work as members of their respective delegations. The Sub-Committee paid tribute to their longstanding contribution to the improvement of safety in the transport of dangerous goods and wished them all the best in their new endeavours.

XIII. Adoption of the report (agenda item 12)

119. The Sub-Committee adopted the report on its thirty-ninth session and its annexes on the basis of a draft prepared by the secretariat.

Annex I

Corrections to the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations

Chapter 1.2

1.2.1 Definition of *Bulk container*, at the end

Delete "(FBCs)".

(Reference document: informal document UN/SCETDG/39/INF.28)

Chapter 2.6

2.6.3.2.3.3 The Note should read as follows:

"NOTE: *Medical equipment which has been drained of free liquid is deemed to meet the requirements of this paragraph and is not subject to these Regulations.*"

Chapter 2.9

2.9.4 At the end of (a), insert the following new note:

"NOTE: *Batteries shall be of a design type proved to meet the testing requirements of the Manual of test and criteria, part III, sub-section 38.3, irrespective of whether the cells of which they are composed are of a tested design type.*"

(Reference document: informal document UN/SCETDG/39/INF.60)

Chapter 3.2

Dangerous goods list

UN 2381 In column (6), delete "354".

(Reference document: informal document UN/SCETDG/39/INF.28)

UN 2590 In column (7a), for "0" read "5 kg".

(Reference document: ST/SG/AC.10/C.3/2011/9)

UN 3497, packing group III In column (6), insert "300".

(Reference document: informal document UN/SCETDG/39/INF.28)

Chapter 3.3

SP 280 For "pressure vessel" read "pressure receptacle".

(Reference document: informal document UN/SCETDG/39/INF.28)

SP 361, sub-paragraph (d), at the end For "shall be contained by packaging or by equipment" read "shall be contained by the packaging or by the equipment".

(Reference document: informal document UN/SCETDG/39/INF.18)

Appendix B

In the glossary of terms, "AUXILIARY EXPLOSIVE COMPONENT ISOLATED" and "EXPLOSIVE, EXTREMELY INSENSITIVE SUBSTANCES (EIS)" should appear in lower-case.

(Reference document: informal document UN/SCETDG/39/INF.28)

Chapter 4.1

4.1.4.1 P111, PP43 For the existing text, substitute:

"PP43 For UN 0159, inner packagings are not required when metal (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) or plastics (1H1 or 1H2) drums are used as outer packagings."

4.1.4.1 P114(a), PP43 For the existing text, substitute:

"PP43 For UN 0342, inner packagings are not required when metal (1A1, 1A2, 1B1, 1B2, 1N1 or 1N2) or plastics (1H1 or 1H2) drums are used as outer packagings."

(Reference documents: informal documents UN/SCETDG/39/INF.17 and UN/SCETDG/39/INF.58)

4.1.4.1 P201 For "Compressed gas cylinders and gas receptacles" read "Cylinders and gas receptacles".

(Reference document: informal document UN/SCETDG/39/INF.28)

4.1.4.1 P301 (1) For "pressure vessel" read "pressure receptacle" and for "vessel" read "receptacle" (3 times).

(Reference document: informal document UN/SCETDG/39/INF.28)

4.1.4.1 P301 (2) For "pressure vessel" read "pressure receptacle" and for "vessel" read "receptacle" (3 times).

(Reference document: informal document UN/SCETDG/39/INF.28)

4.1.4.1 P802 (1) After "4B," insert "4N".

(Reference document: informal document UN/SCETDG/39/INF.18)

4.1.4.1 P902, additional requirement For "pressure vessel" read "pressure receptacle".

(Reference document: informal document UN/SCETDG/39/INF.28)

4.1.4.1 P903 (4)

For "Strong outer packagings constructed of suitable material of adequate strength and design, in relation to the packaging capacity and its intended use." read "Strong outer packagings constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use.".

(Reference document: informal document UN/SCETDG/39/INF.18)

4.1.4.3 LP902, additional requirement For "pressure vessel" read "pressure receptacle" (twice).

(Reference document: informal document UN/SCETDG/39/INF.28)

Chapter 4.3

4.3.1.16 For "damages" read "damage".

(Reference document: informal document UN/SCETDG/39/INF.18)

Chapter 5.4

5.4.2.3 For "dangerous goods documentation" read "container/vehicle packing certificate".

(Reference document: informal document UN/SCETDG/39/INF.41)

5.4.2.4 For "dangerous goods transport information" read "container/vehicle packing certificate".

(Reference document: informal document UN/SCETDG/39/INF.41)

Chapter 5.5

5.5.3.1.3 After "portable tanks" insert "or MEGCs".

(Reference document: informal document UN/SCETDG/39/INF.28)

5.5.3.4.2 For "a size relative to the packaging" read "a size relative to the package".

(Reference document: informal document UN/SCETDG/39/INF.18)

Chapter 6.8

6.8.5.1.4 At the end of (a), replace the full stop with a semi-colon. At the end of (b) insert "and".

(Reference document: informal document UN/SCETDG/39/INF.18)

6.8.5.3.3, at the end For "to achieve the requisite total package mass" read "to achieve the requisite total mass of the flexible bulk container".

(Reference document: informal document UN/SCETDG/39/INF.18)

6.8.5.3.9.3, third sentence Delete "of the package".

(Reference document: informal document UN/SCETDG/39/INF.18)

6.8.5.4.2 For "the use of other packaging methods" read "the use of other containment methods".

(Reference document: informal document UN/SCETDG/39/INF.18)

6.8.5.5.1 For "FBC" read "flexible bulk container".

(Reference document: informal document UN/SCETDG/39/INF.28)

Annex II

Draft amendments to the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations

Chapter 2.3

2.3.2.2 and 2.3.2.3 Amend to read as follows:

"2.3.2.2 Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes having a flash point of less than 23 °C may be placed in packing group III in conformity with the procedures prescribed in the Manual of Tests and Criteria, Part III, sub-section 32.3, provided that:

- (a) The viscosity expressed as the flowtime in seconds and flash point are in accordance with the following table:

| <i>Flow-time t in seconds</i> | <i>Jet diameter (mm)</i> | <i>Flash point, closed-cup (°C)</i> |
|-------------------------------|--------------------------|-------------------------------------|
| 20 < t ≤ 60 | 4 | above 17 |
| 60 < t ≤ 100 | 4 | above 10 |
| 20 < t ≤ 32 | 6 | above 5 |
| 32 < t ≤ 44 | 6 | above -1 |
| 44 < t ≤ 100 | 6 | above -5 |
| 100 < t | 6 | no limit |

- (b) Less than 3% of the clear solvent layer separates in the solvent separation test;
- (c) The mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8;
- (d) The substances are packed in receptacles of not more than 450 litre capacity.

2.3.2.3 *Reserved.*"

(Reference document: ST/SG/AC.10/C.3/2011/20)

2.3.2.5 At the beginning, replace "Viscous substances" with "Viscous liquids". Amend the fourth indent to read as follows:

"- Are packed in receptacles of not more than 450 litre capacity".

(Reference document: ST/SG/AC.10/C.3/2011/20)

Chapter 2.9

2.9.4 At the end of (a), insert the following new sentence before the Note:

"However batteries and cells manufactured before 1 January 2014 and conforming to a design type tested according to requirements of the 5th revised edition of the *Manual of test and criteria*, part III, sub section 38.3 may continue to be transported."

(Reference document: informal document UN/SCETDG/39/INF.60)

Chapter 3.2

Dangerous goods list

UN Nos. 1210, 1263, 3066, 3469 and 3470 In column (6), insert "367".

(Reference document: informal document UN/SCETDG/39/INF.55)

Chapter 3.3

SP 251 Insert the following new third paragraph (after "to any individual substance in the kit"):

"Where the kit contains only dangerous goods to which no packing group is assigned, no packing group need be indicated on the dangerous goods transport document."

(Reference document: informal document UN/SCETDG/39/INF.33 as amended)

Add the following new special provision:

"367 For the purposes of documentation and package marking:

The proper shipping name "Paint related material" may be used for consignments of packages containing "Paint" and "Paint related material" in the same package;

The proper shipping name "Paint related material, corrosive, flammable" may be used for consignments of packages containing "Paint, corrosive, flammable" and "Paint related material, corrosive, flammable" in the same package;

The proper shipping name "Paint related material, flammable, corrosive" may be used for consignments of packages containing "Paint, flammable, corrosive" and "Paint related material, flammable, corrosive" in the same package; and

The proper shipping name "Printing ink related material" may be used for consignments of packages containing "Printing Ink" and "Printing ink related material" in the same package."

(Reference document: informal document UN/SCETDG/39/INF.55)

Chapter 3.4

3.4.8 At the beginning, amend the introductory sentence before the marking to read as follows:

"Packages containing dangerous goods packed in conformity with the provisions of Part 3, Chapter 4 of the ICAO Technical Instructions for the Transport of Dangerous Goods may bear the marking shown below to certify conformity with these provisions:"

(Reference document: informal document UN/SCETDG/39/INF.63 as amended)

3.4.9 Amend to read as follows:

"3.4.9 Packages containing dangerous goods bearing the marking shown in 3.4.8 with or without the additional labels and markings for air transport shall be deemed to meet the provisions of section 3.4.1 as appropriate and of sections 3.4.2 to 3.4.4 of this Chapter and need not bear the marking shown in 3.4.7."

(Reference document: informal document UN/SCETDG/39/INF.63 as amended)

Chapter 4.1

4.1.1.5 Add a new 4.1.1.5.2 to read as follows:

"4.1.1.5.2 Use of supplementary packagings within an outer packaging (e.g. an intermediate packaging or a receptacle inside a required inner packaging) additional to what is required by the packing instructions is authorized provided all relevant requirements are met, including those of 4.1.1.3, and, if appropriate, suitable cushioning is used to prevent movement within the packaging."

(Reference document: informal document UN/SCETDG/39/INF.59)

4.1.4.1 P404 (1) Amend to read as follows:

(1) **Combination packagings**

Outer packagings: (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G, 4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G or 4H2)

Inner packagings: Metal receptacles with a maximum net mass of 15 kg each. Inner packagings shall be hermetically sealed and have threaded closures;
Glass receptacles, with a maximum net mass of 1 kg each, having threaded closures with gaskets, cushioned on all sides and contained in hermetically sealed metal cans.

Outer packagings shall have a maximum net mass of 125 kg.

(Reference document: ST/SG/AC.10/C.3/2011/4 as amended)

4.1.4.1 P601 (1) and P602 (2) At the beginning, insert "or plastics" after "consisting of metal".

(Reference document: informal document UN/SCETDG/39/INF.59)

4.1.4.1 P901 After "(see 3.3.1, special provision 251).", insert the following new sentence: "Where the kit contains only dangerous goods to which no packing group is assigned, packagings shall meet Packing Group II performance level."

(Reference document: informal document UN/SCETDG/39/INF.33 as amended)

4.1.4.1 P906 (2) Amend to read as follows:

"(2) For transformers and condensers and other devices:

- Packagings in accordance with packing instructions P001 or P002. The articles shall be secured with suitable cushioning material to prevent inadvertent movement during normal conditions of transport;

or

- Leakproof packagings which are capable of containing, in addition to the devices, at least 1.25 times the volume of the liquid PCBs, polyhalogenated biphenyls or terphenyls present in them. There shall be sufficient absorbent material in the packagings to absorb at least 1.1 times the volume of liquid which is contained in the devices. In general, transformers and condensers shall be carried in leakproof metal packagings which are capable of holding, in addition to the transformers and condensers, at least 1.25 times the volume of the liquid present in them."

(Reference document: informal document UN/SCETDG/39/INF.56)

Chapter 5.1

5.1.2.1 Add the following new sentence and note at the end:

"The lettering of the "OVERPACK" marking shall be at least 12 mm high.

NOTE: *The size requirement for the "OVERPACK" marking shall apply as from 1 January 2016."*

(Reference document: informal document UN/SCETDG/39/INF.3/Rev.1)

Chapter 5.2

5.2.1.1 In the second sentence, after "except for packagings of 30 litres of 30 kg capacity or less" insert "and except for cylinders of 60 litres water capacity or less,".

(Reference document: informal document UN/SCETDG/39/INF.62)

5.2.1.3 Add the following new sentence and note at the end:

"The lettering of the "SALVAGE" marking shall be at least 12 mm high.

NOTE: *The size requirement for the "SALVAGE" marking shall apply as from 1 January 2016."*

(Reference document: informal document UN/SCETDG/39/INF.3/Rev.1)

Annex III

Draft amendments to the fifth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria

Section 32

32.3.1.4 to 32.3.1.7 Delete.

(Reference document: ST/SG/AC.10/C.3/2011/20)

Annex IV

Corrections to the fifth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria as amended by ST/SG/AC.10/38/Add.2

38.3.2.2 Note after the last paragraph ("**NOTE:** Batteries are subject to the tests required by special provisions 188 and 230 of Chapter 3.3 of the Model Regulations irrespective of whether the cells of which they are composed have been so tested.")

Delete

(Reference document: informal document UN/SCETDG/39/INF.60)

38.3.2.3 Definition for *Nominal energy in watt-hours*

For the existing text, substitute

Nominal energy or Watt-hour rating, expressed in watt-hours, means the energy value of a cell or battery determined under specified conditions and declared by the manufacturer. The nominal energy is calculated by multiplying nominal voltage by rated capacity expressed in ampere-hours.

(Reference document: informal document UN/SCETDG/39/INF.60)

38.3.2.3 Definition of *Watt-hour rating*

For the existing text, substitute

Watt-hour rating, see *Nominal energy*

(Reference document: informal document UN/SCETDG/39/INF.60)

38.3.4.3.2 For for cells and batteries up to 12 kg (cells and small batteries), and for batteries 12 kg and greater (large batteries) read for cells and batteries with a gross mass of not more than 12 kg (cells and small batteries), and for batteries with a gross mass of more than 12 kg (large batteries)

(Reference document: informal document UN/SCETDG/39/INF.60)