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Working Party on the Transport of Dangerous Goods

Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)

Twentieth session
Geneva, 23–27 January 2012

Report of the Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN Safety Committee) on its twentieth session*

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I. Attendance

1. The Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee) held its twentieth session in Geneva from 23 to 27 January 2012. Representatives of the following countries took part in the work of the session: Austria, Belgium, Bulgaria, Croatia, France, Germany, Netherlands, Romania, Russian Federation, Serbia, Slovakia, Switzerland and Ukraine. A representative of the European Union also participated. The following intergovernmental organizations were represented: Central Commission for the Navigation of the Rhine (CCNR) and Danube Commission. The following non-governmental organizations were also represented: European Barge Union (EBU), European Chemical Industry Council (CEFIC), European Petroleum Industry Association (EUROPIA), European River-Sea Transport Union (ERSTU), Federation of European Tank Storage Associations (FETSA), International Association of Classification Societies (IACS) and International Committee for the Prevention of Work Accidents in Inland Navigation (CIPA). Pursuant to the Committee's decision at its nineteenth session (ECE/TRANS/WP.15/AC.2/40, para. 48), representatives of the Recommended ADN Classification Societies also participated.

II. Adoption of the agenda (agenda item 1)

Documents: ECE/TRANS/WP.15/AC.2/41 and Add.1

Informal documents: INF.26 (Secretariat)

2. The Safety Committee adopted the agenda prepared by the secretariat as amended by informal document INF.26 to take account of informal documents INF.1 to INF.45.

III. Election of officers (agenda item 2)

3. On the proposal of the representative of the Netherlands, Mr. H. Rein (Germany) and Mr. B. Birkhuber (Austria) were respectively elected Chairman and Vice-Chairman for the 2012 sessions.

IV. Status of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (agenda item 3)

4. The Safety Committee noted that since the last session, the Czech Republic had adhered to ADN, thus bringing to 17 the number of Contracting Parties (Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Switzerland and Ukraine).

V. Proposals for amendments to the Regulations annexed to ADN (agenda item 4)

A. Work of the RID/ADR/ADN Joint Meeting

Documents: ECE/TRANS/WP.15/AC.1/124 and Add.1
ECE/TRANS/WP.15/AC.1/2011/30/Add.1
ECE/TRANS/WP.15/212

Informal documents: INF.13 (Secretariat)
INF.14 (Secretariat)
INF.16 (EBU)
INF.35 (Secretariat)
INF.36 (Secretariat)

5. The Safety Committee confirmed the amendments already adopted (INF.14) and made a few corrections (INF.16 and INF.36) and amendments to 7.2.4.40 and 9.3.X.40.1 (see annex I).

6. The Safety Committee also adopted the amendments proposed by the RID/ADR/ADN Joint Meeting, taking into consideration when necessary the changes made by WP.15, on the basis of informal document INF.13, with some corrections (see annex I).

7. The Safety Committee noted (INF.35) that the RID/ADR/ADN Joint Meeting had provided for the introduction of provisions relating to the carriage of flexible bulk containers in RID/ADR/ADN in order to implement the new United Nations recommendations allowing for the use of such containers. It noted that the provisions in question had been included in the IMDG Code for maritime transport, and came with certain conditions for stowage in holds, and the condition that such containers not be placed in vehicles, wagons or containers.

8. It was also noted that WP.15 and the RID Committee of Experts had decided not to introduce provisions into ADR and RID that would allow for such carriage for the time being.

9. The Chairman asked whether there were any objections to introducing the texts proposed by the Joint Meeting, which might be accompanied by measures accepted for maritime transport. As one delegation raised an objection and no delegation supported the introduction of such provisions, carriage of such flexible bulk containers in inland navigation would not be authorized by ADN 2013.

B. Other proposals

1. Language of the printed version of ADN and its annexed Regulations on board vessels

Document: ECE/TRANS/WP.15/AC.2/2012/1 (Austria)

10. The proposed amendment to 8.1.2.8 was adopted (see annex I).

2. Changes to references to international regulations

Document: ECE/TRANS/WP.15/AC.2/2012/2 (France)

Informal document: INF.41 (Secretariat)

11. The proposal to replace references to the "BC Code" of the International Maritime Organization (IMO) with references to the IMO "IMSBC Code" was adopted (see annex I).

3. Language amendments

Documents: ECE/TRANS/WP.15/AC.2/2012/3 (France)
ECE/TRANS/WP.15/AC.2/2012/4 (France)

12. A proposed amendment to the explanatory note to column (8) of Table A (French text of 3.2.1) was adopted (see annex I).

13. For the proposed amendments concerning the use of the term "Condition of cargo tank", the representative of France was invited to prepare a more detailed proposal for the next session.

4. Table C, UN No. 1005, AMMONIA, ANHYDROUS

Document: ECE/TRANS/WP.15/AC.2/2012/11 (CEFIC)

Informal document: INF.33 (CEFIC)

14. The proposal to add "+N1" to column (5) was adopted (see annex I). The proposal to delete danger "2.1" was not adopted in view of Special Provision 23, applicable according to Table A, and indicating a flammability hazard.

5. Table C, UN No. 1708, correction

Informal document: INF.34 (CEFIC)

15. The proposed amendments to column (5) for the ortho and meta isomers of liquid toluidine were adopted (see annex I).

6. Hoses and hose assemblies

Document: ECE/TRANS/WP.15/AC.2/2012/6 (EBU)

16. The Safety Committee adopted the proposals submitted by EBU with a few changes in the various language versions (see annex I). The secretariat was invited to verify the coherence of the terminology used in the whole of the annexed Regulations for the English, French and Russian versions and to make the corrections required.

7. Interpretation of 9.3.2.15

Document: ECE/TRANS/WP.15/AC.2/2012/7 (Recommended ADN Classification Societies)

17. The Safety Committee endorsed the proposed interpretation of 9.3.2.15 and the means of calculating the extent of the side damage. However, opinions diverged on the question of whether that interpretation sufficed or whether it was necessary for it to be framed into amendments to 9.3.2.15.

18. The Recommended ADN Classification Societies were invited to consider the question and to propose at the next session a solution consisting either of amending 9.3.2.15 or in one way or another publishing the interpretation.

8. Obligations of recommended classification societies

Document: ECE/TRANS/WP.15/AC.2/2012/9 (Recommended ADN Classification Societies)

19. The proposed amendment to 1.15.4 was adopted, with a correction made to the German text of 1.15.4.3 (see annex I).

9. Correction to 5.4.1.1.3 and Special Provision 650 (e)

Document: ECE/TRANS/WP.15/AC.2/2012/12 (CEFIC)

20. The Safety Committee agreed that there was no need to refer to ADR tunnel codes in the examples given in ADN, and thus adopted the proposals to correct the French and German versions (see annex I).

10. Stability of tank vessels carrying dangerous goods

Document: ECE/TRANS/WP.15/AC.2/2012/14 (Germany)

Informal documents: INF.21 (Recommended ADN Classification Societies)
INF.23 (Switzerland)
INF.29 (EBU)
INF.43 (Secretariat)

21. The proposal by Germany aimed to draw lessons from the accident involving the "Waldhof" tank vessel on the Rhine in January 2011 and to amend the Regulations with a view to improving safety and preventing such accidents from reoccurring. It was the result of the work undertaken during three meetings of an informal group that included representatives of the Contracting Parties to ADN and relevant occupational sectors. It was concluded that the Regulations should be enhanced in three main areas:

- Training for crew members on issues relating to the stability of vessels;
- Handling of the list of substances permitted in a tank vessel as provided by the classification societies;
- Stability documents.

22. The Safety Committee accordingly adopted amendments to the Regulations annexed to ADN on the basis of the principles outlined below (see annex I).

Training for crew members

23. At least one of the masters of the vessel, whether it be a dry cargo vessel or a tank vessel, must be qualified as an expert pursuant to the requirements set out in chapter 8.2 for the type of cargo being transported. That master should be designated as the "responsible master" in the documentation on board. Otherwise, all masters of the vessel must be qualified as experts.

24. Courses on stability would be added to the current training programmes. In this regard, the representative of Slovakia said that masters of vessels on the Danube, irrespective of the goods being transported, were already trained in stability, and he wished to avoid duplication in training and examinations.

25. Transitional measures should be provided for as follows: two years to allow training organizations and administrative bodies to set up the training programmes and examinations (2013–2014) and five years (2015–2019) to allow masters to obtain certification in stability training, during either their initial training or their refresher training.

Handling of the list of substances

26. The representative of the Recommended ADN Classification Societies said that the frequent amendments to the list of substances in Table C made it very difficult to provide an updated list every two years of all the substances that a vessel under the supervision of a classification society was allowed to carry, especially if the resistance and stability criteria

and the compatibility of the substance with the construction materials must also be included. He suggested that from now on the owner should be responsible for handling the list with regard only to the materials that were actually transported or that the owner wished to transport.

27. The Safety Committee accepted the idea of sharing responsibilities between classification societies and vessel owners in managing the list of substances authorized for transport in tank vessels, provided there was agreement on procedures between the parties concerned. The competent authority must have the list in real time, and the classification societies were still responsible for validating it.

28. The Safety Committee adopted an amendment to 1.16.1.2.5 to this effect (see annex I).

Tank vessel stability requirements

29. The Safety Committee adopted the proposed new provisions for:

- Treatment of ballast water;
- Degree of filling for substances of different densities;
- Proof of intact stability, subject to some changes (see annex I).

30. It was noted that until 2044 some vessels would be covered by transitional measures for the application of the stability requirements. They should in principle therefore be exempted from such new measures, but it would be appropriate to consider whether some of the new provisions could apply to them.

11. Ventilation requirements

Document: ECE/TRANS/WP.15/AC.2/2012/13 (EBU)

Informal document: INF.40 (EBU)

31. The proposals for amendments to 7.1.4.12.2 and additional requirement VE02 in 7.1.6.12 as presented in informal document INF.40 were endorsed by some delegations, but, put to a vote, were not adopted.

32. The representative of Austria proposed indicating in additional requirement VE02 that in the case of carriage of containers in open holds, ventilation was required only if there was reason to believe that the holds were not free from gases. This proposal, put to a vote, was adopted (see annex I).

12. Report on the fourth meeting of the informal working group on substances

Document: ECE/TRANS/WP.15/AC.2/2012/5 (Germany)

Informal documents: INF.27 (EBU)
INF.32 (Germany)

33. The proposals of the informal working group relating to Tables A and C were adopted (see annex I).

34. The Safety Committee endorsed the working group's recommendation that group N1 substances hazardous to the environment such as heavy fuel oil must be carried in type C tank vessels if the vapour pressure at 50° C was equal to or exceeded 1 kPa, and could be carried in type N double-hull, closed tank vessels if the pressure was less than 1 kPa. The flowchart in 3.2.3 was amended accordingly (see annex I). A transitional measure proposed by EBU was not deemed necessary.

35. It was decided that it should also be indicated that vapour pipes on board should not be heated if it was not possible to connect them to vapour pipes on shore (see annex I).

13. Withdrawal of a recommended classification society by the Administrative Committee (paras. 1.15.2.5 to 1.15.2.7)

Document: ECE/TRANS/WP.15/AC.2/2012/8 (Recommended ADN Classification Societies)

Informal document: INF.39 (Secretariat)

36. The Safety Committee adopted the amendments to 1.15.2.6 and 1.15.2.7 as revised during the session (INF.39) (see annex I).

14. Amendment to 2.2.2.2.2

Informal document: INF.9 (Netherlands)

37. The amendment proposal was adopted (see annex I).

15. Control list

Informal document: INF.10 (Danube Commission)

38. Following the discussions which had taken place at the last session on the proposal ECE/TRANS/WP.15/AC.2/2011/40 by Austria (see ECE/TRANS/WP.15/AC.2/40, paras. 25-26), the Safety Committee accepted the offer of the Danube Commission to hold an informal working group on the control list at the Danube Commission offices on 16 (afternoon) and 17 (morning) April 2012. The Danube Commission and the representative of Austria would discuss the possible arrangements so that the meeting could benefit from interpretation in French, German and Russian.

39. The representative of Austria invited all delegations that had not yet done so to provide him with their written comments on the proposal.

16. Explosion protection on tank vessels

Informal document: INF.12 (Germany and Netherlands)

40. The Government of Germany would organize a session of an informal working group to prepare a proposal aimed at improving the prevention of accidents due to explosions on tank vessels.

17. Means of evacuation

Document: ECE/TRANS/WP.15/AC.2/2012/16 (Netherlands)

Informal documents: INF.20 (Switzerland)
INF.28 (EBU)
INF.31 (Netherlands)

41. The Safety Committee adopted, for entry into force on 1 January 2015, the amendments proposed in informal document INF.31 with a number of modifications, and with the addition of amendments proposed in document ECE/TRANS/WP.15/AC.2/2012/16 relating to Part 8, section 8.6.3, question 4 and the relevant explanations (see annex II).

42. The informal working group on means of evacuation was invited to develop more detailed provisions for the definitions of "safe areas", "safe havens" and "water screens"

and to propose a regulation that made it clear that local authorities had the right to set more stringent rules.

18. Metal plate with copy of the certificate of approval (8.1.2.6 and 8.1.2.7)

Informal document: INF.18 (Austria)

43. The amendment proposals to 8.1.2.6 and 8.1.2.7 allowing the use of synthetic plates instead of metallic plates was adopted with an additional amendment to 9.3.X.0.3 (see annex I).

19. Standards

Informal document: INF.30 (EBU)

44. The Safety Committee noted that the RID/ADR/ADN Joint Meeting had put in place a mechanism to ensure the updating of references to standards contained in the common requirements for the three modes of transport. The CCNR was also envisaging a global mechanism for the verification of references to standards in the various instruments for navigation on the Rhine.

45. The Safety Committee considered that it would also be useful to put in place such a mechanism for references to standards in the Regulations annexed to ADN. An informal working group would meet at the invitation of the German Government to formulate proposals to this end.

20. Carriage in tank vessels of penthane, octane, hexane isomers, other than "n-" isomers

Document: ECE/TRANS/WP.15/AC.2/2012/10 (CEFIC)

46. After a first discussion of the proposal, the representative of CEFIC proposed to add the specific entries to Table C for isomers other than "n-" isomers similar to N.O.S. entries.

47. The Safety Committee decided that this proposal should first be examined by the informal working group on substances.

VI. Catalogue of questions (agenda item 5)

Informal documents: INF.9, INF.10 and INF.11 (Informal working group on the catalogue of questions) (submitted to the nineteenth session)

INF. 22 (Secretariat)

48. The Safety Committee welcomed the contribution of the Danube Commission to the translation and adaptation of the catalogue of questions to ADN 2011, and asked the secretariat to make the adapted documents available on the website in all four languages.

49. It called on delegations to participate more actively in sessions of the informal working group.

50. The Safety Committee noted that the questionnaire on ADN training and exams (INF.8 issued at the nineteenth session) had been translated into English by the ECE secretariat and into Russian by the Danube Commission. It had been sent to members of the Safety Committee in all languages in October 2011.

51. To date only Belgium (INF.19 of the nineteenth session) and Serbia (INF.22 of the present session) had replied. All government delegations were invited to provide the information requested.

VII. Matters relating to the recognition of classification societies (agenda item 6)

A. List of recognised classification societies

52. Since the last session, classification societies had been recognised by Austria (Bureau Veritas), by Slovakia (Russian Maritime Register of Shipping and Shipping Register of Ukraine) and Ukraine (Shipping Register of Ukraine). The list of recognized classification societies was available on the secretariat's website at the following link: (www.unece.org/trans/danger/publi/adn/adnclassifications.html).

B. Report of the meeting of Recommended ADN Classification Societies (Brussels, 29 September 2011)

Informal document: INF.6 (Recommended ADN Classification Societies)

53. The Safety Committee took note of the report.

54. Concerning the question of the interpretation of transitional measures requiring the conformity or equivalence of construction requirements for classification in the highest class by a classification society (item 6 (d) of the report) (1.6.7.2.2.2 and table 1.6.7.3 regarding the application of 9.3.3.8.1), the Safety Committee indicated that even if the vessel has not been constructed under the supervision of a classification society, it could be considered that it met the construction requirements for classification in the highest class if it could be proved that the technical requirements of the Regulations annexed to ADN had been satisfied. This question could be dealt with in greater depth provided that the problem was spelled out in more detail.

VIII. Special authorizations, derogations and equivalents (agenda item 7)

A. Use of liquefied natural gas (LNG) for the propulsion of vessels

Document: ECE/TRANS/WP.15/AC.2/2012/15 (Netherlands)

Informal documents: INF.1 to INF.5 (Netherlands)
INF.15 (CCNR)
INF.25 (Netherlands)
INF.38 (Netherlands)

55. Taking into account the information provided for the vessel "Argonon" (in particular the danger evaluation in informal document INF.5 and the CCNR recommendation on the basis of draft informal document INF.15), and the procedure foreseen in 1.5.3.2, the Safety Committee decided (by four votes in favour and none against) to request the Administrative Committee to adopt a decision (see INF.25) allowing the Government of the Netherlands to issue a derogation for the vessel "Argonon" allowing it on a trial basis to use LNG and diesel as fuel for the transport of dangerous goods.

56. The Safety Committee did not agree to extend this recommendation to other vessels because such detailed information had not yet been provided concerning the other vessels.

B. Derogation for the carriage of heavy heating oils

Informal document: INF.7 (Belgium)

57. The Safety Committee noted that Belgium, which was still not an ADN Contracting Party, allowed the carriage of heavy heating oils under conditions fixed by derogation according to multilateral agreement ADN/M002.

C. Special authorization for the carriage of UN No. 1972

Informal document: INF.8 (Netherlands)

58. The request for an authorization would be made at the next session.

IX. Programme of work and calendar of meetings (agenda item 8)

A. Programme of work

Documents: ECE/TRANS/WP.15/2011/7 (Secretariat)
ECE/TRANS/WP.15/2011/8 (Secretariat)

59. The Safety Committee took note of the draft programmes of work adopted by WP.15 for submission to the Inland Transport Committee and endorsed the parts concerning its activities.

B. ECE road map for the promotion of intelligent transport systems

Document: ECE/TRANS/WP.15/2011/12 (Secretariat)

60. The Safety Committee took note of the framework proposed by the secretariat for the drawing up of a road map for the promotion of intelligent transport systems, and in particular the contents of item 12 dealing with the transport of dangerous goods.

61. The Chairman drew attention to the work of the informal working group on telematics of the RID/ADR/ADN Joint Meeting. This work showed that the use of telematics could contribute to the improvement of safety but that some time was required for putting in place effective systems at the level of all States Contracting Parties to the RID, ADR or ADN. He also underlined the need for the exchange of information with other subsidiary bodies of the Inland Transport Committee, in particular the group SC.3, on the development of information systems for inland navigation.

C. Calendar of meetings

62. The next meeting was scheduled from 27 to 31 August 2012, and the Administrative Committee should meet on 31 August in the afternoon (with the possibility of adjustments concerning the date of opening of the session). The deadline for documents for those sessions was 1 June 2012.

X. Any other business (agenda item 9)

A. Exchange of information on implementation of 7.1.5.4.3 and 7.2.5.4.3 (berthing distances)

Informal document: INF.11 (Germany)

63. Delegations were invited to provide the information requested on the minimum distances between berthing zones established by competent authorities and residential zones/civil engineering structures, etc. set up in practice by the competent authorities of different countries.

64. The representative of the CCNR said that a study was underway on this subject for the Rhine basin.

B. Request for consultative status

Informal document: INF.17 (Secretariat)

65. The Safety Committee agreed that ERSTU could participate in its work with consultative status.

XI. Adoption of the report (agenda item 10)

66. The Committee adopted the report of its twentieth session and its annexes on the basis of a draft prepared by the secretariat.

Annex I

Proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2013

The amendments according to informal document INF.13 (ECE/TRANS/WP.15/AC.1/2011/30/Add.1, as modified and completed by ECE/TRANS/WP.15/AC.1/124/Add.1, as modified by ECE/TRANS/WP.15/212, annex I) were adopted with the following modifications:

1.2.1 Insert a new definition to read as follows:

"*CMNI* means the Convention on the Contract for the Carriage of Goods by Inland Waterway (Budapest, 22 June 2001)".

3.3 In Special Provision 363, delete "paragraphs (a) or (b) of" in the first paragraph.

5.5.3.7.1 Replace "CMR/CIM" read "CMR/CIM/CMNI".

Informal document INF.14 (consolidation of ECE/TRANS/WP.15/AC.2/36, annex III, ECE/TRANS/WP.15/AC.2/38, annex and ECE/TRANS/WP.15/AC.2/40/Add.1) were adopted with the following modifications:

ECE/TRANS/WP.15/AC.2/36, Annex III

1.2.1 Amend the definition of "Pipes for loading and unloading (cargo piping)" to read as follows:

"*Piping for loading and unloading (cargo piping)* means all piping which may contain liquid or gaseous cargo, including pipes, hose assemblies, connected pumps, filters and closure devices."

Consequential amendment (English text): wherever it appears, replace the term "Pipes for loading and unloading" by "Piping for loading and unloading".

ECE/TRANS/WP.15/AC.2/40/Add.1

1.6.7.4.2, Table 2

For UN Nos. 3257 and 3295 (N.O.S. entry), insert an instruction for column (20) to read as follows: "Insert at the end '*see 3.2.3.3'".

1.6.7.4.2, Table 3

For UN Nos. 1202 (both entries) and 1863, insert an instruction for column (20) to read as follows: "Insert at the end '*see 3.2.3.3'".

(Reference document: *INF.36 as amended*)

1.15.4 Amend 1.15.4 to read as follows:

"1.15.4.1 Recommended classification societies shall undertake to cooperate with each other so as to guarantee equivalence from the point of view of safety of their technical

standards which are relevant to the implementation of the provisions of the present Agreement.

1.15.4.2 They shall exchange experiences in joint meetings at least once a year. They shall report annually to the Safety Committee. The Secretariat of the Safety Committee shall be informed of those meetings. The opportunity will be given to Contracting Parties to attend the meetings as observers.

1.15.4.3 Recommended classification societies shall undertake to apply the present and future provisions of the Agreement taking into account the date of their entry into force. In response to requests from the competent authority, recommended classification societies shall provide all relevant information regarding their technical requirements."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/9)

3.2.3 Table C

In the new entries for UN 1010, 1011 and 1969, in column (8), replace "13" by "1". In column (9), insert "3".

(Reference document: INF.16)

UN No. 1153, column (16) Replace "II A ⁷⁾" by "II B".

UN Nos. 2057 and 2383, column (5) Replace "+N2" by "+N3".

UN No. 2430, second entry Replace "protection required" by "protection not required".

(Reference document: INF.36)

UN 2920 Replace "DIDECYLDIMETHYL" by "DODECYLDIMETHYL".

3.3 In the new Special Provision 658 (b), replace "wagon/vehicle" by "wagon or vehicle".

7.2.4.40 Replace "hoses" by "hose assemblies". Delete the second sentence.

9.3.X.40.1 Replace "hoses" by "hose assemblies" and remove the square brackets. Add the following new text at the end:

"- The water supply system shall be capable of being put into operation from the wheelhouse and from the deck.

- Measures shall be taken to prevent the freezing of fire-mains and hydrants."

Document ECE/TRANS/WP.15/AC.2/2012/5 was adopted with the following modifications:

Chapter 3.2

Table A

For UN No.2381, insert "T" in column (8).

Consequential amendments to Table C:

For UN No 2381, in column (3b), replace "F1" by "FT1", in column (5), insert "+ 6.1" after "3", in column (18), replace "PP, EX, A" by "PP, EP, EX, TOX, A" and in column (19), replace "1" by "2".

Table C

In the new entry for UN No. 3082, in column (5), replace "9+N1 (+CMR, F or S)" by "9+CMR (N1, N2, F or S)".

Add the following Note at the end of the new remark for column (20): "**NOTE:** *If the gas collection line on board is not connected to a shore-based connection line, then heating of the gas collection lines is not authorized.*".

(Reference documents: INF.32 as amended)

Other amendments

Part 1

Chapter 1.2

1.2.1 In the definition for "International regulations", replace "BC Code" by "IMSBC Code".

1.2.1 Delete the definition for "BC Code".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/2)

1.2.1 Insert the following new definitions:

"*Hoses* means flexible tubular semi-finished products of elastomers, thermoplastics or stainless steel composed of one or several coatings and liners."

"*Hose assemblies* means hoses, which are integrated or welded on both sides into hose fittings; hose fittings shall be integrated so that it is only possible to loosen them with a tool."

"*Hose fittings* means couplings and connection elements of hoses."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

"*IMSBC Code* means the International Maritime Solid Bulk Cargoes Code of the International Maritime Organization (IMO);"

(Reference document: ECE/TRANS/WP.15/AC.2/2012/2)

"*Loading instrument:* A loading instrument consists of a computer (hardware) and a programme (software) and offers the possibility of ensuring that in every ballast or loading operation:

- the permissible values concerning longitudinal strength as well as the maximum permissible draught are not exceeded; and
- the stability of the vessel complies with the requirements applicable to the vessel. For this purpose intact stability and damage stability shall be calculated."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 as amended)

Chapter 1.4

1.4.2.2.1 Add a new indent (j) to read as follows:

"(j) Ascertain that the vessel substance list in accordance with 1.16.1.2.5 complies with Table C of chapter 3.2 including the modifications made to it."

Chapter 1.6

1.6.7.2.2.2 Add a new entry in the table to read as follows:

"7.2.3.20.1	Fitting of ballast tanks and compartments with level indicators	N.R.M. For Type C and G and Type N double hull tank vessels Renewal of the certificate of approval as from 1 January 2013"
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(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 as amended)

1.6.7.2.2.2 Add a new entry in the table to read as follows:

"8.1.6.2.	Hose assemblies	Hose assemblies of previous standards EN 12115:1999, EN 13765:2003 or EN ISO 10380:2003 may be used until 31 December 2018."
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(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

1.6.7.2.4 Add a new transitional measure as follows:

"1.6.7.2.4 Paragraph 9.3.X.13.3 may be applied until 31 December 2014 in the version applicable on 31 December 2012."

1.6.8 Add a new transitional measure to read as follows:

"1.6.8 Transitional provisions concerning training of the crew

The provisions of 7.1.3.15, 7.2.3.15, 8.2.2.3, 8.2.2.4 and 8.2.2.5 may be applied until 31 December 2014 in the version applicable on 31 December 2012. The responsible master and the person responsible for the loading or unloading of a barge shall be in possession of a certificate of special knowledge with the entry "The holder of this certificate has participated in an 8-lesson stability training" before 31 December 2019.

The condition for this entry is participation in a basic course required by the Regulations in force after 1 January 2013 or participation in a basic refresher course that, in derogation from 8.2.2.5, comprises 24 lessons of 45 minutes, including eight lessons devoted to the subject of stability."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 and INF.42 as amended)

Chapter 1.15

Amend paragraph 1.15.2.6 and the first paragraph of 1.15.2.7 to read as follows:

"1.15.2.6 The Administrative Committee shall set up a new Committee of Experts following the procedure set out under 1.15.2.2 which shall report to the Administrative Committee within a period of six months. The classification society shall be informed and invited by the Committee of Experts to comment on the findings.

1.15.2.7 The Administrative Committee may decide, in case of a failure(s) to meet the conditions and criteria in 1.15.3, that the classification society shall have the opportunity to present a plan to address the identified failure(s) within a deadline of six months and to avoid any re-occurrence or, in accordance with Article 17, 7 (c), to withdraw the name of the society in question from the list of societies recommended for recognition."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/8 as amended)

Chapter 1.16

1.16.1.2.5 Amend to read as follows:

"For tank vessels, the certificate of approval shall be supplemented by a list of all the dangerous goods accepted for carriage in the tank vessel, drawn up by the recognized classification society which has classified the vessel (vessel substance list). To the extent required for safe carriage, the list shall contain reservations for certain dangerous goods regarding:

- the criteria for strength and stability of the vessel; and
- the compatibility of the accepted dangerous goods with all the construction materials of the vessel, including installations and equipment, which come into contact with the cargo.

Classification societies shall update the vessel substance list at each renewal of the class of a vessel on the basis of the annexed Regulations in force at the time. Classification societies shall inform the owner of the vessel about amendments to Table C of chapter 3.2 which have become relevant in the meantime. If these amendments require an update of the vessel substance list, the owner of the vessel shall request this from a classification society. This updated vessel substance list shall be issued within the period referred to in 1.6.1.1.

The entire vessel substance list shall be withdrawn by the recognized classification society within the period referred to in 1.6.1.1 if, due to amendments to these Regulations or due to changes in classification, goods contained in it are no longer permitted to be carried in the vessel.

The recognized classification society shall without delay transmit a copy of the vessel substance list to the authority responsible for issuing the certificate of approval and without delay inform it about amendments or withdrawal.

NOTE: *When the substance list is available electronically, see 5.4.0.2."*

1.16.15.2 Amend to read as follows:

"The competent authorities shall keep copies of all the certificates which they have issued, as well as of the associated vessel substance lists of the recognised classification societies and of all amendments, withdrawals, new issuances and declarations of cancellation of these documents."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 as amended)

Part 2

Chapter 2.2

2.2.2.2.2 Amend the fourth indent to read as follows:

"Refrigerated liquefied gases which cannot be assigned to classification codes 3A, 3O or 3F, with the exception of substance identification number 9000 AMMONIA ANHYDROUS, DEEPLY REFRIGERATED of classification code 3TC in tank vessels."

(Reference document: INF.9 as amended)

Part 3

Chapter 3.2

3.2.1 Does not concern the English version.

3.2.3 Amend the explanatory note for column (20), 12 (k) to read as follows:

"(k) Hose assemblies for loading and unloading shall be marked as follows:"

3.2.3 In the explanatory note for column (20), 33 (f) .2 replace "piping/hose" by "pipe or hose assembly".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

Table C

For UN No. 1005, column (5), replace "2.3+8+2.1" by "2.3+8+2.1+N1".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/11)

For UN No. 1708 (o-TOLUIDINE), in column (5), replace "6.1+N1" by "6.1+N1+CMR".

For UN No. 1708 (m-TOLUIDINE), in column (5), replace "6.1+N1+CMR" by "6.1+N1".

(Reference document: INF.34)

Part 4

Chapter 4.1

4.1.3 Amend the first indent to read as follows:

"- Chapter 4.3 of the IMDG Code with the exception of BK3 containers; or"

(Reference document: INF.35)

Part 5

Chapter 5.4

5.4.1.1.3 Does not apply to the English version.

(Reference document: ECE/TRANS/WP.15/AC.2/2012/12)

Part 7

Chapter 7.1

7.1.3.15 Amend to read as follows:

"7.1.3.15 **Expert on board the vessel**

When dangerous goods are carried, the responsible master shall at the same time be an expert according to 8.2.1.2.

NOTE: Which master of the vessel's crew is the responsible master shall be determined and documented on board by the carrier. If there is no such determination, the requirement applies to every master.

By derogation from this, for the loading and unloading of dangerous goods in a barge, it is sufficient that the person who is responsible for loading and unloading and for ballasting of the barge has the expertise required according to 8.2.1.2."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 as amended)

7.1.4.14.6 Replace "BC Code" by "IMSBC Code"

7.1.6.11 Replace "BC Code" by "IMSBC Code" in ST01.

(Reference document: ECE/TRANS/WP.15/AC.2/2012/2)

7.1.6.11 In ST02, replace "Appendix D.4 of the BC Code" by "subsection 38.2 of the *Manual of Tests and Criteria*".

(Reference document: INF.41)

7.1.6.12 Add the following text at the end of VE02:

"Alternatively, on vessels only containing these substances in containers in open holds, the holds containing such containers may be ventilated with the ventilation operating at full power only when it is suspected that the holds are not free of gas. Prior to unloading, the unloader shall be informed about this suspicion".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/13 and INF.40 as amended)

Chapter 7.2

7.2.2.0.1 Amend the Note after 7.2.2.0.1 to read as follows:

***NOTE:** The substances accepted for carriage in the individual vessel are listed in the vessel substance list to be drawn up by the recognised classification society (see 1.16.1.2.5)."*

7.2.3.15 Amend the first paragraph to read as follows:

"7.2.3.15 Expert on board the vessel

When dangerous substances are carried, the responsible master shall at the same time be an expert according to 8.2.1.2. In addition this expert shall be:

- An expert as referred to in 8.2.1.5 when dangerous goods are carried for which a type G tank vessel is prescribed in column (6) of Table C of Chapter 3.2; and
- An expert as referred to in 8.2.1.7 when dangerous goods are carried for which a type C tank vessel is prescribed in column (6) of Table C of Chapter 3.2.

***NOTE:** Which master of the vessel's crew is the responsible master shall be determined and documented on board by the carrier. If there is no such determination, the requirement applies to every master.*

By derogation from this, for the loading and unloading of dangerous goods in a tank barge, it is sufficient that the person who is responsible for loading and unloading and for ballasting of the tank barge has the expertise required according to 8.2.1.2."

7.2.3.20.1 Amend to read as follows:

"Cofferdams and hold spaces containing insulated cargo tanks shall not be filled with water. Double-hull spaces, double bottoms and hold spaces which do not contain insulated cargo tanks may be filled with ballast water provided:

- this has been taken into account in the intact and damage stability calculations; and
- the filling is not prohibited in column (20) of Table C of Chapter 3.2.

If the water in the ballast tanks and compartments leads to the vessel no longer respecting these stability criteria:

- fixed level indicators shall be installed; or
- the filling level of the ballast tanks and compartments shall be checked daily before departure and during operations.

In case of the existence of level indicators, ballast tanks may also be partially filled. Otherwise they shall be completely full or empty."

7.2.4.21.1 Amend to read as follows:

"The degree of filling given in column (11) of Table C of Chapter 3.2 or calculated in accordance with 7.2.4.21.3 for the individual cargo tank shall not be exceeded."

7.2.4.21.3 Amend to read as follows:

"For carriage of substances having a relative density higher than that stated in the certificate of approval, the maximum permissible degree of filling of the cargo tanks shall be calculated in accordance with the following formula:

$$\text{maximum permissible degree of filling (\%)} = a * 100/b$$

a = relative density stated in the certificate of approval,

b = relative density of the substance.

The degree of filling given in column (11) of Table C of Chapter 3.2 shall, however, not be exceeded.

NOTE: Furthermore, the requirements concerning stability, longitudinal strength and the deepest permissible draught of the vessel shall be observed when filling the cargo tanks."

Part 8

Chapter 8.1

8.1.2.3 (c), second indent Add the following text at the end: "the stability booklet and the proof of the loading instrument having been approved by the recognized classification society;"

8.1.2.3 (g) Amend to read as follows: "the vessel substance list prescribed in 1.16.1.2.5;"

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14 as amended)

8.1.2.3 (h) Replace "pipes" by "hose assemblies".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

8.1.2.6 Replace "metal plate" by "plate".

8.1.2.7 In the first paragraph, replace "the metal plate" by "the plate" and replace "a second metal plate" by "a second metal or plastic plate". In the last paragraph, replace "metal plate" by "plate".

(Reference document: INF.18)

8.1.2.8 Amend to read as follows:

"8.1.2.8 All documents shall be on board in a language the master is able to read and understand. If that language is not English, French or German, all documents, with the exception of the copy of ADN with its annexed Regulations and those for which the Regulations include special provisions concerning languages, shall be on board also in English, French or German, unless agreements concluded between the countries concerned in the transport operation provide otherwise."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/1)

8.1.6.2 Amend to read as follows:

"Hose assemblies used for loading, unloading or delivering products for the operation of the vessel and residual cargo shall comply with European standard EN 12115:2011-04 (Rubber and thermoplastics hoses and hose assemblies) or EN 13765:2010-08 (Thermoplastic multilayer (non-vulcanized) hoses and hose assemblies) or EN ISO 10380:2003-10 (Corrugated metal hoses and hose assemblies). They shall be checked and inspected in accordance with table A.1 of standard EN 12115:2011-04 or table K.1 of standard EN 13765:2010-08 or paragraph 7 of standard EN ISO 10380:2003-10 at least once a year, according to the manufacturer's instructions, by persons authorized for this purpose by the competent authority. A certificate concerning this inspection shall be carried on board."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

Chapter 8.2

8.2.2.3.1.1 Add the following text at the end:

"Stability:

- parameters of relevance to stability,
- heeling moments,
- exemplary calculations,
- damage stability, intermediate states and final state of flooding,
- influence of free surfaces,
- evaluation of stability on the basis of existing stability criteria (text of Regulations),
- evaluation of intact stability with the help of the lever arm curve,
- application of loading instruments,
- use of loading instruments,
- application of the stability booklet according to 9.3.13.3."

8.2.2.4 Replace "24 lessons" by "32 lessons" (twice) and "32 lessons" by "40 lessons".

8.2.2.5 In the last paragraph, replace "50%" by "30%" and add the following sentence at the end: "The proportion of stability training in the refresher course shall amount to at least 2 lessons."

Chapter 8.6

8.6.1.1 Amend item 8 of the Model for a certificate of approval for dry cargo vessels to read as follows:

"8. The vessel is approved for the carriage of the dangerous goods based on:

- inspection on¹ (date).....

- The inspection report of a recognized classification society¹ (name of the classification society¹ (date).....)
- The inspection report of the recognized inspection body (name of inspection body) (date)....."

8.6.1.3 Amend item 15 of the Model for a certificate of approval for tank vessels to read as follows:

"15. The vessel is approved for the carriage of the dangerous goods entered in the vessel substance list according to 1.16.1.2.5 based on

- inspection on¹ (date).....
- The inspection report of a recognized classification society¹ (name of the classification society¹ (date).....)
- The inspection report of the recognized inspection body (name of inspection body) (date)....."

8.6.2 Certificate of special knowledge of ADN

Insert "The holder of this certificate has participated in an 8-lesson stability training" after "The holder of this certificate has special knowledge of ADN".

(Reference documents: ECE/TRANS/WP.15/AC.2/2012/14, INF.21 and INF.23 as amended)

8.6.3 In item 6.4 in the checklist, replace "hoses" by "hose assemblies".

8.6.3 After the checklist according to 8.6.3, amend the explanation concerning Question 6 to read as follows:

"Question 6:

A valid inspection certificate for the hose assemblies must be available on board. The material of the piping for loading and unloading must be able to withstand the expected loads and be suitable for cargo transfer of the respective substances. The piping for loading and unloading between vessel and shore must be placed so that it cannot be damaged by ordinary movements of the vessel during the loading and unloading process or by variations of the water. In addition, all flanged joints must be fitted with appropriate gaskets and sufficient bolt connections in order to exclude the possibility of leakage."

8.6.3 After the checklist according to 8.6.3, in the explanation concerning Question 10, replace "cargo hoses" by "piping for loading and unloading between vessel and shore".

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

Part 9

Chapter 9.3

9.3.X.0.1 (b) Add the following text at the end: "In case it has not been possible to examine this during classification and inspection of the vessel a relevant reservation shall be entered in the vessel substance list according to 1.16.1.2.5."

(Reference document: ECE/TRANS/WP.15/AC.2/2012/14)

9.3.X.0.3 (c) Add a new indent to read as follows:

"- photo-optical copies of the certificate of approval according to 8.1.2.6 or 8.1.2.7."

(Reference document: INF.18 as amended)

9.3.X.8.1

At the end of the third paragraph add the following text: "(classification certificate)".

Amend the sixth paragraph to read as follows: "The classification society shall draw up a vessel substance list mentioning all the dangerous goods accepted for carriage by the tank vessel (see also 1.16.1.2.5)."

9.3.X.13.3 Amend to read as follows:

"Proof of sufficient intact stability shall be furnished for all stages of loading and unloading and for the final loading condition for all the relative densities of the substances transported contained in the vessel substance list according to 1.16.1.2.5.

For every loading operation, taking account of the actual fillings and floating position of cargo tanks, ballast tanks and compartments, drinking water and sewage tanks and tanks containing products for the operation of the vessel, the vessel shall comply with the intact and damage stability requirements.

Intermediate stages during operations shall also be taken into consideration.

The proof of sufficient stability shall be shown for every operating, loading and ballast condition in the stability booklet, to be approved by the relevant classification society, which classes the vessel. If it is unpractical to pre-calculate the operating, loading and ballast conditions, a loading instrument approved by the recognised classification society which classes the vessel shall be installed and used which contains the contents of the stability booklet.

NOTE: A stability booklet shall be worded in a form comprehensible for the responsible master and containing the following details:

General description of the vessel:

- *General arrangement and capacity plans indicating the assigned use of compartments and spaces (cargo tanks, stores, accommodation, etc.);*
- *A sketch indicating the position of the draught marks referring to the vessel's perpendiculars;*
- *A scheme for ballast/bilge pumping and overflow prevention systems;*
- *Hydrostatic curves or tables corresponding to the design trim, and, if significant trim angles are foreseen during the normal operation of the vessel, curves or tables corresponding to such range of trim are to be introduced;*
- *Cross curves or tables of stability calculated on a free trimming basis, for the ranges of displacement and trim anticipated in normal operating conditions, with an indication of the volumes which have been considered buoyant;*
- *Tank sounding tables or curves showing capacities, centres of gravity, and free surface data for all cargo tanks, ballast tanks and compartments, drinking water and sewage water tanks and tanks containing products for the operation of the vessel;*
- *Lightship data (weight and centre of gravity) resulting from an inclining test or deadweight measurement in combination with a detailed mass balance or other acceptable measures. Where the above-mentioned information is derived from a sister vessel, the reference to this sister vessel shall be clearly indicated, and a copy of the approved inclining test report relevant to this sister vessel shall be included;*

- *A copy of the approved test report shall be included in the stability booklet;*
- *Operating loading conditions with all relevant details, such as:*
 - *Lightship data, tank fillings, stores, crew and other relevant items on board (mass and centre of gravity for each item, free surface moments for liquid loads);*
 - *Draughts amidships and at perpendiculars;*
 - *Metacentric height corrected for free surfaces effect;*
 - *Righting lever values and curve;*
 - *Longitudinal bending moments and shear forces at read out points;*
 - *Information about openings (location, type of tightness, means of closure); and*
 - *Information for the master.*
- *Calculation of the influence of ballast water on stability with information on whether fixed level gauges for ballast tanks and compartments have to be installed or whether the ballast tanks or compartments shall be completely full or completely empty when underway."*

(Reference documents: ECE/TRANS/WP.15/AC.2/2012/14, INF.21, INF.23 and INF.44 as amended)

9.3.1.0.3 (c) In the third bullet, replace "hoses" by "hose assemblies". In the fourth bullet, replace "hoses" by "pipes".

9.3.2.26.4 In the third bullet, replace "hoses" by "hose assemblies".

9.3.3.26.4 Replace "hoses" by "hose assemblies" (four times).

(Reference document: ECE/TRANS/WP.15/AC.2/2012/6 as amended)

Annex II

Proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2015

Part 1

Chapter 1.2.1

Add the following definitions:

"*Means of evacuation* means any means that can be used by people to move from danger to safety as follows:

Dangers that have to be taken into account are:

- For class 3, packing group III, UN 1202, second and third entry and for classes 4.1, 8 and 9 on tank vessels: leakage at the manifold;
- For other substances of class 3 and class 2 and for flammable substances of class 8 on tank vessels: fire in the area of the manifold on the deck and burning liquid on the water;
- For class 5.1 on tank vessels: oxidizing substances in combination with flammable liquids may cause an explosion;
- For class 6.1 on tank vessels: toxic gases around the manifold and in the direction of the wind;
- For dangerous goods on dry cargo vessels: dangers emanating from the goods in the cargo holds."

Possible means of evacuation are:

"*Escape boat* means a specially equipped onsite boat designed to withstand all identified hazards of the cargo and to evacuate the people in danger."

"*Escape route* means a safe route from danger towards safety or to another means of evacuation."

"*Evacuation boat* means a specially equipped and manned boat called in for rescuing people in danger or evacuating them within the minimum safe period of time provided by a safe haven or a safe area.

"*Life boat (i.e. ship's boat)* means an onboard boat in transport, rescue, salvage and work duties."

"*Safe area* means an area outside the cargo area protecting against the identified hazards of the cargo by a water screen."

"*Safe haven* means a module (fixed or floating) that shall be capable of protecting people from all identified hazards of the cargo for a predetermined period of time. A safe haven on land must be constructed according to local law. A safe haven on board must be certified by a recognised classification society. A safe haven on board is not acceptable when the identified danger is fire or explosion."

Chapter 1.4.2

Delete 1.4.2.3.1 (d)

Chapter 1.4.3

Amend the following paragraphs to read:

"1.4.2.2.1 (d)

ascertain that a second means of evacuation in the event of an emergency from the vessel side is available, when the landside installation is not equipped with a second necessary means of evacuation."

"1.4.3.1.1 (f)

He shall ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

"1.4.3.3 (q)

He shall ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

"1.4.3.7.1 (h)

Ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

"1.4.3.7.1 (n)

Ascertain that the landside installation is equipped with one or two means of evacuation from the vessel in the event of an emergency."

Part 7

Chapter 7.1

Add the following table to 7.1.4

"7.1.4.77 Possible means of evacuation in case of an emergency

		<i>Dry cargo bulk (vessel and barge)</i>		<i>Container (vessel and barge) and packaged goods</i>
		<i>Class</i>		<i>Class</i>
		<i>4.1, 4.2, 4.3</i>	<i>5.1, 6.1, 7, 8, 9</i>	<i>All classes</i>
1	Two escape routes inside or outside the cargo area in opposite directions	•	•	•
2	One escape route outside the cargo area and one safe haven outside the vessel including the escape route towards it at the opposite end	•	•	•
3	One escape route outside the cargo area and one safe haven on the vessel at the opposite end	•	•	•
4	One escape route outside the cargo area and one life boat at the opposite end	•	•	•
5	One escape route outside the cargo area and one escape boat at the opposite end	•	•	•
6	One escape route inside the cargo area and one escape route outside the cargo area at the opposite end	•	•	•
7	One escape route inside the cargo area and one safe haven outside the vessel in the opposite direction	•	•	•
8	One escape route inside the cargo area and one safe haven on the vessel in the opposite direction	•	•	•
9	One escape route inside the cargo area and one life boat at the opposite end	•	•	•
10	One escape route inside the cargo area and one escape boat at the opposite end	•	•	•
11	One escape route inside or outside the cargo area and two safe havens on the vessel at opposite ends	•	•	•
12	One escape route inside or outside the cargo area and two safe areas on the vessel at opposite ends	•	•	•
13	One escape route outside the cargo area	•	•	•
14	One escape route inside the cargo area	•	•	•
15	One or more safe havens outside the vessel, including the escape route towards it	•	•	•
16	One or more safe havens on the vessel	•	•	•
17	One or more escape boats	•	•	•
18	One escape boat and one evacuation boat	•	•	•
19	One or more evacuation boats		•	•

• = Possible option."

Chapter 7.2

7.2.4.77 Add the following table:

"7.2.4.77 Possible means of evacuation in case of an emergency

		<i>Tank vessel/tank barge</i>					
		<i>Class</i>					
		<i>2, 3 packing group I, II and rest of III</i>	<i>3 packing group III (UN No. 1202 two entries: second and third), 4.1</i>	<i>5.1, 6.1</i>	<i>8</i>	<i>9</i>	
1	Two escape routes inside or outside the cargo area in opposite directions	•	•	•	•	•	
2	One escape route outside the cargo area and one safe haven outside the vessel including the escape route towards it from the opposite end	•	•	•	•	•	
3	One escape route outside the cargo area and one safe haven on the vessel at the opposite end	•	•	•	•	•	
4	One escape route outside the cargo area and one life boat at the opposite end		•		•	•	
5	One escape route outside the cargo area and one escape boat at the opposite end	•	•	•	•	•	
6	One escape route inside the cargo area and one escape route outside the cargo area at the opposite end	•	•	•	•	•	
7	One escape route inside the cargo area and one safe haven outside the vessel in the opposite direction	•	•	•	•	•	
8	One escape route inside the cargo area and one safe haven on the vessel in the opposite direction	•	•	•	•	•	
9	One escape route inside the cargo area and one life boat at the opposite end		•		•	•	
10	One escape route inside the cargo area and one escape boat at the opposite end	•	•	•	•	•	
11	One escape route inside or outside the cargo area and two safe havens on the vessel at opposite ends	•	•	•	•	•	
12	One escape route inside or outside the cargo area and two safe areas on the vessel at opposite ends	•	•	•	•	•	
13	One escape route outside the cargo area		•		*•	•	
14	One escape route inside the cargo area		•		*•	•	
15	One or more safe havens outside the vessel, including the escape route towards it	•	•	•	*•	•	

• = Possible option. * = Not accepted in case of classification codes TFC, CF or CFT."

Part 8

Chapter 8.6

8.6.3 ADN Checklist

Question 4

Replace by the following text: "Have suitable means in accordance with 7.1.4.77 and 7.2.4.77 been provided for boarding or leaving, including in cases of emergency?"

Explanation of question 4

Replace "(e.g. a lowered dinghy)" by "if required in accordance with 7.1.4.77 and 7.2.4.77."

(Reference document: *ECE/TRANS/WP.15/AC.2/2012/16 and INF.31 as amended*)
