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### Inland Transport Committee

### Working Party on the Transport of Perishable Foodstuffs

#### Sixty-seventh session

## Report of the Working Party on the Transport of Perishable Foodstuffs on its sixty-seventh session

held in Geneva from 25-28 October 2011

### Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1-2	3
II. Adoption of the agenda (agenda item 1) .....	3	3
III. Activities of ECE bodies of interest to the Working Party (agenda item 2).....	4-7	3
A. Inland Transport Committee (ITC).....	4-6	3
B. Working Party on Agricultural Quality Standards (WP.7) .....	7	3
IV. Activities of other international organizations dealing with issues of interest to the Working Party (agenda item 3).....	8-13	4
A. International Institute of Refrigeration (IIR) .....	8	4
B. Transfrigoroute International (TI).....	9-11	4
C. European Committee for Standardization (CEN) .....	12-13	4
V. Status and implementation of the ATP (agenda item 4).....	14-20	4
A. Status of application of the Agreement.....	14	4
B. Status of amendments .....	15-16	5
C. Test stations officially designated by the competent authorities of countries Parties to ATP.....	17	5
D. Exchange of information among Parties under Article 6 of ATP .....	18-20	5
VI. Proposals of amendments to the ATP (agenda item 5) .....	21-45	5
A. Pending proposals.....	21-34	5

	<i>Paragraphs</i>	<i>Page</i>
1. Sea crossing and inland waterways .....	21-22	5
2. Reorganization of Annex 1, Appendix 1 .....	23	6
3. Acceptable changes to insulated equipment .....	24	6
4. K coefficient of equipment in service .....	25-28	6
5. 6- and 9-year ATP tests of non-autonomous equipment .....	29	7
7. Multi-compartment multi-temperature vehicles .....	30-34	7
B. New proposals .....	35-45	7
1. Correction of the Agreement .....	35	7
2. ATP certificate for small containers .....	36-37	8
3. External surface area measurement of panel vans .....	38	8
4. Measuring the refrigerating capacity of systems using liquefied gas .....	39	8
5. Correction of the model certificate of compliance .....	40	8
6. Placement of temperature measurement and recording equipment .....	41-42	8
7. Combining annexes 2 and 3 .....	43-45	9
VII. ATP Handbook (agenda item 6) .....	46-48	9
1. Correction of the model certificate of compliance .....	47	9
2. Placement of temperature measurement and recording equipment .....	48	9
VIII. Scope of ATP (agenda item 7) .....	49-50	9
IX. Energy labelling, refrigerants and blowing agents (agenda item 8) .....	51-53	9
X. Programme of work and biennial evaluation (agenda item 9) .....	54-55	10
XI. Election of officers (agenda item 10) .....	56-57	10
XII. Other business (agenda item 11) .....	58-63	10
A. Dates of the sixty-eighth session .....	63	11
XIII. Adoption of the report (agenda item 12) .....	64	11
<b>Annexes</b>		
I. Proposed amendments to the ATP adopted at the sixty-seventh session .....		12
II. Corrections to the ATP .....		18
III. Correction to the ATP Handbook .....		19
IV. Programme of work for 2012-2013 .....		20
V. Biennial evaluation for 2012-2013 .....		22

## **I. Attendance**

1. The Working Party on the Transport of Perishable Foodstuffs (WP.11) held its sixty-seventh session from 25-28 October 2011 with Mr. T. Nobre (Portugal) as Chairman and Mr. G. Panozzo (Italy) as Vice-Chairman.
2. Representatives of the following countries took part in the session: Belgium, Czech Republic, Denmark, Finland, France, Germany, Italy, Latvia, Netherlands, Norway, Poland, Portugal, Russian Federation, Slovakia, Spain, Sweden, United Kingdom of Great Britain and Northern Ireland and United States of America. The intergovernmental organization International Institute of Refrigeration (IIR) and the non-governmental organizations European Committee for Standardization (CEN), International Association of the Body and Trailer Building Industry (CLCCR) and Transfrigoroute International (TI) also took part in the session.

## **II. Adoption of the agenda (agenda item 1)**

*Documents:* ECE/TRANS/WP.11/223  
ECE/TRANS/WP.11/223/Add.1  
Informal document INF.10

3. The provisional agenda (ECE/TRANS/WP.11/223 and -/Add.1) was adopted as amended by informal document INF.10 to take account of informal documents INF.1 to INF.10.

## **III. Activities of ECE bodies of interest to the Working Party (agenda item 2)**

### **A. Inland Transport Committee (ITC)**

*Document:* ECE/TRANS/221

4. WP.11 took note of the results of the seventy-third session of the ITC including the adoption of the report of WP.11's sixty-sixth session and the approval of the Terms of Reference and Rules of Procedure adopted by WP.11.
5. WP.11 was informed that ECE had responded to the call of the United Nations Secretary-General for budget cuts in 2011 which had lead to the abolition of 7 posts.
6. A review would be undertaken by the ECE Executive Committee of the 2005 reform process and of the priorities and continued relevance and value added of all UNECE activities, including the transport of perishable foodstuffs. This would be done in close consultation with the secretariat and the Chairman of WP.11.

### **B. Working Party on Agricultural Quality Standards (WP.7)**

7. WP.11 was informed about the recent work of WP.7 on the development of commercial agricultural quality standards. Further information can be found at the following link: <http://www.unece.org/trade/agr/welcome.html>.

## **IV. Activities of other international organizations dealing with issues of interest to the Working Party (agenda item 3)**

### **A. International Institute of Refrigeration (IIR)**

*Document:* Informal document INF.4 (IIR)

8. WP.11 was informed about the results of the meeting of the IIR sub-commission on refrigerated transport held in Bordeaux on 12-13 May 2011 and the twenty-third International Congress of Refrigeration: Refrigeration for Sustainable Development, held in Prague from 21-26 August 2011.

### **B. Transfrigoroute International**

9. The representative of Transfrigoroute International, Mr. P. Grosskopf, informed WP.11 about his organization's annual general meeting which had been held in Valencia on 29 and 30 September 2011.

10. Mr. Grosskopf announced that he would be stepping down as representative of Transfrigoroute International to WP.11 and that his successor would be Mr. J.-M. Bonnal. WP.11 thanked Mr. Grosskopf for his long and outstanding contribution to the work of WP.11.

11. Transfrigoroute International expressed its interest in working on the modernization and harmonization of ATP.

### **C. European Committee for Standardization (CEN)**

*Document:* Informal document INF.6 (Secretariat)

12. The representatives of CEN and of Germany informed WP.11 about the development of a draft standard on "Testing methodologies of cooling equipment for insulated means of transportation" by the working group CEN/TC 113/WG 13 and about the activities of the project committee CEN/TC 413 on testing methodologies and requirements for insulated means of transportation. The presentations can be found on the Transport Division website at the following link: [http://www.unece.org/trans/main/wp11/wp11inf\\_67.html](http://www.unece.org/trans/main/wp11/wp11inf_67.html).

A number of countries questioned the objective of the standard and warned of the potential for conflict if it covered the same issues as ATP. It was stressed that WP.11 should be involved in work on the development of the standard.

13. The IIR sub-commission on refrigerated transport was invited to check whether references to standards in ATP were to the latest versions of those standards and to make an official amendment proposal to the next session of WP.11 if necessary.

## **V. Status and implementation of the ATP (agenda item 4)**

### **A. Status of application of the Agreement**

14. The number of Contracting Parties to the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP) (45) remains unchanged since the sixty-sixth session in 2010.

## **B. Status of amendments**

15. The Working Party was informed that proposed amendments to the ATP adopted at the sixty-sixth session of WP.11 in 2010 (ECE/TRANS/WP.11/222, Annex I) had been notified to ATP Contracting Parties by the United Nations Treaty Section on 11 February 2011 (C.N.67.2011.TREATIES-1).

16. On 26 July 2011, the Government of Germany, in accordance with Article 18 (2) (b) of the ATP, informed the Secretary-General that although it intended to accept the proposals, the conditions for such acceptance were not yet fulfilled (C.N.493.2011.TREATIES-2). Consequently, the amendments would be deemed accepted only if, before the expiry of a period of nine months following the initial notification period of six months (i.e. before 11 May 2012), the Government of Germany did not notify an objection to the proposed amendments.

## **C. Test stations officially designated by the competent authorities of countries Parties to ATP**

17. The current updated list of competent authorities and test stations appears at the following web link: <http://www.unece.org/trans/main/wp11/teststations.pdf>. WP.11 thanked those countries that had submitted revised information in response to the secretariat's request and strongly urged all Contracting Parties to transmit the contact details of their competent authority if it was not yet included in the list. France stressed the need to have the details of at least one contact and of the competent authority in order to facilitate the application of the Agreement.

## **D. Exchange of information among Parties under Article 6 of ATP**

*Document:* ECE/TRANS/WP.11/2011/6 (Secretariat)

18. WP.11 thanked those countries that had provided data in response to the questionnaire on the implementation of ATP in 2010: Czech Republic, Denmark, Finland, France, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Serbia, Slovakia, Spain, Sweden and United Kingdom. France recalled that the sending of this information is an obligation and asked every ATP Contracting Party to reply to the questionnaire.

19. WP.11 agreed that the secretariat would include questions asking countries what measures they currently use to ensure observance of the Agreement and whether they organize highway controls.

20. WP.11 invited Transfrigoroute International to prepare a proposal on the development of work aimed at harmonizing the ATP certification process, which differed widely between countries.

# **VI. Proposals of amendments to the ATP (agenda item 5)**

## **A. Pending proposals**

### **1. Sea crossing and inland waterways**

*Documents:* ECE/TRANS/WP.11/2011/2 (Finland)  
Informal document INF.12 (Spain)

21. A number of countries stressed that the proposals still did not provide evidence of the problem, for example in the form of control data from competent authorities. The voting on the proposal for Article 3 was 9 in favour (Belgium, Finland, France, Germany, Italy, Russian Federation, Spain, Sweden and United Kingdom) and 3 against (Denmark, Netherlands and United States). The voting on proposal 1 for the revision of Article 5 was 1 in favour (Finland) and 7 against (Belgium, Denmark, Netherlands, Portugal, Russian Federation, Sweden and United States). The voting on proposal 2 for the revision of Article 5 was 1 in favour (Finland) and 8 against (Belgium, Denmark, Germany, Latvia, Netherlands, Portugal, Russian Federation and Spain).

22. WP.11 recommended that Finland restrict any future proposal on this subject to Article 3 if possible. Finland said that in light of the objections expressed it did not intend to continue to lead the work on the sea crossing and carriage by inland waterways.

## **2. Reorganization of annex 1, appendix 1**

*Documents:* ECE/TRANS/WP.11/2010/7 (Netherlands)  
Informal document INF. 8 (Netherlands)

23. WP.11 thanked the delegate of the Netherlands for his work on this subject and confirmed that the general direction and philosophy of the proposal could be supported. WP.11 gave a mandate to an informal working group composed of the following countries and organizations (France, Denmark, Netherlands, Transfrigoroute International and CLCCR) to further develop the proposal and submit an official document to the next session.

## **3. Acceptable changes to insulated equipment**

*Documents:* ECE/TRANS/WP.11/2011/5 (France)  
ECE/TRANS/WP.11/2011/8 (Germany)

24. Some countries considered that ATP already allowed some flexibility regarding internal fittings of insulated equipment and pointed to the existing comments in the ATP Handbook. Transfrigoroute International was requested to find a compromise between the two proposals and present it for consideration at the next meeting of the IIR sub-commission on refrigerated transport. The voting on the French proposal was 6 in favour (Belgium, France, Italy, Poland, United Kingdom and United States) and 4 against (Denmark, Netherlands, Portugal and Spain). The voting on the German proposal was 4 in favour (Germany, Poland, Russian Federation and United States) and 6 against (Denmark, Italy, Netherlands, Portugal, Spain and Sweden).

## **4. K coefficient of equipment in service**

*Documents:* ECE/TRANS/WP.11/2011/9 (Germany)  
Informal document INF.9 (Sweden)

25. Some concern was expressed at the environmental consequences of allowing for higher K values for equipment in service.

26. Germany agreed to prepare a revised proposal during the session taking into account the comments made, including the need to consider retesting at 12 years.

27. The revised text which proposed higher K values for 6- and 9-year retests and lower K values for 12-year retests was not accepted. The voting was 2 in favour (Germany and Spain) and 7 against (Belgium, Denmark, France, Italy, Poland, Portugal and United Kingdom).

28. Some countries stated that they did not agree with the reduced K values proposed for 12-year retests and others did not agree with the new K values proposed for 6- and 9-year

retests. They cited environmental reasons and stated that the new K values would not allow the equipment to retain the class temperatures for which it was initially approved.

## 5. 6- and 9-year ATP tests for non-autonomous equipment

*Document:* ECE/TRANS/WP.11/2011/16 (France)

29. The delegate of the Netherlands said that his comments on a similar proposal made in 2010 had not been taken into account. France stressed that the procedure proposed was working well in France and said it would present a revised proposal to the next session. The voting was 10 in favour (Czech Republic, France, Germany, Italy, Latvia, Poland, Portugal, Spain, Sweden and United States) and 1 against (Netherlands).

## 6. Multi-compartment multi-temperature vehicles

*Document:* ECE/TRANS/WP.11/2011/10 (Germany)  
Informal document INF.13

30. There was widespread support for the new proposal. Some questions were raised about appropriate markings, the need for a model test report, the best place for the new text in annex 1, appendix 2 and regarding retesting of equipment but it was agreed that these issues could be resolved at a later stage. The voting was as follows: 13 in favour (Belgium, Denmark, Finland, France, Germany, Italy, Latvia, Poland, Portugal, Russian Federation, Sweden, United Kingdom and United States) and 1 against (Spain). Netherlands abstained.

31. Spain explained that it could not agree that in-service multi-temperature equipment should be covered by the proposal. WP.11 agreed to develop the text of a transitional measure during the session to take care of Spain's concern.

32. WP.11 adopted the proposal in ECE/TRANS/WP.11/2011/10 with the addition of the following text (see annex I):

"8.3.8 The requirements of section 8 shall not apply to equipment produced before the entry into force of the requirements and having undergone equivalent tests as multi-temperature equipment. Equipment produced before the entry into force of this section may be operated in international transport but may only be transferred from one country to another with the agreement of the competent authorities of the countries concerned."

33. The voting on the proposal as amended was as follows: 13 in favour (Belgium, Denmark, Finland, France, Germany, Italy, Latvia, Poland, Portugal, Spain, Sweden, United Kingdom and United States) and none against.

34. Transfrigoroute International made reference to a calculation tool for the dimensioning of multi-temperature equipment but said that financing was required for its further development.

## B. New proposals

### 1. Correction of the Agreement

*Documents:* ECE/TRANS/WP.11/2011/4 (Slovakia)  
ECE/TRANS/WP.11/2011/13 (Secretariat)

35. WP.11 adopted the proposal to correct Article 2 of ATP by changing the reference to paragraph 4 to paragraph 3. This error had occurred with the adoption of the revised text of Annex 1 which had entered into force on 2 January 2011. WP.11 asked the secretariat to

submit the correction to the United Nations Treaty Section for notification under the accelerated 90-day correction procedure (see annex II).

**2. ATP certificate for small containers**

*Documents:* ECE/TRANS/WP.11/2011/7 (France)  
ECE/TRANS/WP.11/2011/14 (Germany)

36. WP.11 agreed to consider during the session a revised text merging the two proposals and incorporating the footnote proposed for the certificate of compliance. It was questioned whether the proposal should also mention the ATP plate.

37. The revised text was adopted (see annex I). The voting was 13 in favour (Belgium, Czech Republic, Finland, France, Germany, Italy, Latvia, Poland, Portugal, Spain, Sweden, United Kingdom and United States) and none against. One delegation cautioned that consequential amendments might be required as a result of the amendment and that the amendment only covered initial certification.

**3. External surface area measurement of panel vans**

*Document:* ECE/TRANS/WP.11/2011/12 (United Kingdom)

38. The United Kingdom agreed to submit a revised proposal to the next session incorporating comments from the Netherlands and possible results of ongoing work in CEN.

**4. Measuring the refrigerating capacity of systems using liquefied gas**

*Documents:* ECE/TRANS/WP.11/2011/15 (France)  
Informal document INF. 3 (Netherlands)

39. Liquefied gas systems were becoming increasingly popular due in part to their reduced environmental impact and quieter operation. WP.11 agreed that a revised text incorporating the two proposals should be prepared. Transfrigoroute International expressed its interest in joining the work on this subject.

**5. Correction of the model certificate of compliance**

*Document:* ECE/TRANS/WP.11/2011/11 (Portugal)

40. WP.11 adopted the correction to the model certificate of compliance (annex 1, appendix 3) and asked the secretariat to submit the correction to the United Nations Treaty Section under the accelerated 90-day correction procedure (see annex II).

**6. Placement of temperature measurement and recording equipment**

*Document:* ECE/TRANS/WP.11/2011/18 (Russian Federation)

41. A number of delegates felt that the proposal was too detailed for inclusion in ATP. A question was also raised about the possibility of damage to sensors in the positions proposed. The voting was as follows: 1 in favour (Russian Federation) and 3 against (France, Germany and Sweden).

42. It was proposed that the Russian Federation divide the proposal into two parts, one for inclusion in ATP and one for inclusion in the ATP Handbook and that it submit official documents for the next session taking into account the comments made.

**7. Combining annexes 2 and 3**

*Document:* Informal document No. 1 (Russian Federation)

43. WP.11 took note of the proposal to make a small modification to Article 3 and to combine the provisions of Annexes 2 and 3. It requested the Russian Federation to submit an official document on the subject to the next session of WP.11 when it would study the proposal in greater detail.

44. The Russian Federation announced its intention to table an informal document on the definition of “perishable foodstuffs” for the next session. It stated that this issue was also important for other countries of the Commonwealth of Independent States (CIS) which were Contracting Parties to ATP.

45. WP.11 invited the secretariat to send the draft amendments adopted which were contained in annex I to the present report to the United Nations Treaty Section for official notification to ATP Contracting Parties.

## **VII. ATP Handbook (agenda item 6)**

46. WP.11 was informed that the latest version of the ATP Handbook appears on the Transport Division website in English, French and Russian at the following link: [http://www.unece.org/trans/main/wp11/atp\\_handbook.html](http://www.unece.org/trans/main/wp11/atp_handbook.html).

### **1. Correction of the model certificate of compliance**

*Document:* ECE/TRANS/WP.11/2011/11 (Portugal)

47. WP.11 adopted the correction to the model certificate of compliance in the ATP Handbook and asked the secretariat to correct the versions on the internet (see annex III).

### **2. Placement of temperature measurement and recording equipment**

*Document:* ECE/TRANS/WP.11/2011/18 (Russian Federation)

48. WP.11 invited the Russian Federation to submit a revised document on the subject to the next session taking into account the comments made.

## **VIII. Scope of ATP (agenda item 7)**

*Document:* Informal document INF.2 (Russian Federation)

49. Several delegations reiterated their opposition to extending the scope of ATP to fruit and vegetables stating that despite the reference in the preamble to the Agreement, ATP dealt with food safety and not food quality. Deterioration in fruit and vegetables was generally obvious from their appearance unlike some other perishable foodstuffs.

50. WP.11 left it up to the Russian Federation to decide whether to submit an official document on the subject to the next session.

## **IX. Energy labelling, refrigerants and blowing agents (agenda item 8)**

*Document:* Informal document No. 7 (Secretariat)

51. WP.11 discussed the development of an environmental programme of work. The representative of France made a presentation on the environmental challenges facing refrigerated transport. The presentation is available on the Transport Division website at the following link: [http://www.unece.org/trans/main/wp11/wp11inf\\_67.html](http://www.unece.org/trans/main/wp11/wp11inf_67.html).

52. The representative of Transfrigoroute International informed WP.11 about ongoing work on a software to calculate energy consumption and invited WP.11 to cooperate with it on environmental issues.

53. WP.11 established an informal working group composed of France, Germany, Portugal, Spain, United States, International Institute of Refrigeration and Transfrigoroute International, with the assistance of the secretariat, to make proposals to WP.11 regarding an environmental programme of work. The group would work in the first instance by email.

## **X. Programme of work and biennial evaluation (agenda item 9)**

*Documents:* ECE/TRANS/WP.11/2011/1 (Secretariat)  
ECE/TRANS/WP.11/2011/3 (Secretariat)  
ECE/TRANS/WP.11/2011/17 (Secretariat)

54. WP.11 adopted its programme of work for 2012-2013 with the following correction: for "revision of articles 2 and 5 of ATP" read "revision of articles 3 and 5 of ATP" (see annex IV). WP.11 also adopted the biennial evaluation of its work for 2012-2013, raising the target for the number of countries replying to the questionnaire on the implementation of the ATP from 14 to 20 (see annex V).

55. WP.11 took note of the Guidelines for the establishment and functioning of Working Parties in UNECE. In light of the fact that the ITC had approved WP.11's terms of reference and rules of procedure at its seventy-third session in 2011 (ECE/TRANS/221, para. 93), WP.11 proposed that the ITC renew the mandate and status of WP.11 for another cycle of five years.

## **XI. Election of officers (agenda item 10)**

56. Mr. Panozzo, delegate of Italy and Vice Chairman of WP.11, announced that he was retiring from his present functions and would no longer be in a position to participate in WP.11 in the future. WP.11 thanked him for contributing his technical expertise to WP.11 and to the field of refrigeration in general.

57. WP.11 elected Mr. Telmo Nobre (Portugal) as Chairman and Mr. Eric Devin (France) and Mr. Kees de Putter (Netherlands) as Vice-Chairmen for its sixty-eighth session in 2012.

## **XII. Other business (agenda item 11)**

*Document:* Informal document INF.5

58. WP.11 took note of a proposal regarding the need for certification and calibration of measuring instruments used in ATP testing stations. It suggested that any further communications of this kind be first sent to the competent authority of the country concerned. It expressed the opinion that the proposal was not in conformity with the requirements of ATP.

59. The Chairman mentioned the need to discuss accreditation of testing stations according to ISO 17025 in the future. France proposed to submit a formal document to the next session on measurement uncertainty in ATP.

60. WP.11 took note of a draft document proposing procedures for the communication of multilateral agreements concluded in accordance with Article 7 of ATP, based on those

in use for the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

61. The secretariat was requested to make available on the Transport Division website presentations made at the session and all informal documents referred to in the report.

62. France announced that the Second IIR Conference on the cold chain and sustainable development would be held in Paris from 3–4 April 2013.

#### **A. Dates of the sixty-eighth session**

63. WP.11 was informed that the dates of 22–25 October 2012 had been reserved for the sixty-eighth session of WP.11. The deadline for submission of documents is 20 July 2012.

### **XIII. Adoption of the report (agenda item 12)**

64. WP.11 adopted the report on its sixty-seventh session on the basis of a draft prepared by the secretariat.

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## Annex I

### Proposed amendments to the ATP adopted at the sixty-seventh session

#### 1. Annex 1, Appendix 2

Add a new section 8 as follows:

#### "8. PROCEDURE FOR MEASURING THE CAPACITY OF MECHANICAL MULTI-TEMPERATURE REFRIGERATION UNITS AND DIMENSIONING MULTI-COMPARTMENT EQUIPMENT

##### 8.1 Definitions

- (a) Multi-compartment equipment: Equipment with two or more insulated compartments for maintaining a different temperature in each compartment;
- (b) Multi-temperature mechanical refrigeration unit: Mechanical refrigeration unit with compressor and common suction inlet, condenser and two or more evaporators set at different temperatures in the various compartments of multi-compartment equipment;
- (c) Host unit: Refrigeration unit with or without an integral evaporator;
- (d) Unconditioned compartment: a compartment considered to have no evaporator or for which the evaporator is inactive for the purposes of dimensioning calculations and certification;
- (e) Multi-temperature operation: Operation of a multi-temperature mechanical refrigeration unit with two or more evaporators operating at different temperatures in multi-compartment equipment;
- (f) Nominal refrigerating capacity: Maximum refrigerating capacity of the refrigeration unit in mono-temperature operation with two or three evaporators operating simultaneously at the same temperature;
- (g) Individual refrigerating capacity ( $P_{\text{ind-evap}}$ ): The maximum refrigerating capacity of each evaporator in solo operation with the host unit;
- (h) Effective refrigerating capacity ( $P_{\text{eff-frozen-evap}}$ ): The refrigerating capacity available to the lowest temperature evaporator when two or more evaporators are each operating in multi-temperature mode, as prescribed in paragraph 8.3.5.

##### 8.2 Test procedure for multi-temperature mechanical refrigeration units

###### 8.2.1 General procedure

The test procedure shall be as defined in section 4 of this appendix.

The host unit shall be tested in combination with different evaporators. Each evaporator shall be tested on a separate calorimeter, if applicable.

The nominal refrigerating capacity of the host unit in mono-temperature operation, as prescribed in paragraph 8.2.2, shall be measured with a single combination of two or three evaporators including the smallest and largest.

The individual refrigerating capacity shall be measured for all evaporators, each in mono-temperature operation with the host unit, as prescribed in paragraph 8.2.3.

This test shall be conducted with two or three evaporators including the smallest, the largest and, if necessary, a mid-sized evaporator.

If the multi-temperature unit can be operated with more than two evaporators:

- The host unit shall be tested with a combination of three evaporators: the smallest, the largest and a mid-sized evaporator.
- In addition, on demand of the manufacturer, the host unit can be tested optionally with a combination of two evaporators: the largest and smallest.

The tests are done in independent mode and stand by.

#### 8.2.2 Determination of the nominal refrigerating capacity of the host unit

The nominal refrigerating capacity of the host unit in mono-temperature operation shall be measured with a single combination of two or three evaporators operating simultaneously at the same temperature. This test shall be conducted at -20°C and at 0°C.

The air inlet temperature of the host unit shall be +30°C.

The nominal refrigerating capacity at -10°C shall be calculated by linear interpolation from the capacities at -20°C and 0°C.

#### 8.2.3 Determination of the individual refrigerating capacity of each evaporator

The individual refrigerating capacity of each evaporator shall be measured in solo operation with the host unit. The test shall be conducted at -20°C and 0°C. The air inlet temperature of the refrigeration unit shall be +30°C.

The individual refrigerating capacity at -10°C shall be calculated by linear interpolation from the capacities at 0°C and -20°C.

#### 8.2.4 Test of the remaining effective refrigerating capacities of a set of evaporators in multi-temperature operation at a reference heat load

The remaining effective refrigerating capacity shall be measured for each tested evaporator at -20°C with the other evaporator(s) operating under control of a thermostat set at 0°C with a reference heat load of 20% of the individual refrigerating capacity at -20°C of the evaporator in question. The air inlet temperature of the host unit shall be +30°C.

For multi-temperature refrigeration units with more than one compressor such as cascade systems or units with two-stage compression systems, where the refrigerating capacities can be simultaneously maintained in the frozen and chilled compartments, the measurement of the effective refrigerating capacity, shall be done at one additional heat load.

### 8.3 **Dimensioning and certification of refrigerated multi-temperature equipment**

#### 8.3.1 General procedure

The refrigerating capacity demand of multi-temperature equipment shall be based on the refrigerating capacity demand of mono-temperature equipment as defined in this appendix.

For multi-compartment equipment, a K coefficient less than or equal to 0.40 W/m<sup>2</sup>.K for the outer body as a whole shall be approved in accordance with subsections 2 to 2.2 of this appendix.

The insulation capacities of the outer body walls shall be calculated using the K coefficient of the body approved in accordance with this Agreement. The insulation capacities of the internal dividing walls shall be calculated using the K coefficients in the table in paragraph 8.3.7.

For issuance of an ATP certificate:

- The nominal refrigerating capacity of the multi-temperature refrigeration unit shall be at least equal to the heat loss through the internal dividing and outer body walls of the equipment as a whole multiplied by the factor 1.75 as specified in paragraph 3.2.6 of this appendix.
- In each compartment, the calculated remaining effective refrigerating capacity at the lowest temperature of each evaporator in multi-temperature operation shall be greater than or equal to the maximum refrigeration demand of the compartment in the most unfavourable conditions, as prescribed in paragraphs 8.3.5 and 8.3.6, multiplied by the factor 1.75 as specified in paragraph 3.2.6 of this appendix.

### 8.3.2 Conformity of the entire body

The outer body shall have a K value  $K \leq 0.40 \text{ W/m}^2.\text{K}$ .

The internal surface of the body shall not vary by more than 20 %.

The equipment shall conform to:

$$P_{\text{nominal}} > 1.75 * K_{\text{body}} * S_{\text{body}} * \Delta T$$

Where:

- $P_{\text{nominal}}$  is the nominal refrigerating capacity of the multi-temperature refrigeration unit,
- $K_{\text{body}}$  is the K value of the outer body,
- $S_{\text{body}}$  is the internal surface of the full body,
- $\Delta T$  is the difference in temperature between outside and inside the body.

### 8.3.3 Determination of the refrigerating demand of chilled evaporators

With the bulkheads in given positions, the refrigerating capacity demand of each chilled evaporator is calculated as follows:

$$P_{\text{chilled demand}} = (S_{\text{chilled-comp}} - \Sigma S_{\text{bulk}}) * K_{\text{body}} * \Delta T_{\text{ext}} + \Sigma (S_{\text{bulk}} * K_{\text{bulk}} * \Delta T_{\text{int}})$$

Where:

- $K_{\text{body}}$  is the K value given by an ATP test report for the outer body,
- $S_{\text{chilled-comp}}$  is the surface of the chilled compartment for the given positions of the bulkheads,
- $S_{\text{bulk}}$  are the surfaces of the bulkheads,
- $K_{\text{bulk}}$  are the K values of the bulkheads given by the table in paragraph 8.3.7,
- $\Delta T_{\text{ext}}$  is the difference in temperatures between the chilled compartment and +30°C outside the body,

- $\Delta T_{\text{int}}$  is the difference in temperatures between the chilled compartment and other compartments. For unconditioned compartments a temperature of +20°C shall be used for calculations.

#### 8.3.4 Determination of the refrigerating demand of frozen compartments

With the bulkheads in given positions, the refrigerating capacity demand of each frozen compartment is calculated as follows:

$$P_{\text{frozen demand}} = (S_{\text{frozen-comp}} - \sum S_{\text{bulk}}) * K_{\text{body}} * \Delta T_{\text{ext}} + \sum (S_{\text{bulk}} * K_{\text{bulk}} * \Delta T_{\text{int}})$$

Where:

- $K_{\text{body}}$  is the K value given by an ATP test report for the outer body,
- $S_{\text{frozen-comp}}$  is the surface of the frozen compartment for the given positions of the bulkheads,
- $S_{\text{bulk}}$  are the surfaces of the bulkheads,
- $K_{\text{bulk}}$  are the K values of the bulkheads given by the table in paragraph 8.3.7,
- $\Delta T_{\text{ext}}$  is the difference in temperatures between the frozen compartment and +30 °C outside the body,
- $\Delta T_{\text{int}}$  is the difference in temperatures between the frozen compartment and other compartments. For insulated compartments a temperature of +20°C shall be used for calculations.

#### 8.3.5 Determination of the effective refrigerating capacity of frozen evaporators

The effective refrigerating capacity, in given positions of the bulkheads, is calculated as follows:

$$P_{\text{eff-frozen-evap}} = P_{\text{ind-frozen-evap}} * [1 - \sum (P_{\text{eff-chilled-evap}} / P_{\text{ind-chilled-evap}})]$$

Where:

- $P_{\text{eff-frozen-evap}}$  is the effective refrigerating capacity of the frozen evaporator with a given configuration,
- $P_{\text{ind-frozen-evap}}$  is the individual refrigeration capacity of the frozen evaporator at -20 °C,
- $P_{\text{eff-chilled-evap}}$  is the effective refrigeration capacity of each chilled evaporator in the given configuration as defined in paragraph 8.3.6,
- $P_{\text{ind-chilled-evap}}$  is the individual refrigerating capacity at -20 °C for each chilled evaporator.

This calculation method is only approved for multi-temperature mechanical refrigeration units with a single one-stage compressor. For multi-temperature refrigeration units with more than one compressor such as cascade systems or units with two-stage compression systems, where the refrigerating capacities can be simultaneously maintained in the frozen and the chilled compartments, this calculation method shall not be used, because it will lead to an underestimation of the effective refrigerating capacities. For this equipment, the effective refrigerating capacities shall be interpolated between the effective refrigerating capacities measured with two different heat loads given in the tests reports as prescribed in 8.2.4.

### 8.3.6 Conformity declaration

The equipment is declared in conformity in multi-temperature operation if, for each position of the bulkheads, and each distribution of temperature in the compartments:

$$P_{\text{eff-frozen-evap}} \geq 1.75 * P_{\text{frozen demand}}$$

$$P_{\text{eff-chilled-evap}} \geq 1.75 * P_{\text{chilled demand}}$$

Where:

- $P_{\text{eff-frozen-evap}}$  is the effective refrigeration capacity of the considered frozen evaporator at the class temperature of the compartment in the given configuration,
- $P_{\text{eff-chilled-evap}}$  is the effective refrigeration capacity of the considered chilled evaporator at the class temperature of the compartment in the given configuration,
- $P_{\text{frozen demand}}$  is the refrigerating demand of the considered compartment at the class temperature of the compartment in the given configuration as calculated according to 8.3.4,
- $P_{\text{chilled demand}}$  is the refrigerating demand of the considered compartment at the class temperature of the compartment in the given configuration as calculated according to 8.3.3.

It shall be considered that all the positions of the bulkheads have been dimensioned if the wall positions from the smallest to the largest compartment sizes are checked by iterative methods whereby no input step change in surface area is greater than 20 %.

### 8.3.7 Internal dividing walls

Thermal losses through internal dividing walls shall be calculated using the K coefficients in the following table.

	<i>K coefficient – [W/m<sup>2</sup>.K]</i>		<i>Minimum foam thickness</i>
	<i>Fixed</i>	<i>Removable</i>	<i>[mm]</i>
Longitudinal – alu floor	2.0	3.0	25
Longitudinal – GRP floor	1.5	2.0	25
Transversal – alu floor	2.0	3.2	40
Transversal – GRP floor	1.5	2.6	40

K coefficients of movable dividing walls include a safety margin for specific ageing and unavoidable thermal leakages.

For specific designs with additional heat transfer caused by additional thermal bridges compared to a standard design, the partition K coefficient shall be increased.

8.3.8 The requirements of section 8 shall not apply to equipment produced before the entry into force of the requirements and having undergone equivalent tests as multi-temperature equipment. Equipment produced before the entry into force of this section may be operated in international transport but may only be transferred from one country to another with the agreement of the competent authorities of the countries concerned."

**2. Annex 1, Appendix 1, paragraph 3**

Add the following text at the end:

"For a batch of identical serially produced insulated equipment (containers) having an internal volume of less than 2 m<sup>3</sup>, a certificate of compliance for the batch may be issued by the competent authority. In such cases the identification numbers of all the insulated equipment, or the first and the last identification numbers of the series, shall be indicated on the certificate of compliance instead of the serial number of each individual unit. In that case, the insulated equipment listed in that certificate shall be fitted with a certification plate of compliance as described in Annex 1, Appendix 3 B issued by the competent authority.

In the case of transfer of this insulated equipment (containers) to another country which is a Contracting Party to this Agreement in order to be registered or recorded there, the competent authority of the country of the new registration or recording may provide an individual certificate of compliance based on the original certificate of compliance established for the whole batch."

**3. Annex 1, Appendix 3 A Model form of certificate of compliance of equipment**

Insert a new footnote after item 3 "Insulated box serial number" as follows:

"15) All the serial numbers of insulated equipment (containers) having an internal volume of less than 2m<sup>3</sup> shall be listed. It is also acceptable to collectively list these numbers, i.e. from number ... to number ....".

## Annex II

### Corrections to the ATP

1. Make the following correction to Article 2:  
In English, for "paragraph 4" read "paragraph 3"  
In French, for "paragraphe 4" read "paragraphe 3"  
In Russian, for "пункту 4" read "пункту 3".
2. Make the following corrections in Annex 1, Appendix 3 A, 6.1.1 and 6.1.2 in the model form of certificate of compliance:  
In English, for "FUEL" read "REFRIGERANT"  
In French, for "CARBURANT" read "FRIGORIGÈNE"  
In Russian, for "ТОПЛИВО" read "ХОЛОДИЛЬНЫЙ АГЕНТ".

## Annex III

### Correction to the ATP Handbook

1. Correct 6.1.1 and 6.1.2 in the model form of certificate of compliance in Annex 1, Appendix 3 A as follows:

In English, for "FUEL" read "REFRIGERANT"

In French, for "CARBURANT" read "FRIGORIGÈNE"

In Russian, for "ТОПЛИВО" read "ХОЛОДИЛЬНЫЙ АГЕНТ".

## Annex IV

### Programme of work for 2012–2013

#### Subprogramme: 02 Transport

Cluster 14

#### Transport of perishable foodstuffs

<i>Description of cluster (optional)</i>	<i>Expected accomplishments from this cluster</i>
<p>The main aims of the cluster are to:</p> <p>Initiate and pursue actions aimed at enhancing the preservation of the quality of perishable foodstuffs during their carriage, particularly in international transport;</p> <p>Promote the facilitation of international transport of perishable foodstuffs by harmonizing the relevant regulations and rules and the administrative procedures and documentation requirements to which this transport is subject;</p> <p>Develop and update the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP), concluded in Geneva in 1970;</p> <p>Ensure harmonization of the ATP with other relevant legal instruments on the transport of perishable foodstuffs developed in other fora;</p> <p>Main actions by the Transport Division:</p> <p>Act as secretariat to the Working Party on the Transport of Perishable Foodstuffs (WP.11);</p> <p>Issue updated publications of the ATP and ATP Handbook;</p> <p>Organize activities, including workshops, aimed at enhancing implementation of the ATP and promoting accession by other States;</p> <p>Cooperate with Governments and other actors (intergovernmental and non-governmental organizations) in the field of refrigerated transport</p>	<p>Enhanced and updated international requirements for the transport of perishable foodstuffs</p>

**Outputs/activities***(a) Meetings and related parliamentary documentation*

14.1 Working Party on the Transport of Perishable Foodstuffs (WP.11): 68<sup>th</sup> session (22-25 October 2012), 69<sup>th</sup> session (2013)

Reports of the annual sessions of WP.11; Documents on the exchange of information on the implementation of the ATP; Proposal on the revision of articles 3 and 5 of ATP regarding the sea crossing and carriage by inland waterways; Proposals of amendments to the ATP and its annexes; Proposals on the ATP testing procedure for multi-temperature multi-compartment equipment; Proposals for additions to the ATP Handbook; Proposals on the extension of the scope of ATP to cover fresh fruit and vegetables; Programme of work and biennial evaluation.

*(b) Publications and other information material*

14.2 2013 issue of the publication of the ATP

14.3 Updates of the ATP Handbook on the Transport Division website

*(c) Technical cooperation*

14.4 Activities, including a possible workshop, aimed at enhancing implementation of the ATP, promoting accession by countries in and outside the ECE region, and at reducing the environmental impact of refrigerated transport;

14.5 Cooperation with other organizations working in the field of refrigerated transport including the International Institute of Refrigeration and Transfrigoroute International.

## Annex V

## Biennial evaluation for 2012–2013

<i>Cluster</i>	<i>Expected accomplishments</i>	<i>Indicators of achievement</i>
Transport of perishable foodstuffs	Enhanced and updated international requirements for the transport of perishable foodstuffs	<p>(a) Number of new amendments to the ATP adopted by WP.11</p> <p>Performance measures: Estimate: 2010-2011: 10 Target: 2012-2013: 12</p> <p>(b) Total number of Contracting Parties to the ATP Agreement</p> <p>Performance measures: Estimate: 2010-2011: 45 Target: 2012-2013: 47</p> <p>(c) Number of countries replying to the questionnaire on the implementation of the ATP</p> <p>Performance measures: Estimate: 2010-2011: 12 Target: 2012-2013: 20</p>