

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Perishable Foodstuffs

Eightieth session

Geneva, 24-27 October 2023

Item 3 (a) of the provisional agenda

**Activities of other international organizations dealing
with issues of interest to the Working Party:**

International Institute of Refrigeration (IIR)

4 September 2023

English

**Results of the meeting of the IIR sub-commission on
refrigerated transport**

Transmitted by the International Institute of Refrigeration (IIR)



**IIR Sub-Commission “CERTE” Meeting
Meeting Hosted by LOTRIČ Metrology Ltd, Selca, Slovenia
18th and 19th April 2023
Approved Minutes**

1.0 Welcome and Presentation

Mr Jure Thaler welcomed the group to the LOTRIČ Metrology Ltd in Selca and the Chairman Mr Thomas Suquet welcomed the participants (17 in total from 10 test stations). The attendance list is given at the end of this document.

2.0 Approval of Agenda

The proposed agenda revision 3 was adopted.

3.0 Apologies

The secretary informed the participants that he had received apologies from the following:

- Ms Silvia Minetto (Italy)
- Mr Andreas Klotz (Germany)
- Mr Manfred Kreitmayer (Austria)
- Mr Bernhard Schrempf (Germany)
- Mr Kees de Putter (Netherlands)

4.0 Representation from CERTE on the UN WP11 Meeting

The chairman, Mr Thomas Suquet (France), indicated that he would be able to represent CERTE at the UN WP11 meeting in October 2023 and that we would continue with the tradition of the chairman being the representative at WP11.

5.0 Minutes of the CERTE Meeting in 2021

Minutes of the last CERTE meeting were approved on 16 August 2022 and submitted to the 79th session of WP11 as an informal document (INF4).

6.0 Information

6.1 IIR

The 26th IIR International Congress of Refrigeration is scheduled for the 21st to 26th August 2023 in Paris, France. We hope that some of our CERTE members will attend this congress which is held every four years with the IIR commission section D covering storage and transport.

The 8th IIR conference on sustainability and the cold chain is scheduled between 9 and 11 June 2024 in Tokyo, Japan. The deadline for abstracts is September 2023.

6.2 Transfrigoroute International

Mr Lionel Pourcheresse was representing Transfrigoroute International (TI) and gave a brief update which was the same as the last WP.11 meeting.

The situation for industries in transport refrigeration remained very complex due to the following factors:

- On one hand, EU regulation was pushing very hard on transport decarbonisation (Green Deal, Fit for 55, etc.), which was causing a strong demand for alternative power train vehicle and related technologies;
- On the other hand, the lack of components plus financial difficulties was preventing the original equipment manufacturer (OEM) to deliver those expected vehicles and technologies.

More recently, the Ukrainian crisis was also having an impact, mainly due to a huge increase on energy cost (liquid fuel and gas) as well as shortages of some components and raw materials with the consequently price increase.

In conclusion, transport refrigeration industry facing major challenges and expectations to contribute to transport decarbonisation and complying with new regulations related to refrigerants to render them more sustainable.

A face-to-face meeting was held in Brussels on 7 September 2022 with 10 experts from different organizations (TI-CCT, TÜV Süd, CRT and Cemafroid) in order to discuss transport decarbonisation, development of alternative power train vehicle and alternative power sources for thermal appliances and the lack of clear rules in the ATP which currently does not considers the multiplicity of solutions to power thermal appliances.

6.3 CEN

The next meeting is currently scheduled for 10 and 11 May in Berlin to discuss the 270 comments received for the new EN standard EN 17893:2022 Thermal Road Vehicles — Safety Standard for temperature-controlled systems using flammable refrigerants for the transport of goods - Requirements.

6.4 ISO

Mr Richard Lawton commented that there was a Chairs Advisory Group (CAG) meeting on 27 May to try and reinvigorate TC104.

Mr Lionel Pourcheresse (TI) informed the group about the progress of TC315 cold chain logistics and that the scope was very broad and wide ranging.

7.0 Information from UN WP11 Meeting October 2021

The chairman made the following comments in relation to the WP11 meeting:

- The 79th session consisted of 22 working documents and 10 informal documents.
- The number of Contracting Parties is currently 52.

Adopted and rejected proposals from the 79th session is summarised below:

Adopted

UK:	Airflow
TI:	Model 14 modification to text
UK:	Amendment to Annex 1, Appendix 3
Informal Working Group:	Amendment to 4.3.1 (b), Annex 1, Appendix 2
Informal Working Group:	Amendment to English version only 7.3.1, 7.3.3, 7.3.4, 7.3.5 and 7.3.7, Annex 1, Appendix 2
Informal Working Group:	Amendment to French version only 7.3.1, 7.3.3, 7.3.4, 7.3.5, 7.3.6 and 7.3.7, Annex 1, Appendix 2 and Model 14.

Rejected/Amend for Next Year

France:	Definitions of independence and autonomy
France:	Type examination certificates
France:	Insulation thickness
France:	Software versions in model report
France:	Annex 1, Appendix 2, paragraph 7.3.7 (2022/5)
UK:	MTMC decals
France:	Dividing walls
France:	Annex 1, Appendix 2, paragraph 7.3.7 (2022/15)
TI:	Major component list
Netherlands:	Correction of the definition in Annex 1 paragraph 7
Informal Working Group:	Amendment to Annex 1

WP.11 decided to return to its usual cycle of one meeting per year and to increase the number of informal working groups, when relevant, to facilitate intersessional work. The Working Party thanked the ITC for the opportunity of testing a different cycle of meetings for the biennium 2021-2022.

The 80th meeting is currently scheduled for 24 to 27 October 2023 and the deadline for submission of working documents is 28 July 2023. All delegates were informed that this would not be a hybrid meeting and that they had to be present in Geneva.

The ATP handbook can be found here: <https://unece.org/atp-handbook>.

7.1 State of Recommendations of CERTE

CERTE Recommendations	CERTE 2018 proposal		Adopted to ATP		CERTE 2019 proposal		Adopted to ATP		CERTE 2020 proposal		Adopted to ATP		CERTE 2021 proposal		Adopted to ATP		
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Minimal insulated foam specifications	X	-	-	X	-	X	-	X	-	X	-	X	-	-	-	-	-
Internal airflow	X	-	-	X	X	-	-	X	X	-	X	-	X	X	-	-	X
Testing of prototype equipment in ATP	X	-	-	X	X	-	-	X	-	X	-	-	X	-	-	-	X
software revision	X	-	-	-	X	-	-	X	-	X	-	-	X	-	-	-	-
validity of test reports for mechanically refrigerated units	X	-	-	X	X	-	-	X	-	X	-	-	X	-	-	-	X
measurement of k coefficient for fixed bulkheads	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
Tank manhole diameter	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-
Allowances of average temperatures	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-
New test method	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-
Heated equipment	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-
Definitions	-	-	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-
Simplifying liquefied gas system testing	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-
Lambda value	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-
Lambda and form factor	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-
Alternative drop-in refrigerants for R404A	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	X	-
Macro modular approach (MMA)	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
Use of independent temperature recorders	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	X
MTMC marking	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	X

8.0 Discussions about ATP Implementation in the Field of Testing New Vehicles, Type Approvals and Certificates of Approval

8.1 Testing Methods

8.1.1 Small Container with Dry Ice

Mr Thomas Suquet (France) presented a paper on using dry ice in a small container using only vibrations as a method of cooling the internal compartment. It was commented that you couldn't rely on the vehicles vibrations for ATP, this paper will be updated for future sessions.

8.1.2 Battery Pack

Mr Mohethrith Eang (France) presented a proposal on battery packs and whether there was a need to test these when carrying out an ATP machine test. Mr Richard Lawton (UK) asked why it was necessary to test a battery for ATP and whether there was an ISO standard for a battery. Mr Lionel Pourcheresse (TI) also commented that we do not test a diesel tank so why would we need to do this for a battery. The chairman would ask WP11 if this was in the scope of ATP at the next session in October.

8.1.3 Small Round Robin Test

There was an inter-comparison test carried out between Wageningen (WFBR) and Trane Technologies (ETC Prague) on a 45' high cube container. The results were presented by Mr Edo Wissink (Netherlands). The chairman asked if we need to make a larger round robin test and if this should be kept on the agenda for future sessions.

8.1.4 ATP Remarks

Mr Mohethrith Eang (France) presented a paper on clarifications to various sections that he had found in the ATP agreement and asked the group for clarification and comments. They were as follows:

- 1) Section 4.2.1: what is the difference between the calorimeter box and the unit of transport equipment?
- 2) Section 4.2.2: there's no detail about the instrumentation accuracy of the heat dissipated
- 3) Section 4.3.1, as well as in 4.2.3: it is noticed that in the French and/or English version, some "-" are missed.
- 4) Section 4.3.1 (b): it is written that at the first test, it should be carried out at least 4 hours under control of the temperature thermostat of each level temperature: what should be the tolerance of the thermostat temperature?
- 5) It is notified that the test procedure of the section 7.2.1 shall be defined as in section 4. Meanwhile, the tests of refrigerating capacity are performed only at -20 °C and 0 °C (Nominal and individual refrigerating capacity) in section 7.21 while in the section 4.2.3, it's required to test three levels of temperature.
- 6) Section 7.2.1: tests are performed in independent mode and standby mode, but what about the units that are not independent?

After a brief discussion it was agreed that we would ask for clarification on topics 3, 4, 5 and 6 at the next WP11 meeting.

8.2 Contributions Concerning Test Report Utilisation, Type Examination Certificates, Marking Rules, ATP Plate of Conformity etc...

8.2.1 K Value

Mr Chris Rhodes (UK) presented a discussion paper on the possibility of changing the k value figure in the ATP agreement. It was commented that with the coming new F-Gas regulations, the foam might be affected and thus also the K value; the UK would work on the proposal for the next session.

8.3 Other Matters

No comments or discussions were raised.

9.0 Discussions about ATP Implementation in the Field of Retesting and the Renewal of In-Service Vehicles

9.1 Pull Down Tests

Mr Vasco Pires (Portugal) presented a paper on extending the high and low ambient to the pulldown table in Annex 1, Appendix 2, 6.2.1 of the ATP. There was general agreement to extend the high ambient range but it was pointed out that this could lead to making other changes in the ATP and that the defining factor during the in-service inspection is the time limit of 6 hours.

9.2 In-Service Inspection for MT Equipment

The need to quickly have a procedure for testing MCMT equipment was discussed. Denmark called for a working group to be formed that could provide a proposal for a joint document and at the same time offered to host this working group.

Mr. Thomas Suquet (France) presented a paper on in-service inspections for multi-temperature equipment. It was agreed that there should be a form of an informative document with the future aim of inclusion perhaps in the ATP, handbook or on the UNECE website.

9.3 Heated Equipment In-Service Test

Mr Pekka Rantti (Finland) presented a paper on in-service inspections of heated equipment. It was decided that a small working group should be set up with Finland, Germany, France, Denmark, UK and the Netherlands.

9.4 Other Matters

No comments or discussions were raised.

10.0 Temperature Recorders Annex 2 Appendix 1

10.1 Consideration about Practices

No comments or discussions were raised.

10.2 Application of 12830, 13485 and 13486 Standards, Initial Verifications and Periodic Reverifications

No comments or discussions were raised.

10.3 Other Matters

Mr Pekka Rantti asked if there were lists publically available for any temperature recorders that have been tested and approved for EN12830, Mr Stefan Heuss mentioned that they have a list available on their website.

<https://www.tuvsud.com/de-de/-/media/de/industry-service/pdf/netinform/ts-pruefnummern-veroeffentlichung.pdf>

11.0 Impact of Environmental Regulations and Considerations about Energy Efficiency

11.1 Evolution of Refrigerants (Regulation and Technical Developments)

No matters were raised for discussion.

11.2 Energy Efficiency (Energy Labels, Minimum Energy Performance Standards (MEPS))

No matters were raised for discussion.

11.3 Evolution of Foams (Legislative and Technical Developments)

No matters were raised for discussion.

12.0 Recommendations from the IIR “Test Stations” to UN WP11 Meeting in October 2021

Although there were no recommendations for the next WP11 session the following points were asked for clarification from WP11.

- Battery packs
- In-service inspection for MT equipment
- ATP remarks (topics 3, 4, 5 and 6)

Small working group on Heated Equipment In-service Test with Finland, Germany, France, Denmark, UK and the Netherlands.

13.0 Sub-Commission Work Plans

The minutes shall be approved by email and submitted as an informal document at the next WP11.

14.0 Future Meetings

The proposed date for the next meeting was 16 and 17 April 2024, there is currently no more details at present for the location of this meeting but we welcome anyone who is able to host to contact the chairman and secretary.

15.0 Any Other Business

Mr Richard Lawton (UK) asked if the K value proposal from the UK is recommended for WP11, the chairman thought that this was not a technical paper and so falls outside the scope of this meeting.

Attendance: List of Participants

Name	Surname	Country	Organisation	Email Address
Mohethrith	Eang	France	Cemafroid	mohethrith.eang@cemafroid.fr
Kristian	Dahl	Denmark	ATP Materielkontrollen	kda@teknologisk.dk
Stefan	Heuss	Germany	TUV SUD	stefan.heuss@tuev-sued.de
Richard	Lawton	UK	CRT	rlawton@crtech.co.uk
Tamara	Meglic	Slovenia	Lotric Metrology Ltd	tamara.meglic@lotric.si
Jemic	Miljenko	Croatia	Center for vehicles of Croatia (CVH)	miljenko.jemic@cvh.hr
Tobias	Mynott	UK	CRT	tmynott@crtech.co.uk
Vasco	Pires	Portugal	ISQ-LABET	vmpires@isq.pt
Lionel	Pourcheresse	France	Transfrigoroute International	Lionel.Pourcheresse@carrier.utc.com
Pekka	Rantti	Finland	Natural Resources Institute Finland (Luke)	pekka.rantti@luke.fi
Chris	Rhodes	UK	CRT	crhodes@crtech.co.uk
Ema	Sadar	Slovenia	Lotric Metrology Ltd	ema.sadar@lotric.si
Thomas	Suquet	France	Cemafroid	thomas.suquet@cemafroid.fr
Jure	Thaler	Slovenia	Lotric Metrology Ltd	jure.thaler@lotric.si
Ivan	Tomasic	Croatia	Center for vehicles of Croatia (CVH)	ivan.tomasic@cvh.hr
Peter	Vavra	Czech Republic	Trane Technologies – ETC Prague	petr_vavra@tranetechnologies.com
Edo	Wissink	Netherlands	WFBR	edo.wissink@wur.nl