Economic Commission for Europe

Inland Transport Committee

26 July 2018

Working Party on the Transport of Perishable Foodstuffs

Seventy-fourth session
Geneva, 8-12 October 2018
Item 4 (a) of the provisional agenda
Activities of other international organizations dealing with issues of interest to the Working Party
International Institute of Refrigeration (IIR)

Minutes of IIR Sub-Commission "CERTE" Meeting Munich, Germany 18-19 April 2018

Transmitted by the International Institute of Refrigeration

IIR Sub-Commission "CERTE" Meeting
Germany, Munich 18th to 19th April 2018
Approved Minutes

1.0 Welcome and Presentation

Mr Andreas Klotz welcomed the group to the TUV establishment in Olching and the new Chairman Mr Thomas Suquet welcomed the participants (29 in total from 15 test stations). The attendance list is given at the end of this document.

2.0 Approval of Agenda

The proposed agenda was adopted.

3.0 Apologies

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

- Mr Manfred Kreitmayer (Austria)
- Mr Telmo Nobre (Portugal)
- Mr Vasco Pires (Portugal)
- Mr Didier Coulomb (Director of IIR)
- Mr Christopher Rhodes (UK)
- Mr Gerald Cavalier (France)
- Mr Eric Devin (France)
- Dr Konstantin Chatzidakis (Greece)

It was mentioned that Mr Eric Devin had left Cemafroid, the CERTE would like to thank him for his services to this sub-committee and also WP11.

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 2018 and that we would continue with the tradition of the chairman being the representative at WP11.

5.0 Minutes of the CERTE Meeting in Madrid 2017

Minutes of the last CERTE meeting were approved on the 3rd July 2017 and were submitted to the 73rd session of WP11 as an informal document (INF5).

It was noted by Mr Richard Lawton (UK) that the minutes must reflect what was actually conveyed at the meeting itself and not added to at a later date.

6.0 Information

6.1 IIR

Mr Didier Coulomb was unable to attend; Mr Richard Lawton gave a brief outline on the IIR activities, which are summarised below:

- CERTE was still the most active of all the commissions
- 13th Gustav Lorentzen Conference: 18th to 20th June 2018 (http://www.gl2018.upv.es, abstracts were due 17th July 2017).
- ICR 2019 – 25th IIR International Congress of Refrigeration: 24th to 30th August 2019. Montreal, Canada (http://www.icr2019.org, abstract submission opens 1st February 2018 with deadline 1st August 2018).

6.2 Transfrigoroute International

Mr Joe Grealy and Mr Andre Stumpf were representing Transfrigoroute International (TI) and the following issues were raised for discussion:

- There are currently 12 members of TI
- The FSDF is no longer a member of TI
- The next AGM is in Paris 31st May to 1st June with a new event planned called the cold exhibition.
- Urgent topics for CERTE to discuss
    - Prototype approval
    - Transfer the TI multi temp tool to IIR

It was asked by the chairman Mr Thomas Suqet where you could download the TI tool and if it was an unprotected version. Mr Joe Grealy would send the secretary an open version to be distributed to CERTE colleagues.

6.3 CEN

A short update was given by Mr Andreas Klotz (Germany) on the latest updates to the CEN standards.

CEN/TC 413 is currently involved in two working groups; the second working group is looking at testing methods for cooling and heating eutectic systems. The next meeting for this group is on the 14th July in Cambridge.

Parts 3 and 4 of EN16440, for dry ice systems, are currently being discussed and there is a small working group looking at hybrid systems.

EN16440-1 on mechanical cooling devices is now published and is active at this time.

TC413-17066 part 1 is a draft version for tanks and swap bodies, this could be finalised soon for a final vote this year.

TC413-17066 part 2 on equipment; there are different understandings on the safety factor when looking at older German standards. Trials are currently being conducted on real loading and unloading processes.

TC413-17066 part 3 for small containers is currently being planned for discussion soon.

There is a draft version of EN12830 (TC423) which requires editorial and layout corrections and this should then be published this summer.

EN13485 and EN13486: the French would like to transfer the Secretary from themselves to Germany once this has been complete, then meetings can then recommence.

Mr Bernard Schrempf mentioned that EN378 has been published.

6.4 ISO

Mr Richard Lawton gave a brief outline of ISO activities: ISO1496-2 on container standards is currently going through FRDS and the final meeting is taking place between the 24th and 26th April in Frankfurt. This standard has acknowledged that ageing does exist in one of its annexes.

ISO20854 on flammable refrigerants is approaching DIS and should be published later this year; this standard draws on EN378 and 5149.

7.0 Information from UN WP11 Meeting October 2017

In Mr Telmo Nobre's absence the chairman and secretary made the following comments in relation to the WP11 meeting:

- The 72nd session consisted of 23 working documents and 13 informal documents.
- The number of contracting parties to the ATP was 50.

The 73rd session saw eight proposals adopted. Adopted and rejected proposals are summarised below:

Adopted

France & Germany:	Distinguishing marks for multi-compartment
UK:	Amendment to Models No. 5, 7, 9 and 11
UK:	Amendment to Models No. 2A, 2B, 3, 4A, 4B, 4C, 5, 6, 7, 8, 9, 10 and 11
France & Netherlands:	Liquefied Gas Systems
UK:	Annex 1, Appendix 2, 2.1.8, 2.2.9, 3.1.4, 3.2.3 and 3.3.4
France:	Retesting of multi-compartment equipment vehicles
Russia:	Russian translation errors
TI:	Drop-in refrigerants on new equipment

Rejected/Amend for Next Year

TI:	Lettre de convocation
TI:	Auditing
TI:	Validity of ATP certificates
Russia:	Method for calculating uncertainty of the K-coefficient
Russia:	Definitions for Annex 1
Russia:	Amendment to Article 3, paragraph 1
Netherlands:	Certificate of Conformity for new equipment
France:	K coefficient of fixed bulkheads
Russia:	Amendments to annex 1, appendix 2
Russia:	Power performance of fan
Russia:	Amendment to Annex 1, Appendix 1, paragraph 6 (c)

The Inland Transport Committee (ITC) has agreed to extend the next session of WP11 to 5 days (see paragraph 9 of ECE/TRANS/WP.11/237). Therefore the 74th session will start on Monday 8th October 2018 at 10.00 AM. The first day of the session will be dedicated to a round table discussion on ways to improve the functioning of the Working Party. Interpretation will be available.

The 74th meeting is currently scheduled for the 8th to 12th October 2018 and the deadline for submission of working documents is the 17th July 2018.

The ATP handbook is in the process of being translated into French and Russian; once this has been done the UNECE website will be updated.

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

8.1 Testing Methods

8.1.1 References to Standards in ATP

No comments or discussions were raised.

8.1.2 Minimal Insulated Foam Specification

Mr Thomas Suquet (France) presented a proposal to add the foam specification to the model reports in ATP, this was a request made by some French body manufacturers.

Mr Andreas Klotz (Germany) asked what the acceptable tolerances would be and stated that you would have to define the density. He also mentioned that an additional document might be needed.

Mr Bernard Schrempf (Germany) asked what the reason behind this change was and stated that we might have to ask for the assistance of TI before proceeding with this document.

Mr Jean-Michel Bonnal (France) said that we would not take the foam out to test but that we need this information on the test report and believed the experts at this meeting could give guidance rather than wait for TI.

Mr Richard Lawton (UK) commented that if you wanted this information then it should be in the main model.

The proposal was put to a vote with 4 against and 3 in favour; therefore there was no general consensus. It was suggested that the proposal be redrafted and recirculated taking all the comments into consideration; CERTE recommended the document be presented at WP11 as an informal document.

8.1.3 Panel Van Calculation

There were two proposals, the first was from the UK which had a modification to the panel van calculation and was presented by Mr Richard Lawton. The second was from TUV and proposed more changes as well as a modification to the calculation; it was presented by Ms Sandra Blank. It was agreed that the UK and TUV produce a join proposal for the next session of WP11.

8.1.4 Round Robin Tests

Mr Andre Stumpf (TI) commented that every time round robin tests are discussed nothing happens; he urged the test stations to sort this out and offered to help supply a trailer for testing.

Mr Thomas Suquet (France) mentioned that the last time this was discussed was in Prague and asked which test stations were willing to participate with the following test stations Prague, TUV SUD, CRT, Serbia, Cemafroid and Croatia putting their test stations forward.

There would be further discussions on what type of vehicle would be used, it was also suggested by Mr Richard Lawton (UK) whether there was a grant available to cover costs and that last time this was done it helped reduced the difference in test results from 10% to 5%.
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8.1.5 Internal Airflow

Mr Richard Lawton (UK) presented a new proposal on the internal airflow requirements; the original proposal was adopted at WP11 but then rejected in New York by Finland. This new proposal based the internal airflow on where the trailer was being used as you don't need the same airflow in Finland and Sicily.

It was suggested that the UK should modify the original proposal with a footnote mentioning multi-lateral and bi-lateral agreements for contacting party's wishing to accept trailers with less airflow than required in the ATP. This modified proposal should be presented at the next WP11 meeting.

8.1.6 Testing a Range of Refrigerated Equipment

There was a paper from the UK about how we can test a large range of smaller equipment more economically; as it currently stands in ATP we need to test each combination. TUV mentioned that they had similar problems.

It was suggested that a small working group would discuss this issue and come up with a test method; the small working group would consist of UK (CRT), Germany (TUV SUD), France (Cemafroid), TI, Czech Republic (IR) and Netherlands (Wageningen). The UK would circulate an initial document for comments within a month.

8.1.7 Specification of Calorimeter Box

There was a proposed amendment from TI Germany presented by Mr Andreas Klotz (Germany) to remove the requirements for the calorimeter box to be 0.40W/m^2K.

It was agreed that there was a need for examples of the uncertainties with and without the 0.40W/m^2K and that this should be presented at the next CERTE meeting.

8.1.8 Wageningen Presentation

There was a presentation from Mr Edo Wissink (Netherlands) about their new test chamber, comments from testing multi-temperature units and also internal airflow.

He queried the goal of carrying out the airflow testing without any minimum required air circulation rate within the ATP and remarked upon missing information in model test reports such as frequency control, economizer, expansion valve settings etc.

The chairman commented that some of the following proposals would answer Mr Edo Wissink's queries from his presentation.

8.1.9 Measuring the Effective Heating Capacity of a Unit

Mr Tobias Frey (Germany) presented a proposal on the procedure for measuring the effective heating capacity of a unit and the corresponding model test report, his proposal highlighted the lack of description of how to test a mechanically refrigerated and heated unit in a calorimeter.

It was agreed that you could measure the heating capacity in a calorimeter box for electric heaters but for hot gas systems then this would be difficult to test. Also when testing the unit in a trailer it would only be for that particular trailer and so would require a retest if installed in a different trailer.

There was also concern over what external temperatures the manufacturers specify their unit can operate in, some say -30°C while others -40°C.

There was a general consensus that there should be further work on a testing method for this issue and that this should be presented at the next CERTE meeting.

8.1.10 Test Procedures and Calculations of Multi-Temperature Equipment with more than Two Evaporators

Mr Stefan Heuss (Germany) asked for clarification about the testing of multi-temperature equipment and whether everyone was interpreting the test method in the same way; there was no proposed amendment to the ATP.

8.1.11 Method for Calculating Uncertainty of the K-Coefficient (ECE/TRANS/WP.11/2017/18)

There was a brief presentation form the chairman Mr Thomas Suquet on a Russian proposal that was unable to be presented at last year's WP11 meeting. This was on the method for calculating the uncertainty of the K-coeffcient. After a brief discussion it was felt that CERTE could not accept this proposal and would therefore not recommend this for WP11.

8.1.12 Power Performance of a Fan (ECE/TRANS/WP.11/2017/19)

Again a Russian proposal was briefly discussed but this was also not recommended for the next WP11 session.

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

8.2.1 Multi-Temperature Calculation Tool

TI gave us an update about their MT calculation tool and stated that they were trying to transfer the software to the IIR but were still awaiting a response.

Mr Richard Lawton (UK) suggested that maybe there could be a CERTE section on the IIR website with a link to the calculation tool.

An open version of the software tool shall be distributed by the CERTE secretary to all test stations.

8.2.2 Measurement of K-Coefficient for Fixed Bulkheads

This was a modified proposal from France presented by Mr Thomas Suquet which was not accepted at last year's WP11 meeting. The new proposal concentrated solely on fixed bulkheads and also included partial bulkheads.

If there was no internal cooling device already installed you would have a secondary unit placed inside to cool the internal temperatures down to 7.5°C, this method was question by whether you would need to drill holes in the insulation for this secondary refrigeration unit.

The was also a discussion on the need for such a test when you already have a value for fixed bulkheads in the ATP and what would be the benefit of performing such a test. It was mentioned by France that there were energy credits in France.

CERTE recommend the document be presented at the next session of WP11.

8.2.3 Testing of Prototype Equipment in ATP

A proposal from TI on the testing of prototype equipment and the issuing of an ATP certificate was raised again for discussion after feedback from the last WP11 meeting.

The proposal consisted of adding a new paragraph to the ATP for the temporary certificate for a limited production of prototypes. It was suggest that this was more of an issue for the competent authorities and WP11 to discuss rather than CERTE but everyone agreed in principal to this proposal.

8.2.4 Software Revision

Mr Thomas Suqet (France) presented a proposal to add the software and firmware version into the ATP model 12 test report. There were several test stations against the idea of putting this into the model 12 test report and questioned the reason behind this.

Mr Andre Stumpf (TI) mentioned that the software is being developed on a daily basis and that TI was against having the software and firmware versions on the test report.

Mr Andreas Klotz (Germany) commented that it should be left to the test station to record the software and firmware version but not to put it into the test report and Mr Schrempf (Germany) thought that some people were looking to expand their work and that we should stick to safety.

It was agreed that a revised proposal be presented at the next CERTE meeting.

8.2.4 Validity of Test Reports for Mechanical Refrigeration Units

Mr Andreas Klotz (Germany) presented a paper on behalf of TI Germany, the proposal was to add an additional paragraph to extend the machine reports for a further 3 years if the refrigeration unit had not been changed.

Mr Andre Stumpf (TI) agreed with the proposal and suggested this was for WP11 to consider rather than the test stations.

It was agreed that a revised proposal be presented at the next CERTE meeting.

8.3 Other Matters

No other matters were raised for discussion.

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

9.1 Testing of Fridge Unit (In-Service) with a Change of Refrigerants (Drop-In)

Mr Stefan Heuss (Germany) presented a paper that was of real concern to us all with regards to the availability of R404A and the use of drop-in R452A; a lot of units are still currently using R404A but as the price has increased dramatically a unit would be required to use a drop-in replacement, most notably R452A.

According to the ATP a change in refrigerant is a major change of the unit and therefore requires a corresponding type approval report; if the unit in question has not been tested with R452A what would be the processes required to issue a new ATP certificate.

It was suggested that Germany work on the paper for a proposal to the next session of WP11.

9.2 Methodologies for Renewal of Certificates of Compliance

9.2.1 Small Containers

No comments or discussions were raised.

9.2.2 Safety Factors and Ageing of Bodies

No comments or discussions were raised

9.2.3 Measuring the Outside Temperature during a Pull Down Test

Mr Pekka Rantti (Finland) discussed the issue of measuring the external temperate during a pull down test more effectively and proposed to amend part of the ATP.

It was suggested the proposal should be revised and made clearer for it to be presented at the next WP11 session.

9.2.4 In-Service MT Testing

See 9.1 of this report.

9.3 Other Matters

No other matters were raised for discussion.

10.0 Impact of Environmental Regulations and Considerations about Energy Efficiency

Mr Richard Lawton mentioned that the UK was looking at emissions with the involvement of TfL.

10.1 Evolution of Refrigerants (Regulation and Technical Developments)

No other matters were raised for discussion.

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

No other matters were raised for discussion.

10.3 Evolution of Foams (Legislative and Technical Developments)

No other matters were raised for discussion.

11.0 Recommendations from the IIR "Test Stations" to UN WP11 Meeting in October 2018

The following points were proposed for recommendation to WP11 later this year:

- Minimal insulated foam specification
- Panel van calculation
- Internal airflow
- Measurement of K-coefficient for fixed bulkheads
- Testing of prototype equipment in ATP
- Testing of fridge unit (in-service) with a change of refrigerants (drop-in)
- Measuring the outside temperature during a pull down test

The following points were not recommendation to WP11 later this year:

- Method for calculating uncertainty of the K-coefficient (ECE/TRANS/WP.11/2017/18)
- Power performance of a fan (ECE/TRANS/WP.11/2017/19)

CERTE papers for next year:

- Testing a range of refrigerated equipment
- Specification of calorimeter box
- Measuring the effective heating capacity of a unit
- Software revision
- Validity of test reports for mechanical refrigeration units

12.0 Sub-Commission Work Plans

The chairman discussed the sub-commission work plans.

- Inter-comparison testing "Round Robin"

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

CERTE Recommendations	CERTE 2015 proposal		Adopted to ATP		CERTE 2016 proposal		Adopted to ATP		CERTE 2017 proposal		Adopted to ATP	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Definitions in Annex 1	X	-	-	X	-	-	-	X	-	-	-	-
Information for MTMC's	X	-	-	X	-	-	-	X	-	-	-	-
Liquefied Gas Systems	X	-	-	X	X	-	-	X	X	-	X	-
Annex 1, appendix 2, paragraph 4.2.3(ii) (ATP Handbook)	-	-	-	-	X	-	-	X	-	-	-	-
Drop-in refrigerant (in service equipment)	-	-	-	-	X	-	-	X	X	-	-	X
Drop-in refrigerant for new machines	-	-	-	-	X	-	-	X	X	-	X	-
Supporting document model for MTMC vehicles	-	-	-	-	X	-	-	X	-	-	-	-
Airflow	-	-	-	X	X	-	-	X	-	-	-	-
Multi-compartment decals	-	-	-	X	-	-	-	X	X	-	X	X
Calculation tool	-	X	-	X	-	-	-	X	-	-	-	-
Dividing walls (add fixed) add measurements to options	-	-	-	X	-	-	-	X	X	-	-	X
Refrigeration unit to collect data for acceptable changes	-	X	-	X	-	-	-	X	-	-	-	-
Pull-down test of vehicles	X	-	-	X	-	-	-	X	-	-	-	-
Multi-compartment in-service inspections procedure	X	-	-	X	-	-	-	X	X	-	X	-
Modification of test reports 9 & 11	-	-	-	-	-	-	-	-	X	-	X	-
Modification of test reports	-	-	-	-	-	-	-	-	X	-	X	-
Calorimeter box requirements	-	-	-	-	-	-	-	-	-	X	-	-
Uncertanties	-	-	-	-	-	-	-	-	-	X	-	-

13.0 Future Meetings

Wageningen in the Netherlands was proposed as a venue for the next CERTE meeting in 2019, there are no suggested dates at present.

If this is not feasible then the chairman suggested that Cemafroid could host the next meeting.

14.0 Any Other Business

No other matters were raised for discussion.

Attendance: List of Participants

Name	Surname	Country	Organization	Email Address
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