



**IIR Sub-Commission “CERTE” Meeting  
Spain, Madrid 26<sup>th</sup> to 27<sup>th</sup> April 2017  
Approved Minutes**

## **1.0 Welcome and Presentation**

Mr Jose Antonio Fernandez welcomed the group to the Escuela Técnica Superior de Ingenieros Industriales in Madrid and the Chairman Mr Eric Devin welcomed the participants (22 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 was adopted with one modification by Mr Pekka Rantti from Finland; this was to include a discussion on old test reports from test stations that no longer existed.

## **3.0 Apologies**

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

- Mr Manfred Kreitmayer (Austria)
- Mr Kristian Dahl (Denmark)
- Mr Konstantin Chatzidakis (Greece)
- Mr Telmo Nobre (Portugal)
- Mr Vasco Pires (Portugal)
- Mr Rob Mannaerts (Belgium)
- Mr Edo Wissink (Netherlands)
- Mr Dragan Stamenkovic (Serbia)
- Prof. Vladimir Popovic (Serbia)
- Mr Didier Coulomb (Director of IIR)

## **4.0 Representation from CERTE on the UN WP11 meeting**

The chairman, Mr Eric Devin (France) indicated that he would be able to represent CERTE at the UN WP11 meeting in October 2017 and that we would continue with the tradition of the chairman being the representative at WP11.

## **5.0 Minutes of the CERTE Meeting in Prague 2016**

Minutes of the last CERTE meeting were approved on the 29<sup>th</sup> June 2016 and were submitted to the 72<sup>nd</sup> session of WP11 as an informal document (INF3).

## **6.0 Information**

### **6.1 IIR**

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

- CERTE was still the most active of all the commissions
- The 5<sup>th</sup> ICCC Conference will take place in Beijing, China, between the 6<sup>th</sup> and 8<sup>th</sup> April. (<http://www.iccc2018.org/en>, abstracts due 30<sup>th</sup> September 2017).
- 13<sup>th</sup> Gustav Lorentzen Conference: 18<sup>th</sup> to 20<sup>th</sup> June 2018 (<http://www.gl2018.upv.es>, abstracts due 17<sup>th</sup> July 2017).
- ICR 2019 – 25th IIR International Congress of Refrigeration: 24<sup>th</sup> to 30<sup>th</sup> August 2019. Montreal, Canada (<http://www.icr2019.org>, abstract submission opens 1<sup>st</sup> February 2018 with deadline 1<sup>st</sup> 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 14 countries that TI represents, with a new member Anita from Italy.
- They also requested at the meeting that the president and vice president be allowed to attend future CERTE meetings.
- The next AGM is in Madrid.
- New European and US regulations which are NRMM and EPA respectively.
- PIEK still in development.

### **6.3 CEN**

A short update was given by Mr Andreas Klotz (Germany) on the latest updates to the CEN standards. It was pointed out the Mr Klotz was head of two committees and not head of CEN.

There are currently two working groups within CEN that Mr Klotz was head of and were summarised below:

The first working group CEN/TC 413 is scheduled to publish part 1 later this year.

EN16440 part 1 was published last year and there will be a draft version of part 2 discussed in Marseille in May this year.

Part 3 on dry ice systems is currently being discussed and there is no update on when a draft version will be available.

Parts 4 and 5 are not currently being discussed and part 6 concentrates on special requirements for MTMC equipment.

There is a draft version of EN12830 out for review; feedback is required by the beginning of June (20<sup>th</sup> May in Germany).

## **7.0 Information from UN WP11 Meeting October 2013**

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

- The 72<sup>nd</sup> session consisted of 21 working documents and 11 informal documents.
- The number of contracting parties to the ATP was 50, with the accession of San Marino in May 2016.

The 72<sup>nd</sup> session saw three proposals adopted. Adopted and rejected proposals are summarised below:

### **Adopted**

UK: Model 10 test report  
Russia: Editorial correction to the Russian version of ATP  
Russia: Railway carriages dimensioning for handbook

### **Rejected / Amend for Next Year**

Russia: Definitions in annex1  
France: Validity of certificates  
France: Mandatory accreditation to ISO17025  
France: Mandatory accreditation to ISO17065  
France & Netherlands: Retesting of multi-compartment equipment  
France & Netherlands: Distinguishing marks for multi-compartment vehicles  
France: Mandatory to audit bodybuilders  
France & Netherlands: Liquefied gas systems  
Russia: Annex 1, paragraph 1  
Russia: Annex 1, appendix 2  
Russia: Clarification of margin of error  
Russia: Additions to annex 3  
Russia: Central database of ATP certificates  
France: Drop-in refrigerants  
Russia: Comment on perishable foodstuffs in handbook  
Russia: Comment on fresh fruit and vegetables in handbook

The 73<sup>rd</sup> meeting is currently scheduled for the 10<sup>th</sup> to 13<sup>th</sup> October 2017 and the deadline for submission of working documents is the 18<sup>th</sup> July 2017.

Ms. Diaz (UNECE) confirmed that there were plans to hold a round table discussion on aspects of the Inland Transport Committee (ITC). It is currently perceived to the rest of ITC that's WP11 does not work very well and that, it was suggested, we could have a cycle of two years before we put a proposal to a vote, this would mean year one having one session and year two having two sessions at Geneva.

The chairman Mr Devin (France) also suggested that the decision to have a majority vote could be taken out of our hands is a real possibility and potentially WP11 could be closed. Mr Grealy (TI) responded by saying that the slight hint of scrapping ATP was very worrying and perhaps they could lobby about a lack of progress in ATP.

## **8.0 Discussions about ATP implementation in the field of testing new vehicles, type approvals and certification**

### **8.1 Testing methods**

#### **8.1.1 References to standards in ATP**

No other matters were raised for discussion.

#### **8.1.2 Calorimeter box requirements**

Mr Vavra (Czech Republic) gave a presentation on calorimeter box requirements when testing a refrigeration unit independently from the body.

After the presentation it was suggested that he was describing an ISO thermal wall method rather than a calorimeter box. It was proposed that he describe both methods to avoid confusion.

It was also noted that the inclusion of the diagram was needed to make it clearer; this was suggested for the ATP handbook with a reference in the ATP agreement.

It was suggested that this proposal should be presented at the next CERTE meeting before submission to WP11.

#### **8.1.3 Testing mono and multi-temperature liquefied gas systems**

This was again not adopted at the 72<sup>nd</sup> session of WP11 but it was proposed that this subject be discussed at CERTE. According to the presentation by France, the mono-temperature units would be tested in the trailer and multi-temperature units would be tested in calorimeters.

It was again mentioned by Mr Lawton (UK) that the period of three hours would be a stumbling block when submitting to WP11; you either change to four hours or change every other test in ATP to three hours.

Mr Grealy (TI) would come back with comments at a later date; this was recommended for the next WP11 meeting.

#### **8.1.4 Test method for bulkhead K-value measurement**

Mr Suquet (France) presented a proposal on test requirements for mobile and fixed dividing walls to measure their k-value coefficient.

There were several comments that the table should not be amended at present and that the paper didn't take into account the ageing process; it was also noted that if this was adopted then you would have to do another k-value on the bulkhead when conducting an in-service thermal test.

This proposal was not recommended for the next WP11, but a suggestion for fixed bulkheads was recommended.

#### **8.1.5 Testing of refrigeration unit with new refrigerants (drop-in)**

Mr Heuss (Germany) presented a proposal on the procedure for drop-in refrigerants; it was mentioned by the chairman Mr Devin (France) that R404A will be scrapped by Honeywell next year.

It was agreed that most test stations could accept the 10% of the original capacity figure on R404A in the proposal, Mr Stumpf (TI) commented that 10% was small when you have a safety factor coefficient and that this was just a drop-in and not the final solution; TK and Carrier can manage more ATP testing but that you also need to consider the smaller companies that do not have the financial capabilities of carry out extensive retesting.

Mr Devin (France) suggested a supplementary document in the ATP to make it clear that it's a drop in. This was countered by a comment from TI that this can be done with an addendum which is currently in practice.

It was suggested that Cemafruid and TI would assist Germany in making a proposal at the next WP11 meeting.

#### **8.1.6 Exchange of information about accreditation according ISO17025 standard, peer assessment and inter-comparison**

There was a proposal from F2i2 which was Spain's official test station in Madrid; the topics were acceptable criteria on the uncertainties of results from testing, final calibration of equipment, time integration of the measurement of

thermocouples, criteria for the appointment of experts, leakage from ATP boxes and transportation of pharmaceuticals.

It was suggested that a proposal should be made to either CERTE or WP11 on the uncertainties of ATP calculations and that an exchange of comments on the other topics be made via email.

### **8.1.7 Impact of EU NRMM regulations 2016/1628 and US EPA regulations**

A presentation by Mr Stumpf (TI) on the impact of new regulations on engines starting from 2019, this was not a proposal for WP11 but more of a question for ATP test stations.

Historically when tier 2 engines were replaced by tier 3a, the ATP machine reports were all amended by addendums rather than retesting as they were identical apart from the emissions. They would like to confirm that this would be the case for the new engines conforming to the new regulations as again only the emissions would change and that it would have the same engine speed etc.

## **8.2 Contributions concerning test report utilisation, type examination certificates, marking rules, ATP plate of conformity etc.**

### **8.2.1 Modification of test reports 9 & 11**

A proposal from the UK was presented with a modification to model test reports 9 and 11, this was in line with the proposal that was adopted at last year's WP11 meeting, after a brief discussion this was recommended by CERTE to be submitted at the next WP11 meeting.

### **8.2.2 Modification of test report dates**

Another proposal from the UK was presented with a modification to test report dates, this was again in line with the proposal that was adopted at last year's WP11 meeting, after a brief discussion this was recommended by CERTE to be submitted at the next WP11 meeting.

### **8.2.3 Harmonisation of ATP test reports**

Mr Stefan Heuss (Germany) presented a similar proposal to that of the UK, but this was looking at harmonising all test reports.

Mr Andre Stumpf (TI) commented that this was a good idea and that the harmonisation of test reports was needed and that they would like to participate in further discussions and that they should take into account current technology that is not in ATP but is on the market.

It was agreed that the proposal should be distributed to the CERTE group and that an informal document be submitted to the next WP11 meeting.

#### **8.2.4 The 1% rule**

There was a general discussion led by Mr Raschle (Germany) on this topic and there would not be a proposal for WP11.

There are four criteria to be met to ensure compliance with ATP:

- The equivalent volume of accumulated insulation material of all such modifications shall be less than 1% of the total volume of the insulation material of the insulated equipment.
- The k-value of the tested reference equipment, corrected by a calculation of the added thermal losses is less than or equal to the k-value limit of the insulation category (0.40 or 0.70 W/m<sup>2</sup>K).
- Any such modifications need to be made using the same technique, particularly as concerns glued fittings.
- All modifications to be made by or to be approved by the manufacturer of the insulated equipment.

It's up to the manufacturer to prove compliance but some smaller manufacturers do not always have the tools available to make a correct calculation. In order to make this transparent, there are two options available.

##### **Option 1:**

The calculation sheet is considered to be part of the "technical specification" of the equipment and is to be presented by the manufacturer whenever needed (ATP annex 1, appendix 1, §3c)

The competent authority may issue the certificate of compliance and either

- stating the original k-value (simplified solution) or
- stating the maximum k-value of that class (0,40 or 0,70 W/m<sup>2</sup>K) regardless of the calculated value (which may be unfavourable for the manufacturer), or
- stating the corrected (the calculated and rounded up) k-value together with the reference "ATP Annex 1, Appendix 1 §6c(i)" under item 7.2.3 of the certificate of compliance

##### **Option 2:**

The ATP test station issues an amendment to the original test report (add1) specifying the scope of minor and limited modification and the corrected (calculated and rounded up) k-value.

The competent authority may issue a certificate of compliance by

- stating the corrected (the calculated and rounded up) k-value together with a reference to the amended test report no. "add1" under item 7.2.3 of the certificate of compliance

The following comments were made:

Mr Klotz (Germany) preferred a combination of the two by using the first point in option one along with the second option. He stated that in general the manufacturing is of a high standard such that they don't need any tools to help with the calculation.

Mr Devin (France) said that perhaps an explanation or how to calculate the 1% be put into the ATP handbook.

### **8.2.5 Audit of the manufacturers**

At the 72<sup>nd</sup> session of WP11, a proposal from France to audit manufacturers was not adopted, this subject was again brought to the attention of CERTE by TI.

The proposal was a slight modification of the original in that if an audit is carried out it is accepted by all competent authorities; this topic was considered a matter for WP11 to discuss and not CERTE.

### **8.2.6 Validity of certificates for equipment manufactured for transfer to another country**

This was another proposal from TI about the validity of certificates when transferring to another country.

It was agreed by all test stations that this was a topic that should be discussed at WP11 as it was concerning competent authorities and not test stations.

### **8.2.7 Multi-temperature equipment dimensioning according to 7.3**

A proposal by Mr Heuss (Germany) to add another equation to 7.3 of the ATP agreement. This was accepted without any objections and was therefore recommended by CERTE at the next WP11 meeting.

#### **Proposal of modification:**

$P_{\text{eff-chilled-evap}}$  is the effective refrigeration capacity of each chilled evaporator in the given configuration as defined in paragraph 7.3.6,

and

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



### **8.2.8 Testing of prototype equipment in ATP**

A proposal from TI on when a manufacturer of either insulated bodies or refrigeration equipment wishes to introduce a new or prototype product to the market place and requires an ATP type approval certificate two scenarios may arise.

There may not be availability of space in an approved ATP test station to conduct the type approval testing or, in the case of prototype equipment there may not be sufficient time to conduct the test prior to the product being placed on the market.

To overcome both of these situations, manufacturers may issue a letter of intent or “lettre de convocation” in which the manufacturer undertakes to carry out the testing in a specified initial period of 6 months in a nominated official ATP test station. This period may be extended by a further 6 months where circumstances necessitate and by mutual consent of the relevant competent authority and the manufacturer.

Many competent authorities accept this process and grant temporary approval for the operation of the equipment. Unfortunately others do not, TI requests that this situation is regularised so that the acceptance of this letter of intent is accepted by all competent authorities by all contracting parties.

It was again agreed that this was a decision for WP11 and not CERTE, the chairman Mr Devin (France) pointed out that if there were technical issues, CERTE would be able to assist if needed in future discussions.

### **8.2.9 Multi-temperature equipment certification and distinguishing mark**

A proposal by Mr Klotz (Germany) on the current MTMC issues on the distinguishing mark for ATP was discussed.

The proposal was as follows:

1. It is proposed that the marking of multi-temperature equipment displays the distinguishing mark for the highest ATP class supplemented by the letter M (e.g. FRC-M) regardless of the total number of independently refrigerated compartments in use.

2. Additional and more detailed information should be given by the manufacturer and should be provided in a supplementary document to the certificate of conformity issued by the competent authority of the country of manufacture.

3. This supplementary document should include:

- A sketch showing the actual compartment configuration and evaporator arrangement;
- Proof by calculation that the multi-temperature refrigerated equipment meets the requirements of ATP for the user's intended degree of freedom with regard to compartment temperatures and compartment dimensions.

4. The supplementary document could, for example, be generated by the multi-temp calculation tool provided by Transfrigoroute International. In this case, the ATP Handbook should be amended by making a reference to the calculation tool to be used for this purpose.

5. Upon implementation of these requirements, and based on the additional information provided by the supplementary document, multi-temperature equipment will be more transparent with respect to operational capability and restrictions which is to the benefit of all parties involved - equipment operators, perishable cargo shippers, equipment manufacturers and competent authorities.

6. A transition time of 1 year [*or more – to be discussed*] should apply for those signatory countries that have, at the time of entering into force of the proposed amendments, already put in place an operative labelling or system for the marking of multi-temperature equipment.

7. This requirement shall apply to new equipment which is built after the date of entry into force of this regulation. There should be no requirement for existing multi-temperature equipment to be labelled with the designated identification mark "M".

Of the presentation given by Germany the following comments were made.

Mr Devin (France) mentioned that they currently issue approximately 40,000 certificates per year and have a specific document that is given to the police to carry out checks on ATP in France. There would be a massive impact in France if this was implemented and a one year transitional period would be too short and would, as it stands, vote no at the next WP11.

Mr Grealy (TI) commented that we were talking about international transport and not national and that the clock is ticking on this issue and it needs to be addressed, it supported the proposal presented to them by Germany.

Mrs Kress (Germany) argued that there was still more information needed with regards to a supplementary document.

The proposal was recommended by CERTE for the next WP11 meeting, Mr Klotz (Germany) asked the French delegation in the meantime what an acceptable transitional period would be.

## **9.0 Discussions about ATP implementation in field of retesting and the renewal of in-service vehicles**

### **9.1 Methodologies for renewal of certificates of compliance**

#### **9.1.1 6 and 9-year ATP retesting method for multi-compartments**

France gave a presentation on the in-service inspection testing for multi-compartment units after it was not adopted at the previous WP11 meeting. There was still the issue of where the movable bulkhead should be placed, with the paper suggesting the average position.

It was suggested by Mrs Kress (Germany) that the proposal could be split into fixed and movable bulkheads.

Mr Klotz (Germany) pointed out that as long as there are no markings agreed for MTMC vehicles then we could not agree on in-service retests.

Mr Raschle (Germany) pointed out a few errors, the word “tank” should be replaced with “body” in items 12, 13 and item 17 should be “B” and not “C”.

The proposal was not recommended by CERTE for the next WP11.

### **9.2 Other matters**

No other matters were raised for discussion.

## **10.0 Impact of environmental regulations and considerations about energy efficiency**

### **10.1 Evolution of refrigerants (regulation and technical developments)**

Mr Richard Lawton (UK) mentioned that there was a conference in the UK for A12 refrigerants next year.

### **10.2 Energy efficiency (energy labels, minimum energy performance standards (MEPS))**

Mr Lawton (UK) commented that ISO 1496 part 2 has included an energy efficiency test, an ageing calculation and that it was now in line with ATP and CEN with regards to thermal testing.

### **10.3 Evolution of foams (legislative and technical developments)**

Mr Joe Grealy (TI) mentioned that there was an EU-funded discussion on foams but that nothing had come about from it.

Mr Richard Lawton (UK) commented that there are alternatives available but due to cost no-one was using them.

### **11.0 Recommendations from the IIR “Test Stations” to UN WP11 meeting in October 2017**

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

- Liquefied gas systems
- Drop-in refrigerant
- Modification of test reports 9 & 11
- Modification of test report dates
- Harmonisation of test report (informal document)
- Multi-temperature dimensioning according to 7.3
- Multi-temperature certification and decals
- Proposal for fixed bulkheads

CERTE papers for next year:

- Calorimeter box requirements
- Uncertainties paper

### **12.0 Sub-commission work plans**

The chairman discussed the sub-commission work plans.

- Inter-comparison testing “Round Robin”

It was also mentioned by Mr Thaler (Slovenia) that we could look at fresh fruit and vegetables; this was countered by Mr Raschle (Germany) that it was not needed now that there was a new class with heating and refrigerating.

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	
	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
Annex 1, appendix 2, paragraph 4.2.3(ii) (ATP Handbook)	-	-	-	-	X	-	-	X
Drop-in refrigerant (in service equipment)	-	-	-	-	X	-	-	X
Drop-in refrigerant for new machines	-	-	-	-	X	-	-	X
Supporting document model for MTMC vehicles	-	-	-	-	X	-	-	X
Clarification of the X markings	X	-	-	-	-	-	-	-
"Round Robin" thermal test	X	-	-	-	-	-	-	-
Airflow	-	-	-	X	X	-	-	X
Multi-compartment decals	-	-	-	X	-	-	-	X
Calculation tool	-	X	-	X	-	-	-	X
Dividing walls (add fixed) add measurements to options	-	-	-	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

### 13.0 Future Meetings

Munich was proposed as a venue for the next CERTe meeting in 2018, the suggested dates are 18<sup>th</sup> to 19<sup>th</sup> or 25<sup>th</sup> to 26<sup>th</sup> April.

### 14.0 Any Other Business

Mr Pekka Rantti (Finland) asked the other test stations what they would do if a test station from another competent authority had shut down and they were unable to modify an old test report from that test station.

After a brief discussion it was suggested by Mrs Alibech Mireles (UNECE) that they contact the competent authority and ask for permission from them to modify the test report.

### Attendance: List of Participants

<b>Name</b>	<b>Surname</b>	<b>Country</b>	<b>Organization</b>	<b>Email Address</b>
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