



## IIR SUB-COMMISSION D2 "CERTE" MEETING,

Location : TÜV SÜD Industrie Service GmbH Geiselbullacher Str. 2,  
82140 Olching / Germany

Date : the 18<sup>th</sup> & 19<sup>th</sup> April 2018 9:30 – 17:00

### Paper Submission form

## Cool down, measuring the outside temperature

Name: Pekka Rantti

Organisation: Natural Resources Institute Finland (Luke)

### Context

Annex 1 Appendix 2 § 6 of ATP.

Verification of the effectiveness of thermal appliances of equipment constructed from 2 January 2012 takes into account the outside temperature during the cool down test.

Obviously more attention needs to be paid how the outside temperature which determines the allowed cool down time shall be measured and how the variations of it shall be taken into account.

### State of art

In service verification of the effectiveness of thermal appliances of equipment constructed from 2 January 2012 is judged based on the table presented in Annex 1 Appendix 2 § 6.2 (i).

According to § 6.5 the outside temperature during the test is measured from at least two points and "The final reading shall be from the warmest point inside the body and the coldest point outside."

However it is not clearly defined what final reading outside means in this context:

- a) Is it the coldest reading outside when the inside temperature has reached class temperature (e.g -20 °C)?
- b) Is it the coldest reading outside during the whole cool down test?

The difference between case a) and b) could be several degrees C and in e.g. in FRC each degree represents 10 minutes in cool down time.

In Finland cool down tests are made indoors where ambient temperature +15 °C or above is possible all the year. Test environments are however not climatic chambers and during the cool down the outside temperature tends to rise, in some cases close to 10 degrees C.

### Technical impact of the proposed measure

No technical changes required, just how temperature readings are taken into account.

### Economical impact of the proposed measure

No



## IIR SUB-COMMISSION D2 "CERTE" MEETING,

Location : TÜV SÜD Industrie Service GmbH Geiselbullacher Str. 2,  
82140 Olching / Germany

Date : the 18<sup>th</sup> & 19<sup>th</sup> April 2018 9:30 – 17:00

### Paper Submission form

#### **Environmental impact of the proposed measure**

No

#### **Conclusion**

Amending Annex 1 Appendix 2 § 6.5 of ATP as presented below harmonize how equipment constructed from 2 January 2012 are judged during the cool down test. It reduces the speculation against the result if outside temperature during the test does not remain stable. It also gives fair and comparable opportunity to make cool down tests in an environments which has some variation.

#### **ATP Proposal of amendment (if applicable)**

It is proposed to  add  replace  suppress the following paragraph of ATP

Original paragraph of ATP:

Annex 1 Appendix 2 § 6.5 last line

ii) Original text

“The final reading shall be from the warmest point inside the body and the coldest point outside.”

Proposal of modification:

ii) Proposed modified text

“The final reading shall be from the warmest point inside the body and ~~the coldest point outside~~ **from the outside body the arithmetical mean temperature taken over the total duration of the test and at least two measuring points (mentioned above).**”