

# GRSP TF on the transposition of GTR 13 Phase 2 to UN-R 134 (18)

**Meeting Date:** 02/11/2023 08:00 – 09:00 (CET)

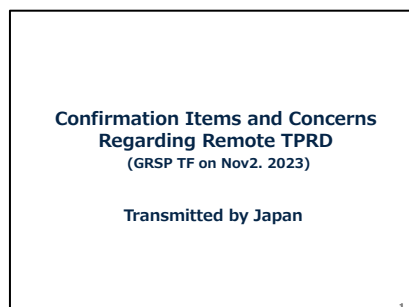
**Location:** Microsoft Teams Meeting

## Participants:

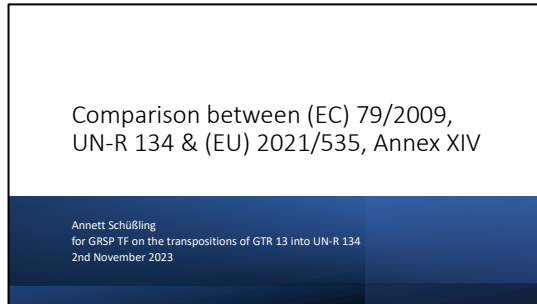
- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Andres Fernandez Duran (IVECO) | <input checked="" type="checkbox"/> Paul Dijkhof (KIWA)               |
| <input checked="" type="checkbox"/> Annett Schuessling             | <input checked="" type="checkbox"/> Richard Trott (FORVIA)            |
| <input checked="" type="checkbox"/> Antoine Azzopardi (FRANCE)     | <input checked="" type="checkbox"/> Romary Daval (LUXFER)             |
| <input checked="" type="checkbox"/> Anton Weiler (IAV)             | <input checked="" type="checkbox"/> Salim Abdennadher (RENAULT)       |
| <input checked="" type="checkbox"/> Gerhard Gissibl (BMW)          | <input checked="" type="checkbox"/> Shougo Suda (TOYOTA)              |
| <input checked="" type="checkbox"/> Hans Lammers (NETHERLANDS)     | <input checked="" type="checkbox"/> Sina Smits (BMW)                  |
| <input checked="" type="checkbox"/> Harald Beck (MAN)              | <input checked="" type="checkbox"/> Tatsumi Takehana (KHK)            |
| <input checked="" type="checkbox"/> Hiroaki Tamura (JARI)          | <input checked="" type="checkbox"/> Tohru Nakanishi (METI, JAPAN)     |
| <input checked="" type="checkbox"/> Ikuya Yamashita (HONDA)        | <input checked="" type="checkbox"/> Valentin Hettrich (DAIMLER TRUCK) |
| <input checked="" type="checkbox"/> Klaus Weis (HEXAGON)           | <input checked="" type="checkbox"/> Volker Rothe (Stellantis)         |
| <input checked="" type="checkbox"/> Koie (METI)                    | <input checked="" type="checkbox"/> Vuthy Phan (VOLVO)                |
| <input checked="" type="checkbox"/> Masaaki Iwasaki (TOYOTA)       | <input checked="" type="checkbox"/> Wataru Okoyama (MLIT)             |
| <input checked="" type="checkbox"/> Morinaga (KHK)                 | <input checked="" type="checkbox"/> Yoshio Fujimoto (NTSEL)           |
| <input checked="" type="checkbox"/> Myrna Cashatt (LINAMAR)        | <input checked="" type="checkbox"/> Yoshinori Tanaka (NTSEL)          |
| <input checked="" type="checkbox"/> Ömer-Ahmet Tsaous (BMW)        | <input checked="" type="checkbox"/> Yuto Sekiya (KHK)                 |

## Minutes:

1. Welcome & Roll call
2. Material Compatibility
  - No updates
3. **Remote TPRD and alternative testing**
  - Japan requests feedback on the safety concept of remote TPRDs, coming from the European background in particular from European CPs
  - Japan asks whether there are European regulations regarding remote TPRDs
    - See document: Remote TPRD.pptx



- OICA points out that (EC) 406/2010 contains a definition for container assembly which would include remote TPRDs
  - (15) 'Container Assembly' means two or more containers with integral interconnecting fuel lines, protectively encased inside a housing shell or protective frame;
- Secretariat prepared a comparison btw. (EC) 79/2009, (EU) 2021/535 and UN-R 134
  - See documents: *20230111\_Comp.\_H2\_regs.pdf* and *20231101\_test\_programme\_comp..xlsx*



Regulation	Scope	Requirements	Comments
(EC) 79/2009	...	...	...
(EU) 2021/535	...	...	...
UN-R 134	...	...	...

- There is no definition for remote or additional TPRDs in (EC) 79/2009 (incl. (EC) 406/2010), but the requirements for the bonfire test clearly indicate that more than one TPRD along the length of large containers can be used as the fire protection approach.
- For the type-approval there is no specific test required to test the container with the remote TPRD and the manufacturer is responsible for the safety
- Luxfer proposes to also look at UN-R 110 which has similar requirements for CNG, including the same bonfire test. There are more than 20,000 vehicles in Europe approved according to this regulation. With the container size used for buses it is obvious that these containers need TPRD unless they are Type 1 containers. There is no knowledge about accidents in relation to the TPRDs in these vehicles.
- OICA raised the question on how to continue the discussion. Would a test programme as suggested by OICA in February be feasible?
  - See document: *remote\_TPRDs\_proposal\_2023-02\_v00.pptx*

CHSS: Allow to locate additional TPRDs in alternative locations on the container

OTV container End-plug  
supply lines  
additional TPRD

Durability for additional TPRD. The supply lines durability assessed in § 5.2 test  
§ 6.1 TPRD + supply lines performance & stress tests

Customer and CHSS including remote TPRDs and their supply lines:

- The tank tightness, over accelerated vehicle lifetime usage, of Remote TPRDs with their supply lines, will be validated using the pneumatic sequential test of § 5.3
- Part of § 5.4

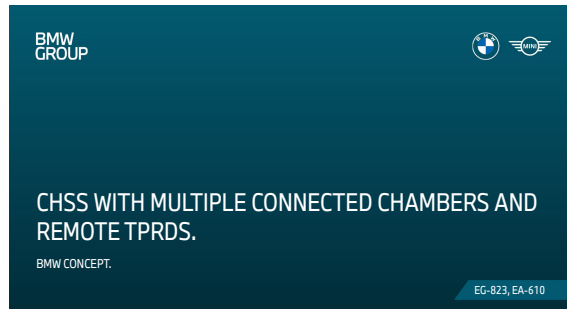
Requirement/condition	Justification
S.1. Verification test for bonfire service	Location of container plus container attachment, as applicable.
S.2. Verification test for performance capability	Location of container plus container attachment, as applicable.
S.3. Verification test for impact on road	CRDS
S.4. Verification test for applicability	CRDS
S.5. Verification test for service interlocking	CRDS
S.6. Verification test for	CRDS

Test set-up adaptation with the supply lines for the §5.2 Hydraulic plug (mimic OTV)

Hydraulic plug (mimic OTV) container End-plug  
TPRD supply lines

- It could be included as a clarification for the qualification of TPRDs.

- Group is requested to consider the addition of a definition needs to be added for the container assembly reflecting the inclusion of supply lines and remote TPRD
- Luxfer will try to provide data on remote TPRDs in the field at the next meeting.
- BMW provided a presentation on TPRDs on conformable tanks
  - See document:  
*BMW\_231102\_R134\_Container\_and\_Remote\_TPRD\_Definition\_V02.pdf*



- the discussion could not be finished on that item and will be continued at the next meeting
- Question raised by BMW: can the regulators agree that the TPRD on the conformable tank are not remote TPRDs?

#### 4. Next meeting:

- December 19th:
  - 8 am – 9 am (CET)
  - 4 pm – 5 pm (JST/KST)