

Perspective on the Performance Test Requirements for Remote TPRD

(GRSP TF on Aug 26 - Aug 28, 2024)

Transmitted by METI, KHK(Japan)

◆ Experience with Remote TPRD

- It is reported that there is considerable experience with Remote TPRD attached to containers complying with UNR110.
- In contrast, UNR134 does not include regulations for Remote TPRD, which has led to limited experience with Remote TPRD attached to CHG containers.

Comparison of Standards and Experience with Remote TPRD

Regulation:	UNR110	UNR134
Gas Type:	CNG / LNG	CHG
Working Pressure:	20 MPa (CNG)	70 MPa
Experience:	Available	Not Available

◆ Assessment of the Current Situation

The use of Remote TPRD for CHG containers is currently considered by us to be in its early stages.

◆ Proposal and Concerns

- The proposal by “R134-28-01Ar1” appears to impose limitations on the metallic materials used in the Supply lines for Remote TPRD.
- The regulations for CHSS under GTR13 and UNR134 are based on the concept of the performance test requirements; however, it appears that the proposal does not follow this concept.

For the above reasons, it is necessary to carefully consider the performance test requirements for Remote TPRD.

◆ Conclusion

For safety reasons, it is recommended that the same tests be applied to pressure-bearing components in CHSS as those for containers, based on GTR13 Phase 2 Part I at this early stage.

Draft Performance Requirements for Supply Lines

<i>Requirement section</i>	<i>Test article</i>
5.1. Verification tests for baseline metrics	Container or container plus container attachments, [and supply lines,] as applicable
5.2. Verification test for performance durability	Container or container plus container attachments [and supply lines,] as applicable
5.3. Verification test for expected on-road performance	CHSS
5.4. Verification test for service terminating performance in fire	CHSS
5.5. Verification test for closure durability	Primary closure devices

Note: Supply lines are included in CHSS.

Of course, we, METI and KHK(Japan), understand the technical rationale for separating the performance test requirements for Type 4 containers and metallic supply lines.

Therefore, we welcome further discussion on the requirements related to supply lines for Remote TPRD in the future.

Provisions Regarding Supply Lines of Remote TPRD in GTR13 Phase 2 (Reference)

◆ GTR13 Phase 2 Part I (Statement of technical rationale and justification)

“51. Requirements for Compressed Hydrogen Storage System (CHSS) and its primary closures are defined in paragraph 5.1. The provision in paragraph 5.1.(b) allows Contracting Parties to require that primary closure devices be mounted directly on the container. If needed, manufacturers can choose to locate additional TPRDs in alternative locations on the container. However, any additional TPRDs should be connected directly to the containers by using supply lines that have demonstrated mechanical integrity and durability as part of qualification tests for CHSS (paragraphs 5.1.1. and 5.1.2.*).”

* paragraphs 5.1.1. : Verification tests for baseline metrics

paragraphs 5.1.2. : Verification test for performance durability