

UN GTR No.13 TF#1 Current state

- TF1 planned to carry out following 3 things until 5th IWG meeting.
 - Identify TF1 items(TF1 decided to discuss the 9 items)
 - Define vehicle class scheme
 - May have proposals for other items

○ Identify TF1 items

0. Identify HD items in current GTR

#8, #9 added.

1. Scope

	Proposal?	Proposed by	
1a. Vehicle class scheme	Y	JAMA	The draft to be provided by OICA.
1b. Separation of HDV requirement	Y	KATRI	Included in 1a.
1c. Exclusions	Y	JAMA	Included in 1a.

2. Protection against impact testing

	Proposal?	Proposed by	
2a. Rollover	Y	KATRI/JAMA	TBD
2b. Acceleration	Y	JAMA	Proposal was submitted by JAMA.
2c. Side impact	N	TBD	Planning to propose details at IWG in March(by KATRI)

3. Installation requirements

	Proposal?	Proposed by	
	Y	JAMA	Proposal was submitted by JAMA.

4. TPRD direction

	Proposal?	Proposed by	
	Y	JAMA	JAMA is preparing proposal for discussion in Feb. in-person meeting.

5. Gas cycling test requirements

	Proposal?	Proposed by	
5a. Permeation test	Y	NIKOLA	SAE (Glenn) is preparing the proposal.
5b. # cycles	N	TBD	Planning to propose details at IWG in March(by KATRI)

6. Fire test

	Proposal?	Proposed by	
	Y	TF4	Discussion in Feb. in-person meeting.(With TF4)

7. Receptacles

	Proposal?	Proposed by	
	N	TF2	Main discussion should proceed in TF2.

8. Hydrogen leakage criteria

	Proposal?	Proposed by	
	N	NHTSA	Suggested by Nha. Needed to propose details.

9. Items in TF3 (GTR13-4-23)

	Proposal?	Proposed by	
9a. Steady state for the gas permeation test			TF1 should make a decision about 9a
9b. Gas cycling test for repeating element tanks			TBD

1. **Scope** (GTR13-05-04, 05)

- OICA proposed scope of GTR13 to include HDV.
 - Vehicles less than 25 km/h are excluded. contracting party may exclude the applied vehicle additionally.
 - For vehicles with GVM exceeding 3,500 kg but not exceeding 4,536 kg, each Contracting Party may elect **provision for LDV or HDV**.
 - Each contracting party shall maintain its existing national crash tests (frontal, side, rear and rollover).
 - Deleting the part of high voltage safety.
- TF1 will have a additional time to review the proposed draft.

2. Protection against impact

- There are 3 items under a Protection against impact.
 - Rollover, Acceleration(sled test) and Side impact test.

2.1 Rollover

- Currently, there is no post-crash requirements in the U.S. and Europe for HDV.
- Necessity/rationale for this test unclear in GTR.
- **TF1 agreed to exclude this agenda from TF1.**

2.2 Accelerations(sled test)

- Component test(sled) was proposed for vehicles not covered by national crash regulations.
 - Checking the mounting of the tanks using representative installation and layout of the CHSS.
- There will be more discussion for decide a test procedure.

2.3 Side impact test

- This agenda was proposed by Korea. Korea have a plan to introduce a Side impact test regulation, but it will be conducted after 2020. so in the GTR 13 phase2, have a no plan to propose about that.

(Korea will conduct R&D for the Hydrogen HDV safety evaluations(Include rollover, side impact, simulation, etc.), with budget of about 25 millions \$ from the end of 2019.)

3. Installation requirements

- UN 100, 134 have a Installation requirements. But Geometric provisions do not provide benefit to the crash safety of HDV, only reduction of storage volume

- TF1 does not agree with geometric provisions as they can be design restrictive and provide no additional benefit to crash safety.

4. TPRD Direction

- Discussed TPRD alternative direction, with the concern that TPRDs can be pointing upwards or away from the side or rear of the vehicle. TF1 agreed that a minor modification to the existing GTR13 language can help address the concern.
 - There will be more discussion for propose to delete “horizontally (parallel to road) from the back or sides of the vehicle” from Section 5.1.2.3.1. (b)(iv)

5. Permeation test requirements / Test cycles

- Permeation: There was an opinion that Permeation test criteria should be changed. After some discussion about that, TF1 considering using the current criteria. The rationale will be present at the next IWG meeting.
- Test cycles(5.1.1.2.): Ongoing discussion.

6. Fire test – Defer to TF4

7. Receptacles – Defer to TF2

8. Hydrogen leakage criteria for in-use condition

- There was an opinion that Hydrogen leakage criteria for in-use condition should be changed.
- TF1 will have a more discussion.

9. Items in TF3 – Defer to TF3

- Permeation steady state definition
- Gas cycle testing for systems with repeating elements: TF1 agreed to conduct test on a representative container assembly, providing the container assemblies are identical.

TF1 Plan

- TF1 will have a web-meeting once a month for discuss about TF1 items, And if possible have a In-person meeting before the 6th IWG meeting.