

DRAFT

10th Meeting of the Informal Working Group on Hydrogen and Fuel Cell Vehicles

Global Technical Regulation No. 13 (Phase 2)

28-29 June 2021 – Online

	Agenda Items	Presenters	Documents
1	Opening Remarks	M. Koubek	--
	The Chair welcomed the participants and thanked the meeting organizers. Experts from Canada, China, European Union, France, Japan, Korea, UK, and US were present as well as experts from the industry on behalf of OICA/vehicle manufacturers and container manufacturers, laboratories and research institutes.		
2	Change of TF1 leader	M. Koubek	
	<ul style="list-style-type: none"> Chair introduced that the leadership of TF1 had been changed from Kyeong-yeon Hwang, KATRI to co-leaders of He Yuntang, CATARC and Annett Schuessling, OICA (Daimler Truck). He thanked the efforts made by Mr. Hwang so far. The Chair also informed the IWG of the new requirement to submit an IP disclaimer for every document that is to be posted on the UNECE or UNECE-affiliated website. 		
3	Approval of agenda	M. Koubek	GTR13-10-01
	<ol style="list-style-type: none"> GTR13-10-01 rev.1.pdf was approved. Chair reminded the group that since this IWG is only two days, the discussion time is limited. Chair introduced the outcome of the co-sponsor's meeting with GTR13-10-03 where CP tried to get consensus on several issues and noted the relevant TFs are working on these issues. 		
4	Approval of the meeting minutes of the 9th meeting	Secretary	GTR13-9-18
	<ol style="list-style-type: none"> Meeting minutes from 9th IWG approved (GTR13-9-18). 		
5	Scheduled of Phase 2 project	Secretary	GTR13-10-03
	<ol style="list-style-type: none"> Secretary provided overview of the schedule to develop GTR 13 Phase 2 The goal for submitting the informal draft proposal remains at the December 2021, with a formal document for approval at May 2022 GRSP. This is the schedule given the 18 months extension of the mandate. Chair commented that more detailed time frame might be needed especially for TF0. Some of the CPs indicated that the timeline will be tight. 		
6	Taskforce 1 - Heavy Duty Vehicles	TF1 Leader (Schuessling)	GTR13-10-12
	<ol style="list-style-type: none"> Update from TF1: A meeting was held on June 22, where issues like crash requirement/sled test, TPRD direction and container service life were discussed. Topics like document scope need only editorial changes; TPRD direction have completed technical discussion; service life requires more data gathering and analysis. Crash requirements/sled test require discussions at CP level as there is no consensus and the result will impact other gtrs. 		
7	Korea HDV Crash Test Plans	S. Kim/KATRI	GTR13-10-11
	<ol style="list-style-type: none"> Korea presented GTR13-10-11 on HDV crash test plans. According to their national data, side impact results from a typical crash situation of HDV with the velocity of 40-60 km/h (HDV-to-LDV) or 15-40 km/h (HDV-to-HDV). Korea will present the test data at the next IWG. China questioned about the impact speed considerably varied and how to determine the unified test condition. 		

	<p>f. Nikola asked about the pass-fail criteria (such as operation of shut-off valve) to be considered. Korea will take this into consideration.</p> <p>g. OICA asked about the impact severity and the speed of impact. Impact severity was assessed based on the repair cost. The impact speed was assessed by the simulation and looking at incident photos.</p>		
8	Initial Burst Pressure Scatter	G. Mair/BAM	GTR13-10-08
	<p>a. A representative of the Federal Institute for Materials Research of Germany (BAM) introduced two proposals as a result of simulations work done on possible variability in production: (1) Increase sample size of burst tanks, and require a decreased scatter value (either 5% or 7% depending on BP0); (2) Require batch testing of BPmin and a running average requirement of >90% BP0.</p> <p>b. BAM clarified that this presentation was shared with industry (ISO) but not yet endorsed by the German government.</p> <p>c. Several CP experts expressed their doubts over the conclusions of the study and several experts from industry indicated that BAM's proposal is not needed but CPs will evaluate it and discuss with industry.</p>		
9	Presentation of NREL report (CNG Codes & Standards Considerations and EOL Tank Testing)	I. MacIntire	GTR13-10-14
	<p>a. The US (I. MacIntire) presented an NREL report showing that CNG containers after 15 years of service life showed sufficient performance.</p> <p>b. US noted that another reference material by H2tools.org can be found here: https://h2tools.org/sites/default/files/Hydrogen_Incident_Examples.pdf</p>		
10	Material Compatibility - Steels	--	GTR13-10-03.04
	<p>a. CPs are working to achieve a full consensus, after Korea changed its position and agreed with EC and Japan (i.e., Part 2/CP option/or Annex in Part 1). Canada and the US are open to have the information in Part 1, with China maintaining that it is not needed at all in the GTR but can compromise with Part 1.</p> <p>b. More discussion is needed on the MC information, after the Chair receives definitive guidance from WP.29 Secretariat to determine the best placement of the information, including the test procedures, whether to include in Part 1 or as Annex to Part 1 or as an Annex after Part 2. The aim is to avoid any ambiguity about the nature and use of the material compatibility information. If the reference is given in Part 2, and follows in the Annex, it would be considered mandatory. If the reference is in Part 1 the text will be treated differently.</p> <p>c. Chair will inform the IWG of the outcome of the talk with the UN secretary on function of Annexes or if another option can be considered.</p>		
11	Material Compatibility – Humid Gas Stress Corrosion Cracking	H. Tamura / JARI	GTR13-10-05
	<p>a. Japan provided the test method, requirements and rationale for the aluminum alloys tested for humid gas stress corrosion cracking.</p> <p>b. OICA (Hyundai) questioned about the reason why this test condition would be needed as the hydrogen fuel is specified in dry condition. Japan noted that the outside of the container should also be considered and even with 5ppm, water may be condensed around the surface at low temperature. Chair advised to have separate conversation on this.</p>		
12	Taskforce 2 – Receptacle	L. Gambone/ Nikola	GTR13-10-09
	<p>a. TF2 leader reported on the recent discussions of the taskforce, where H70HF is still under development by the standardization body (ISO 17268) and therefore is not in the current version of the document. For Part 1, it is recommended to include reference to subsequent revisions of the ISO standard. For Part 2, the text is largely unchanged from current GTR13 language.</p> <p>b. Japan wants ISO requirements in Part 2 but can accept the results of discussion by TF2 to include in Part 1.</p> <p>c. Several CPs requested to have time to consider this direction.</p>		

13	Taskforce 3 – Recommendations for test procedures	L. Gambone/ Nikola	GTR13-10-13																																																								
<ul style="list-style-type: none"> a. Change of design table was not supported by the CPs of self-certification system although the slightly modified table has been approved by GRSP in UNR134. b. Chair commented that including the change of design table would seem to favor a specific certification system and therefore should not be in GTR. The COD table information can be preserved in the implementation phase for the CPs that need it through the transposing document. It is slightly different from material compatibility requirements. US and Canada support this view. EU expert agreed that transposing the information for 1958 CPs would work. c. For conformable tank, conclusions have been made on several issues, but generation and chemical exposure for fully enclosed containers is still an open issue. d. US commented that some language proposed may be adapted for inclusion into FMVSS. e. Reduction of volume for pneumatic sequential test on large tanks is also open issue. f. Other conclusions have been forwarded to TF0 for inclusion into the draft documents. 																																																											
14	Taskforce 4 – Fire test reproducibility	G. Scheffler / SAE	GTR13-10-10																																																								
<ul style="list-style-type: none"> a. Taskforce leader presented the progress of TF4 which has been meeting regularly, with most recent meeting on June 16. b. Adjustment of the test procedure for conformable tank is under consideration. c. The time-out provision will be modified so that failure of TPRD operation within the given time will result of failure of the test. d. Vertically mounted containers will also be considered. e. Round robin tests are going on with 5-6 laboratories. 																																																											
15	Taskforce 0 – Drafting	I. MacIntire / NHTSA	GTR13-9-16																																																								
<ul style="list-style-type: none"> a. The US (Ian) briefed the progress of TF0. Comment to the linked document are welcomed. b. An updated draft will be prepared towards the next IWG. 																																																											
16	Next IWG Meeting																																																										
<ul style="list-style-type: none"> a. End of September to early October. Secretary to send out doodle poll. b. Note: EVS GTR is 19-22 October. 																																																											
14	APPENDIX: Attendees List																																																										
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