

DRAFT

8th Meeting of the Informal Working Group on Hydrogen and Fuel Cell Vehicles

Global Technical Regulation No. 13 (Phase 2)

Oct 23, 26, 27 – Online

	Agenda Items	Presenters	Documents
1	Welcome Welcome remarks by Chair, new Vice Chair	M. Koubek Y. Sakamoto	--
2	Agenda approved	M. Koubek	GTR13-8-01
3	Approval of the meeting minutes of the 7th meeting <ul style="list-style-type: none"> • Meeting minutes approved 		GTR13-7-22
4	Schedule of Phase 2 Project	Y. Fujimoto Secretary	GTR13-8-02 GTR13-8-03
	Review of status of open discussion items <ul style="list-style-type: none"> a. Chair asked CPs to consider requesting 12-24 months project extension at Nov. WP.29 meeting. b. CP acknowledged that given the number of topics not yet resolved, if 12 months were elected, it may not be enough. Other CPs thought 2 year extension may be too long. c. The Chair proposed that an extension of “at least 12 months” which all CP agreed to. Scope of items should be reviewed both by leadership and TF leaders to see what could be completed in this timeframe. 		
5	Review of Issues List	Secretary K. Hwang (KATRI)	GTR13-8-02 GTR13-8-05 GTR13-8-12
	<ul style="list-style-type: none"> a. Sled Test (TF1) <ul style="list-style-type: none"> i. EC has an ongoing study to review acceleration values for HDV, with results by early 2021. ii. The nature of the test (vehicles required to be tested, leakage limits, component vs system, calculation method) also discussed but no consensus. iii. OICA asked if NHTSA intended for the test to be a worst case or one with extremely several acceleration values, and NHTSA confirmed that such excessive crash is not intended. iv. A final decision will be made after EC data is reviewed. Proposal should be sent to TF1. b. Permeation Criteria (TF1) <ul style="list-style-type: none"> i. SAE had proposed that the same criteria for permeation could be applied to both HDV and LDV. ii. EC has no technical objections but need time to review the legal language in the draft. iii. Remaining CPs agree to SAE proposal as is. c. TPRD direction (TF1) <ul style="list-style-type: none"> i. It was agreed that the proposal was applicable to both HDV/T and LDV/T. ii. OICA will provide the comments on GTR13-7-11 to TF1. d. Extension of container life (TF1) <ul style="list-style-type: none"> i. OICA is analyzing the VMT data and will provide a proposal to TF1. ii. Chair suggested to gather more data from different CPs. e. Initial Burst Pressure to 200 NWP for Carbon Fiber Containers <ul style="list-style-type: none"> i. China (Mr. Jin) presented information about the Chinese GB and data from Type III containers. ii. China (Mr. He) states there is not enough evidence yet to show that 200 NWP is appropriate for 35 MPa containers (though agree to for 70 MPa containers). 		

	<ul style="list-style-type: none"> iii. Japan (JARI) commented that the issue should be further discussed among CPs and Japan will discuss separately with China. Japan does not have any data for 35MPa Type-III container. iv. China agrees to hold detailed discussions with JARI. v. Except for China, remaining CPs agree with original proposal for reduction of initial burst pressure for containers of NWP of 35 and 70 MPa. 		
Taskforce Team Updatea			
6	Taskforce #3: Test Procedures	L. Gambone (Nikola)	GTR13-8-08
	<p>TF3 leader presented a progress report on open items:</p> <ul style="list-style-type: none"> a. Fire test – propose to eliminate option with air due to safety concerns. b. HRS refueling – Ongoing discussions in another taskforce with Air Liquide but a decision is not likely to be concluded in this Phase 2 discussion. c. Conformable containers – It was reported that this item will be included in the final Phase 2 proposal to GRSP in 2021. Progress being made in subgroup. Definitions are finalized and changes to tests are being reviewed. Industry agrees this is an important item to include as it accelerates deployment of ZEVs (both FCV, BEV) and some OEMs are already in development phase and will share data when available. d. Change of design table – Proposal is based on EU406/2010 table but since GTR13 requires that the stressors are combined on one container, a full sequential test may be required. While change of design concept is in several standards, more discussion needed on how to include in GTR13 (rationale, CP option, etc). China noted that the change of design table is in their standard and it is not appropriate to have it in GTR. 		
7	Material Compatibility	C. San Marchi (Sandia NL)	GTR13-8-10 GTR13-8-11 GTR13-8-04
	<ul style="list-style-type: none"> a. A summary of the material compatibility project (goals, test results, proposal) which had been previously presented was reviewed again. b. Hyundai presented their opinion in GTR13-8-10 and Sandia (team leader) replied by explaining the basis of current proposal in GTR13-8-11. c. Japan (JARI) reported the progress of their research on HG-SCC (GTR13-8-04). d. Discussion among CP about how material requirements can be included in the GTR (e.g., CP option) and/or UN R134 (considering type approval). Options could include an annex or in Part I (rationale). EC commented that material compatibility requirements are already in the EU regulation and wish to have harmonized requirements. e. While Hyundai noted that current discussions on material compatibility are on SAE level and asked to open them up for non-members, the Secretary reminded everyone that all IWG members are invited to join the material discussions. f. Chair asked TF leader to consider how a forum on this topic can be created for this IWG and asked interested members to participate. 		
8	Taskforce #2: Receptacle	L. Gambone (Nikola)	GTR13-8-08 GTR13-8-14
	<ul style="list-style-type: none"> a. ISO 17268 currently does not include H70-HF, with discussion regarding requiring receptacle geometry vs. allowing for flexibility. US does not think it should be included in GTR since future developments are not included (H70-HF). Korea commented that the geometry requirements of receptacle are necessary, but how to describe in the GTR is unclear now and therefore support the US's view. b. China, Korea, Japan and the EC prefer to include in this requirement in the GTR. c. Per WP29, references to ISO must include the standard number and year (https://www.unece.org/fileadmin/DAM/trans/doc/2018/wp29/ECE-TRANS-WP29-1044r2e.pdf). Once specified in the GTR, it can be difficult to create an amendment to change the referenced year. d. No consensus among CP but if ISO is referenced in GTR, it should be a dated reference. 		

9	Taskforce #4: Fire Test	G. Scheffler (SAE)	GTR13-8-06
	<p>a. SAE presented progress of the taskforce, with the goal of not trying to change the basic test methods in terms of the approach, but to make the current test more reproducible. Round robin testing is planned to confirm repeatability of the test procedures worldwide.</p> <p>b. Conformable tank will also be included in the discussions.</p> <p>c. Chair and TF4 leader will develop a list of laboratories who participate into the round-robin test.</p>		
10	Taskforce #0: Editing	I. MacIntire (NHTSA)	GTR13-8-09
	<p>a. TF leader presented the progress of the group, which includes CP, key taskforce leaders, and industry. The approach is to leave current GTR13 language as is in the Rationale/Part I language. Redlines will be made in the Part II (Regulation) section.</p> <p>b. The Chair requested the leaders of TF3 and TF4 for reconciliation of the terms and definitions.</p>		
11	Review of Phase 2 Schedule	Secretary	GTR13-8-13 GTR13-8-07
	<p>a. The Secretary introduced GTR13-8-13, indicating the status of each discussion topic and the required timeframe to conclude.</p> <p>b. Most of items could be concluded within 12 months and therefore the draft for the 1st package could be submitted to GRSP in December 2021.</p> <p>c. OICA commented that in general some additional time for finishing up the document.</p> <p>d. The Secretary noted that the early draft will be ready by March 2021 and the documentation including the rationale will be improved by December.</p> <p>e. The Chair will report WP29 to request at least 12 months extension of the mandate, and invited comments from the experts.</p>		
12	Next IWG		
	<ul style="list-style-type: none"> TBD 		
13	APPENDIX: Attendees List		
	AIST Arkema Kiwa Netherland BAM Bosch GmbH CATARC CEA Emcara Gas Development European Commission Government of Canada GWS Solutions of Tolland Hexagon Composites	Hexagon Purus GmbH Hino Motors JARI Japan JASIC KATRI KHK/Japan Linamar MAXIMATOR GmbH Mercedes Benz AG METI/ Japan Quantum Fuel Systems Nikola Motors	NPROXX OICA/Audi OICA/BMW OICA/ Daimler AG OICA/Ford OICA/GM OICA/ Honda R&D OICA/Hyundai Motor OICA/Opel OICA/Renault OICA/Volkswagen AG OICA/Toyota
			OMB Saleri SpA Plastic Omnium Powertech Labs Sandia National Laboratories TesTneT Tokyo University Tongji University Ulster University USA/NHTSA Westport Fuel Systems Zero Carbon Energy Solutions Zhejiang University