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Report of the Working Party on Passive Safety on its sixty-sixth session

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I. Attendance

- The Working Party on Passive Safety (GRSP) held its sixty-sixth session in Geneva 1. from 10 to 13 December 2019. Mr. Martin Koubek (United States of America) chaired the session due to the separation of the previous Chair, Mr. Nha Nguyen, from the federal service in U.S. Department of Transportation, in accordance with Rule 14 of the Rules of Procedure of the Economic Commission for Europe (E/ECE/778/Rev.5). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum Regulations for Harmonization of Vehicle (WP.29)(ECE/TRANS/WP.29/690/Rev.1): Belgium, Canada, China, Czechia, Finland, France, Germany, India, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland and United States of America. The European Commission (EC) participated. Experts from the following non-governmental organizations participated: Consumers International (CI), European Association of Automotive Suppliers (CLEPA), Federation International de l'Automobile (FIA), Federation Internationale de Motocyclisme (FIM), Global New Car Assessment Programme (Global NCAP), International Motorcycle Manufacturers Association (IMMA) and International Organization of Motor Vehicle Manufacturers (OICA).
- 2. Annex I of this report lists the informal documents distributed during the session.

II. Adoption of the agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRSP/2019/1

Informal documents GRSP-66-01-Rev.1 and GRSP-66-15

3. GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2019/1) proposed for the sixty-sixth session, the running order (GRSP-66-01-Rev.1) and the annotations (GRSP-66-15). GRSP informal working groups are listed in Annex IX of this report.

III. UN Global Technical Regulation No. 7 (Head restraints) (agenda item 2)

Documentation: ECE/TRANS/WP.29/GRSP/2019/20

ECE/TRANS/WP.29/GRSP/2019/21 ECE/TRANS/WP.29/GRSP/2019/26 ECE/TRANS/WP.29/AC.3/25/Rev.1 Informal document GRSP-66-41

- 4. The expert from Germany, by way of GRSP-66-41 presented Amendment 1 (ECE/TRANS/WP.29/GRSP/2019/26) to UN GTR No. 7 (Phase 2 of the UN GTR on head restraints) that had been prepared by the expert from Japan as technical sponsor of the informal working group (IWG). He explained that the proposal had resolved all the main issues, i.e., in square brackets: (a) text of the preamble, (b) text of the Regulation and (c) injury criteria. He added that the proposal to include the Biomechanical Rear Impact Dummy (BioRID) UN test tool in Mutual Resolution No. 1 (M.R.1) was still in final review, and that an agreement was in progress with the dummy manufacturer on disclaiming any copyright infringements. The expert from Japan introduced ECE/TRANS/WP.29/GRSP/2019/26 to highlight the main issues resolved by IWG.
- 5. GRSP recommended that (a) Amendment 1 to UN GTR No. 2 (ECE/TRANS/WP.29/GRSP/2019/26), as amended below, (b) the final progress report (ECE/TRANS/WP.29/GRSP/2019/21), not amended and (c) the authorization to develop the

work ECE/TRANS/WP.29/AC.3/25/Rev.1 be established in the global registry. The secretariat was requested to submit the Amendment, report and authorization to WP.29 and to the Executive Committee of the 1998 Agreement (AC.3) for consideration and vote at their June 2020 session as Amendment 1 to UN GTR No. 7. GRSP also agreed to suspend discussion on ECE/TRANS/WP.29/GRSP/2019/20 since the subject was considered to not be in the IWG mandate, though future consideration would follow a new authorization to develop the work.

Annex 3, paragraph 2.1.1., shall be deleted.

6. GRSP, agreed to resume consideration on this subject at its May 2020 session on the basis of a proposal of Addendum to M.R.1. to incorporate drawings, specifications and manual of the BioRID test tool. GRSP also agreed that consideration on this subject would have as a prerequisite that the dummy manufacturer provide the set of drawings for the test tool and agree to have the disclaimer on intellectual property rights removed from the drawings.

IV. UN Global Technical Regulation No. 9 (Pedestrian safety) (agenda item 3)

A. Proposal for Amendment 2 (Phase 2)

Documentation: ECE/TRANS/WP.29/GRSP/2019/4

Informal documents GRSP-65-01 and GRSP-65-02

7. GRSP noted that the amendment to M.R.1 had been adopted at the November 2019 session of WP.29 (see ECE/TRANS/WP.29/1149 paras. 81 and 124). New Addendum 3, (ECE/TRANS/WP.29/GRSP/2019/119), the related drawings and specifications, and the manual of the Flex Pedestrian Legform Impactor (FlexPLI), were available at www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29resolutions.html. GRSP also endorsed the removal of any reference to the FlexPLI manufacturer's trade name from the manual and requested experts to check the completeness of the above-mentioned drawings and specifications.

B. Proposal for Amendment 3

Documentation: ECE/TRANS/WP.29/GRSP/2012/2

ECE/TRANS/WP.29/GRSP/2014/5 Informal document GRSP-65-17

- 8. The expert from Germany in GRSP-65-17 had indicated a problem to represent worst case scenarios, due for example, to different heights of the vehicle from adjustable suspension systems, GRSP noted that a concrete proposal had been submitted under agenda item 19 on UN Regulation No. 127. GRSP agreed to defer discussion to its May 2020 session.
- 9. The expert from OICA reiterated his intention to continue the work on harmonizing UN GTR No. 9 with UN Regulation No. 127 which had already incorporated the proposed amendments for the headform test (ECE/TRANS/WP.29/GRSP/2014/5). He suggested that at the March 2020 session of the Executive Committee of the 1998 Agreement (AC.3), the Chair of GRSP could recommend Amendment 3 (ECE/TRANS/WP.29/GRSP/2014/5) to UN GTR at its May 2020 session. Therefore, GRSP agreed to finalize discussion of this subject and to review an updated final progress report (ECE/TRANS/WP.29/GRSP/2012/2) that had been submitted by the technical sponsor.

C. Proposal for Amendment 4

Documentation: Informal document GRSP-66-23

10. The expert from the Republic of Korea, on behalf of the IWG Chair of Deployable Pedestrian Protection Systems (DPPS) introduced GRSP-66-23 on the progress of work. He explained that the group had its fifth meeting in London (3 and 4 September 2019) and that remaining items such as a verification impactor, defining head test area, simulation for head

impact time and sensing area had been discussed. He announced that the next IWG meeting was planned from 4 to 6 March 2020, in Barcelona, Spain. GRSP agreed to resume consideration on this agenda item at its May 2020 session.

V. UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cells Vehicles) (agenda item 4)

- The expert from the United States of America, on behalf of the co-sponsors (Japan, Republic of Korea and European Union) informed GRSP about the work progress of IWG on Hydrogen and Fuel Cells Vehicles (HFCV) UN GTR No. 13, Phase 2. He summarized the seventh IWG meeting of 3 to 7 November in Stuttgart, Germany. He noted that the meeting had been well attended: more than 60 representatives from contracting parties (Canada, China, Germany, Japan, Republic of Korea, United States of America, European Union), motor vehicle manufacturers and container industries, standards-setting organizations and academia had participated. He added that IWG had continued to work on the main items of Phase 2 that had been divided among five Task Forces and four subgroups to cover issues ranging from the expansion of the scope of the UN GTR to cover heavy-duty vehicles to include trucks and buses, hydrogen material compatibility, tank stress rupture, fire test repeatability parameters, safe release of thermo-pressure release valve, and additional amendments of existing UN GTR test procedures. He explained that the IWG had made good progress, and had reached consensus in some key areas: (a) expansion of the scope to cover trucks and buses, (b) permeation criteria for HDVs and the hydrogen leakage criteria, (c) transfer high-voltage battery and electric system safety requirements to the scope of UN GTR No. 20. However, he added that several other items continue to be a challenge for IWG, for example, deciding on: the necessity of a dynamic sled test to verify the safe installation of potentially safety-critical components, the requirements to specify installation of these components, or the geometry design of the receptacle so as to minimize the occurrence of freezing of the nozzle in the receptacle during refuelling. He added that, in the process, also new issues had been introduced: (a) alternative hydrogen container designs and (b) proposal for possible extension of the container's useful life from 15 to 25 years based on the real-life data. He concluded that the group had agreed to begin drafting the proposed amendments on items which had reached consensus for UN GTR No. 13 within two weeks so as to be available by the March 2020 meeting of the IWG, when the IWG would evaluate the progress and gaps, and decide on potentially requesting a extension of the mandate at the May 2020 session of GRSP.
- 12. He announced that the eighth IWG meeting was scheduled for 2 to 6 March 2020 in Tokyo.

VI. Harmonization of side impact dummies (agenda item 5)

13. GRSP noted the statement of the Chair of AC.3 at the June 2019 session of the Committee which had stressed that GRSP and other subsidiary bodies of WP.29 consider how to proceed with this subject at their next sessions. Contracting parties were requested to update GRSP on their available resources to address this matter, especially Canada, and to report to the December 2019 session of GRSP on the availability of resources to steer a IWG dedicated to test tools and dummies. He also recommended regular reporting on the progress of IWGs that address different test tools and their inclusion in M.R.1, at future AC.3 sessions. Among the possible options, GRSP recalled that, e.g. IWGs on UN GTR No. 9 and on Phase 2 of UN GTR No. 7 had delivered or would deliver amendments to M.R.1, including the specifications of their pertaining dummies without the support of a dedicated IWG on tool specifications. The expert from Canada stated that notwithstanding the interest of her country on this subject, her administration was not in the position to allocate resources to steer IWG. GRSP agreed to resume discussion on possible solutions on this subject at its GRSP 2020 session.

VII. UN Global Technical Regulation No. 20 (Electric vehicle safety) (agenda item 6)

- 14. The expert from the United States of America, on behalf of the co-sponsors (China, Japan, European Union and the members of IWG GTR No. 20, Phase 2) reported on the progress of the IWG meeting of EVS-GTR, Phase 2. GRSP was informed that the last session had been held from 3 to 5 December in Berlin, Germany. He reported that the meeting had been well attended by more than seventy representatives from the following contracting parties: Canada, China, Germany, India, Japan, Republic of Korea, Russian Federation, United States of America, EC, as well as many representatives from the type-approving authorities, academia, standard-setting organizations and the industry, both individually or as part of the OICA team. He added that thermal propagation and methods of initiation in the battery system were thoroughly examined and discussed, however, the optimal method had not yet been agreed upon. He informed GRSP on the availability of two methods: thermobased triggering method (TRIM), which was developed by the National Research Council (NRC) of Canada and the nail penetration method, developed by Japan. He clarified that his administration questioned the appropriateness of the methods based on their intrusiveness into the battery. Flammability, corrosiveness and toxicity of vented gas were presented on by several contracting parties and discussed by the group. He informed GRSP that the Rechargeable Electric Energy Storage System (REESS) vibration profile was discussed, and the disagreement was on the perception of this issue: is the GTR overreaching by setting requirements for an issue that was not seen as being related to safety but rather to durability or reliability. He also added that water immersion and the need to address it was discussed, as it had been identified by several contracting parties, but given the absence of real-life data that would demonstrate the specific safety need and therefore justify such requirement, no consensus has been reached. In addition, he clarified that IWG was cautioned not to regulate for instances of natural disasters and which could result in introducing requirements for EVs that would be more stringent than those for conventional Internal Combustion Engines (ICE) vehicles.
- 15. He underlined that protection during AC and DC charging was presented by OICA, and that IWG had also examined the overcurrent requirement and best approach to testing. Finally, he informed GRSP that the group had decided to take a brief pause in order to collect and absorb the new information and finish the research that several contracting parties and stakeholders were engaged in, by delaying its mid-spring meeting until late May 2020 and hold the other meeting in November 2020. The next meeting of IWG will be held in the week of May 24 in Tokyo.

VIII. UN Regulation No. 14 (Safety-belt anchorages) (agenda item 7)

Documentation: Informal document GRSP-66-16

16. GRSP noted GRSP-66-16 that amends the reference of provisions on the minimum number of anchorage points and location of lower anchorages from the Consolidated Resolution on the Construction of Vehicles (R.E.3) to the UN Regulation No. 16. GRSP adopted GRSP-66-16, as reproduced in Annex II to this report. The secretariat was requested to submit the proposal as Supplement 1 to the 09 series of amendments to UN Regulation No. 14, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.

IX. UN Regulation No. 16 (Safety-belts) (agenda item 8)

Documentation: ECE/TRANS/WP.29/GRSP/2019/15

ECE/TRANS/WP.29/GRSP/2019/24

Informal documents GRSP-66-08, GRSP-66-14 and GRSP-66-17

17. The expert from OICA introduced ECE/TRANS/WP.29/GRSP/2019/15 amended by GRSP-66-14, which aimed to introduce an alternative (at the choice of the manufacturer) to the airbag switch-off for frontal airbags in combination with rearward-facing child restraint systems in the rear seat. He further explained that the proposal aimed to improve passive

safety of rear occupants. However, the proposal received some reservations from contracting parties, who requested more evidence that the proposed requirements would provide improvements also for children. The representative of OICA clarified that technical progress must at least maintain current safety levels (including for children) before enabling further improvements. Finally, GRSP agreed to resume discussion on this subject at its May 2020 session pending new rationales to justify the proposal and requested the secretariat to keep GRSP-66-14 as an informal document.

- 18. The expert from OICA also introduced GRSP-66-17 on the requirements for safety-belt reminders in some particular vehicle designs and on clarifying the current text of the transitional provisions. GRSP agreed to resume discussion of this subject at its May 2020 session and requested the secretariat to distribute GRSP-66-17 with an official symbol.
- 19. The expert from Finland introduced GRSP-66-08 suggesting discussions on the possibility to have three-point safety-belts in M₂ and M₃ categories of vehicles. GRSP agreed to further discuss this issue at the next meeting.
- 20. Finally, GRSP considered ECE/TRANS/WP.29/GRSP/2019/24, to align the 08 series of amendments to the previous ones adopted by GRSP at its May 2019 session. GRSP adopted ECE/TRANS/WP.29/GRSP/2019/24 not amended and requested the secretariat to submit the proposal as Supplement 1 to the 08 series of amendments to UN Regulation No. 16, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.

X. UN Regulation No. 17 (Strength of seats) (agenda item 9)

Documentation: ECE/TRANS/WP.29/GRSP/2019/7

ECE/TRANS/WP.29/GRSP/2019/9 ECE/TRANS/WP.29/GRSP/2019/16 ECE/TRANS/WP.29/GRSP/2019/27

Informal documents GRSP-66-24, GRSP-66-26 and

GRSP-66-27

21. The expert from Japan introduced ECE/TRANS/WP.29/GRSP/2019/27 and amendments GRSP-66-24 and GRSP-66-26 on behalf of the task force to align UN Regulation No. 17 with UN GTR No. 7, Phase 2 provisions. The expert from CLEPA introduced amendment GRSP-66-27 which also updates ECE/TRANS/WP.29/GRSP/2019/9. At the same time, she withdrew ECE/TRANS/WP.29/GRSP/2019/7. However, GRSP noted that the expert of Germany had proposed an amendment (ECE/TRANS/WP.29/GRSP/2019/16) to the definition of integrated, detachable and separate head-restraints which had to be consolidated with the other documents as a whole. GRSP, therefore agreed to reiterate the establishment of a task force to complete harmonization of the UN Regulation No. 17 to the UN GTR No.7 and delegate documents ECE/TRANS/WP.29/GRSP/2019/9, ECE/TRANS/WP.29/GRSP/2019/16, ECE/TRANS/WP.29/GRSP/2019/27, GRSP-66-24 and GRSP-66-26 to the new task force for consideration. GRSP agreed to resume discussion on this subject at its May 2020 session.

XI. UN Regulation No. 22 (Protective helmets) (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRSP/2019/25

Informal documents GRSP-66-21 and GRSP-66-22

22. The expert from Italy, Chair of IWG on Protective Helmets (IWG-PH), informed **GRSP** about the final outcome of the group. He ECE/TRANS/WP.29/GRSP/2019/25, as amended by GRSP-66-21, in a presentation (GRSP-66-22). He explained that IWG had examined and, in principle, had reached consensus on ECE/TRANS/WP.29/GRSP/2019/25 and on its amendments GRSP-66-21. He reiterated the statement that the proposal would be further developed by IWG, according to the results of ongoing research and that the main goals of the proposal were: (a) rotational acceleration requirements, (b) integration of the standard impact points, (c) high and low energy impact, (d) mechanical visor tests and (e) new procedure for production qualification tests. The expert from France stated that the it would be advisable to put in place a better system for monitoring the results of oblique shocks to define the future requirements of the 07 series of amendments

(Phase 2 of the UN Regulation). He stressed the need of tools and data collection to devise the requirements of the future Phase 2. The expert from the Netherlands supported the suggestion of the expert from France to implement a monitoring system that was integrated into the type approval or certificate document. The expert from Germany argued that the implementation of monitoring into the type approval certificate would be cumbersome to manage.

23. GRSP adopted ECE/TRANS/WP.29/GRSP/2019/25, as amended by Annex III to this report, and agreed to establish a task force that would convene in February 2020 to discuss a monitoring solution for future Supplement 1 to the 06 series of amendments. GRSP requested the secretariat to submit the proposal as draft 06 series of amendments to UN Regulation No. 22, for consideration and vote at the June 2020 sessions of WP.29 and AC.1. Finally, GRSP also agreed to: (a) resume discussion on this subject at its May 2020 session on the basis of a proposal submitted by the task force and (b) suspend but not dissolve IWG until new research results were available to start Phase 2 of the UN Regulation.

XII. UN Regulation No. 29 (Cabs of commercial vehicles) (agenda item 11)

24. Proposals were not submitted for this agenda item.

XIII. UN Regulation No. 42 (Front and rear protection devices) (agenda item 12)

Documentation: ECE/TRANS/WP.29/GRSP/2019/31

25. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2019/31 to explain how to deal with advanced driver assist systems that affect braking and steering requirements. The expert from OICA requested the deletion of the reference to other UN Regulations in the text of the proposal. GRSP adopted ECE/TRANS/WP.29/GRSP/2019/31 as amended by Annex IV to this report. The secretariat was requested to submit the proposal as Supplement 2 to the original text of the UN Regulation No. 42 for consideration and vote at the June 2020 sessions of WP.29 and AC.1.

XIV. UN Regulation No. 44 (Child Restraint Systems) (agenda item 13)

Documentation: ECE/TRANS/WP.29/GRSP/2019/23

ECE/TRANS/WP.29/GRSP/2019/28

Informal documents GRSP-66-19, GRSP-66-30, GRSP-66-37 and

GRSP-66-38

The expert from European Association for the Coordination of Consumer Representation in Standardization on behalf of Consumers International, introduced ECE/TRANS/WP.29/GRSP/2019/23 which aimed to stop the development of new products according to UN Regulation No. 44, since child restraint system of all types (including booster category) had been included in the scope of UN Regulation No. 129. He added that the current direction of work had created an undesirable situation that would allow for an indefinite period: (a) two categories of products offering two levels of protection, (b) confusion among consumers and (c) less encouragement for manufacturers to develop products based on the latest standard. The experts from the Netherlands and EC supported the proposal to phase out UN Regulation No. 44. However, the expert from OICA questioned the issue of built-in CRS and proposed to exclude them from the phase out. Moreover, GRSP noted the remark from IWG on International Whole Vehicle Type Approval (IWVTA) that noted that transitional provisions (ECE/TRANS/WP.29/GRSP/2019/23) were not in line with the templates of the General Guidelines of ECE/TRANS/WP.29/1044/Rev.2. Therefore, GRSP considered GRSP-66-37. The expert from CLEPA argued that the transitional provisions were too stringent and requested a delay. Finally, GRSP adopted ECE/TRANS/WP.29/GRSP/2019/23, as amended by Annex V to this report. The secretariat was requested to submit it as Supplement 18 to the 04 series of amendments to UN Regulation No. 44, for consideration and vote at the June 2019 sessions of WP.29 and AC.1.

- 27. The expert from EC introduced ECE/TRANS/WP.29/GRSP/2019/28 aimed at clarifying the types of belt-guides and sitting devices that would not be allowed by means of an explanation in the scope of the UN Regulation. The expert from Poland argued that the proposal from EC was restrictive and requested a facts-based discussion on this proposal or a simple rejection in full. He introduced a presentation GRSP-66-19, showing that one of the devices in ECE/TRANS/WP.29/GRSP/2019/28 was fully compliant with UN Regulation No. 44 and safer compared to other type approved CRS. The expert from Spain introduced GRSP-66-30 which provided counter evidence that belt-guide devices would not comply to a number of relevant requirements of UN Regulation No. 44. The expert from Japan introduced a presentation (GRSP-66-38) showing the sled test conducted on Q dummies to check safety-belt penetration according to UN Regulation No 129 requirements. He concluded that the abdominal pressure on the belt-guide device was found to be rather high compared to CRS type approval according to UN Regulation No. 129, but that it satisfied the requirements of the UN Regulation.
- 28. Finally, the majority of GRSP experts, with the exception of the expert from Poland, adopted ECE/TRANS/WP.29/GRSP/2019/28, not amended. The secretariat was requested to submit the proposal as part of (see para. 26) Supplement 18 to the 04 series of amendments to UN Regulation No. 44, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.

XV. UN Regulation No. 80 (Strength of seats and their anchorages (buses)) (agenda item 14)

Documentation: Informal document GRSP-66-07

- 29. The expert from OICA explained that he was not yet ready to propose improvements to the static test as a follow-up of the discussion undertaken in the last session of GRSP (ECE/TRAN/WP.29/GRSP/65, para. 26), even though quite some work had already been conducted. He added his intention to submit a proposal in 2020. Therefore, he asked GRSP to provide feedback, at the earliest convenience through: oica@oica.net and/or yvanderstraaten@oica.net.
- 30. The expert from Finland introduced GRSP-66-07 explaining that his administration had recommended amendment to the UN Regulation on the back part of seats to make them safer by preventing sharp and/or hard edges. GRSP agreed to resume discussion on this subject at its May 2020 session on the basis of a possible proposal.

XVI. UN Regulation No. 94 (Frontal collision) (agenda item 15)

Documentation: ECE/TRANS/WP.29/GRSP/2019/29

Informal documents GRSP-66-31 and GRSP-66-32

- 31. GRSP resumed discussion on the proposal that had been tabled by the expert from EC (ECE/TRANS/WP.29/GRSP/2019/29), on behalf of the task force to align the UN Regulation to the revised General Safety Regulation of the European Union (see ECE/TRANS/WP.29/GRSP/65, para. 27). The expert from EC explained that the proposal could be considered a supplement since it would mostly imply a change of the scope. The expert from OICA endorsed the statement of the EC expert and said that proposal was in agreement with General Guidelines of ECE/TRANS/WP.29/1044/Rev.2. GRSP adopted ECE/TRANS/WP.29/GRSP/2019/29, as amended by Annex VI to this report. The secretariat was requested to submit the proposal as Supplement 2 to the 03 series of amendments to UN Regulation No. 94, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.
- 32. The expert from Japan introduced a presentation (GRSP-66-31) on behalf of the task force of EC, to explain five informal documents (GRSP-66-32 to GRSP-66-36) that proposed to transpose GTR No. 20, Phase1 into the framework of the 58 Agreement and therefore amend a number of UN Regulations (e.g. GRSP-66-32 proposed a new series of amendments to UN Regulation No. 94). He added that his administration and EC intend to take the

administrative action in accordance with the 98 Agreement through the application of relevant UN Regulations and therefore were initiating this task. He added that these proposals had been reviewed and confirmed at a side meeting of the last session of EVS IWG, and therefore the submission was rather late. However, he clarified that these proposals were the first introduction to GRSP experts, and aimed to gather comments from experts by the dates of the May 2020 session of GRSP. He also stressed the need to receive these comments at the earliest convenience to allow their submission to the November 2020 session of WP.29.

33. The expert from Sweden introduced GRSP-66-09, showing frontal impact testing at 40 per cent overlap against a barrier at 64 km/h. Conducted in May 2019 by his Administration, the test followed-up several fatal accidents in recent years and noted the increased popularity of motor caravans. He indicated that the crash test video was available in Swedish at:

https://youtu.be/JuNOarORALM.

Finally, GRSP agreed on the relevance of this topic and agreed to resume discussion after more information from the expert of Sweden.

XVII. UN Regulation No. 95 (Lateral collision) (agenda item 16)

Documentation: ECE/TRANS/GRSP/2019/30

Informal documents GRSP-66-25/Rev.1, GRSP-66-31 and GRSP-66-

33.

- 34. The expert from EC, on behalf of the task force (see para. 31) introduced ECE/TRANS/GRSP/2019/30 and amendment GRSP-66-25/Rev.1. GRSP adopted ECE/TRANS/GRSP/2019/30, as amended by Annex VII to this report. The secretariat was requested to submit the proposal as 04 series of amendments to UN Regulation No. 95, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.
- 35. The expert from Japan introduced GRSP-66-33 and referred to GRSP-66-31, both on agenda item 15 of paragraph 32 above proposed was alignment of the UN Regulation to UN GTR No. 20. GRSP agreed to resume discussion on this subject on the basis of a revised document provided by the expert from Japan.

XVIII. UN Regulation No. 100 (Electric power trained vehicles) (agenda item 17)

Documentation: ECE/TRANS/WP.29/GRSP/2019/17

Informal documents GRSP-66-31, GRSP-66-34 and GRSP-66-35

- 36. The experts from the Netherlands and OICA introduced ECE/TRANS/WP.29/GRSP/2019/17 which proposed functional safety requirements that focused on other categories of vehicles other than M_1 . GRSP agreed to defer discussion of this subject to its May 2019 session.
- 37. The expert from Japan as per agenda items 15 and 16, introduced GRSP-66-34 and GRSP-66-35 (consolidated version) on aligning UN Regulation No. 100 to the provisions of UN GTR No. 20. GRSP agreed to resume discussion on this agenda item at its May 2020 session.

XIX. UN Regulation No. 111 (Uniform provisions concerning the approval of tank vehicles of categories N and O with regard to rollover stability) (agenda item 18)

38. No new proposal was provided under this agenda item.

XX. UN Regulation No. 127 (Pedestrian safety) (agenda item 19)

Documentation: ECE/TRANS/WP.29/GRSP/2019/18

39. The expert from Germany introduced ECE/TRANS/WP.29/GRSP/2019/18 and referred to agenda item 3(b) (see paragraph 8 above): a clarification was proposed on the issue of pedestrian protection and variable suspensions. He added that since the vehicle height influenced the head-form test impact zone and the legform test, all possible vehicle heights up to a driving speed of 11.1 m/s (40 km/h) should be considered as relevant for impact with a pedestrian. GRSP acknowledged that the proposal affected both UN GTR No. 9 and UN Regulation No. 127 and agreed to defer discussion to its May 2020 session. At the same time, the expert from Germany was requested to devise transitional provisions to implement the proposed requirements.

XXI. UN Regulation No. 129 (Enhanced Child Restraint Systems) (agenda item 20)

Documentation: ECE/TRANS/WP.29/GRSP/2019/19

ECE/TRANS/WP.29/GRSP/2019/32 ECE/TRANS/WP.29/GRSP/2019/33 ECE/TRANS/WP.29/GRSP/2019/34 ECE/TRANS/WP.29/GRSP/2019/35 ECE/TRANS/WP.29/GRSP/2019/36

Informal documents GRSP-66-02, GRSP-66-10, GRSP-66-11, GRSP-

66-12, GRSP-66-13 and GRSP-66-28

- The expert from CLEPA introduced ECE/TRANS/WP.29/GRSP/2019/35 to clarify some requirements of the UN Regulation. He added that the same clarification should be introduced in all the other series of amendments including the original version: ECE/TRANS/WP.29/GRSP/2019/32, ECE/TRANS/WP.29/GRSP/2019/33 ECE/TRANS/WP.29/GRSP/2019/34. The expert from Spain introduced GRSP-66-02, to extend the requirements of a minimum breaking load to the webbing straps of all categories of integral enhanced child restraint systems, not only i-Size. She also explained that the proposal would clarify that integral belted Enhanced Child Restraint Systems (ECRS) categories should explicitly require testing of rear or lateral impact. The expert from Japan introduced GRSP-66-10 to correct the table of the injury assessment criteria. Finally, GRSP adopted ECE/TRANS/WP.29/GRSP/2019/32, ECE/TRANS/WP.29/GRSP/2019/33, ECE/TRANS/WP.29/GRSP/2019/34, all as amended by (GRSP-66-10) Annex VIII and ECE/TRANS/WP.29/GRSP/2019/35, as amended by (GRSP-66-10 and GRSP-66-02, paras. 6.7.4.3. to 6.7.4.3.4. excluded) annex VIII to this report. The secretariat was requested to submit ECE/TRANS/WP.29/GRSP/2019/32 as Supplement 10 to the original series of amendments, ECE/TRANS/WP.29/GRSP/2019/33 as Supplement 7 to the 01 series of amendments, ECE/TRANS/WP.29/GRSP/2019/34 as Supplement 6 to the 02 series of amendments and ECE/TRANS/WP.29/GRSP/2019/35 as Supplement 4 to the 03 series of amendments to UN Regulation No. 129, for consideration and vote at the June 2020 sessions of WP.29 and AC.1. Finally, agreed to resume discussion on a revised proposal (GRSP-66-02) tabled by the expert from Spain on minimum breaking load of the webbing straps (paras. 6.7.4.3. to 6.7.4.3.4.) as a new series of amendments, at its May 2020 session.
- 41. GRSP agreed to defer discussion on ECE/TRANS/WP.29/GRSP/2019/19 and amendment GRSP-66-28 to its May 2020 session. The expert from the Netherlands also withdrew ECE/TRANS/WP.29/GRSP/2019/36. The expert from CLEPA introduced three proposals: (a) to provide instructions to consumers in a digital form (GRSP-66-11), (b) on essential measurement information to be recorded in the type approval system (GRSP-66-12) and (c) to improve the procedure for assessment of the external dimensions of ECRS (GRSP-66-13). GRSP agreed to hold informal documents GRSP-66-11, GRSP-66-12 and GRSP-66-13 and wait for possible new documents at its May 2020 session.

XXII. UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles (HFCV)) (agenda item 21)

Documentation: Informal documents GRSP-66-05 and GRSP-66-40

42. The expert from the Netherlands introduced a presentation (GRSP-66-40) on a proposal (GRSP-66-05), aimed to identify hydrogen-fuelled buses which would be consistent

with already existing regulated identification for Liquid Petroleum Gas, Compressed Natural Gas and Liquid Natural Gas fuelled busses. GRSP agreed to defer discussion of this subject to its May 2020 session.

XXIII. UN Regulation No. 135 (Pole Side Impact) (PSI)) (agenda item 22)

43. No new proposal was provided under this agenda item.

XXIV. UN Regulation No. 136 (Electric Vehicles of category L (EV-L)) (agenda item 23)

44. No new information was provided under this agenda item.

XXV. UN Regulation No. 137 (Frontal impact with focus on restraint systems) (agenda item 24)

Documentation: ECE/TRANS/WP.29/GRSP/2019/37

Informal documents GRSP-66-29, GRSP-66-31 and GRSP-66-36

- 45. The expert from EC, on behalf of the task force (see paras. 32 and 34) introduced ECE/TRANS/GRSP/2019/37. GRSP adopted ECE/TRANS/GRSP/2019/37, not amended. The secretariat was requested to submit the proposal as Supplement 3 to the 01 series of amendments to UN Regulation No. 137, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.
- 46. The expert from Japan as per agenda items 15, 16 and 17 introduced a presentation (GRSP-66-29) to explain GRSP-66-36 on aligning UN Regulation No. 137 to the provisions of UN GTR No. 20. He added that his administration aimed to propose a new series of amendments with the chest deflection criterion limit of 34 mm of the female dummy in N₁ vehicles not exceeding 2.8 tons. GRSP agreed to resume discussion on this agenda item to its May 2020 session, awaiting comments from its experts on GRSP-66-36.
- 47. The expert from IMMA introduced GRSP-66-20 to explain the three-step approach for harmonization of (passive) safety requirements of bodied, heavy quadricycles (L_7). He added that the L_7 category of vehicles was too broad and suggested that a clear definition be established in the Consolidated Resolution on the Construction of Vehicles (R.E.3). He explained that some L_7 category of vehicles are very "car-like" in that they are equipped with a body and certain car features. He stated that his organization supports the proposal to include bodied heavy passenger L7-category vehicles into UN Regulation No. 137. However, he asked that as a first step, the existing, applicable legislation for bodied L_7 vehicles be harmonized worldwide (e.g. India, Republic of Korea, EU) to clarify key differences in the M_1 category of vehicles. Finally, GRSP agreed to resume discussion on this subject at its May 2020 session.

XXVI. UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size seating positions) (agenda item 25)

48. No new information was provided under this agenda item.

XXVII. Proposal for a new UN Regulation on the approval of vehicles, the safety of their High Voltage Systems, and Fuel Integrity in a Rear-End collision (agenda item 26)

Documentation: ECE/TRANS/WP.29/GRSP/2019/38

Informal document GRSP-66-04-Rev.1

49. The expert from EC, on behalf of the task force (see paras. 32, 34 and 45) introduced ECE/TRANS/WP.29/GRSP/2019/38 and amendment GRSP-66-04-Rev.1. The expert from EC clarified that an alternative test would be foreseen, though not specifically mentioned in the proposal: (a) American FMVSS, (b) CMVSS or (c) Korean KMVSS standard. He clarified that the proposed testing procedure could be considered as a "worst case". He also urged the adoption of the proposal for mandatory application as from July 2022 because of its revision to the General Safety Regulation of the EU. The expert from OICA stated that the time pressure from EC was understandable, however he expressed concerns with the severity of the "alternative" test method in comparison to the basic needs of the 1958 Agreement and that the method therefore could not be called "equivalent". He underlined that the goal of this alternative was to limit the number of tests to manufacturers, not to increase the severity. GRSP adopted ECE/TRANS/WP.29/GRSP/2019/38 as reproduced in Addendum this report and agreed leave to ECE/TRANS/WP.29/GRSP/2019/38 in square brackets awaiting the outcome of EVS IWG or GRSP deliberations at its May 2020 session. The secretariat was requested to submit ECE/TRANS/WP.29/GRSP/2019/38 as proposal for a new UN Regulation concerning the approval of vehicles with regard to fuel system integrity and safety of electric power train in the event of a rear-end collision, for consideration and vote at the June 2020 sessions of WP.29 and AC.1.

XXVIII. Mutual Resolution No. 1 (agenda item 27)

50. Discussion was concluded under agenda items 2, 3(a) and 5 (see paras. 6, 7 and 13).

XXIX. Securing of children in buses and coaches (agenda item 28)

Documentation: ECE/TRANS/WP.29/GRSP/2019/22

Informal documents GRSP-66-03 and GRSP-66-06

51. The expert from Spain, on behalf of IWG on safer transport of children in buses and coaches informed GRSP about the progress of the IWG (GRSP-66-06). He introduced ECE/TRANS/WP.29/GRSP/2019/22, as the first progress report and terms of reference of IWG. The expert from the Russian Federation introduced GRSP-66-03, to inform GRSP about the provisions adopted by his country to protect children transported on buses. The expert from the United States of America reiterated his offer to share information on this subject. Finally, GRSP adopted ECE/TRANS/WP.29/GRSP/2019/22 and requested the secretariat to submit it to the March 2020 session of WP.29 for information and receive endorsement of ToR to allow the group to continue the work according to the schedule.

XXX. Exchange of views on Vehicle Automation (agenda item 29)

Documentation: ECE/TRANS/WP.29/2019/34/Rev.1

52. The secretary of the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) informed GRSP about the progress of work of his group. The representative of the United States of America reminded GRSP about the framework document ECE/TRANS/WP.29/2019/34/Rev.1, endorsed by the World Forum, on priority topics for automated and connected vehicles. The expert from the United States of America reiterated that even though automated vehicles were different from conventional vehicles for many aspects, crashworthiness remained relevant and that the framework document would be implemented by related topics stemming from the activities of GRSP. The expert from Germany announced that a document showing passive safety priority topics would be presented at the May 2020 session of GRSP.

XXXI. Strategy of the Inland Transport Committee (agenda item 30)

Documentation: Informal document GRSP-66-43

53. The secretariat introduced GRSP-66-43 to inform GRSP that the Inland Transport Committee (ITC), at its eighty-first session in 2019, had adopted the ITC strategy until 2030 and its contents. He also added that ITC invited its subsidiary bodies to follow-up and align their work with the strategy, and requested the secretariat to take the necessary actions to promote the implementation of the strategy (ECE/TRANS/288, paras. 15 (a), (c) and (g)).

XXXII. Election of officers (agenda item 31)

54. In compliance with Rule 37 of the Rules of Procedure (TRANS/WP.29/690/Rev.1), GRSP called for the election of officers. The representatives of the contracting parties, present and voting, unanimously elected Mr. M. Koubek (United States of America) as Chair and Mr. H.G. Kim (Republic of Korea) as Vice-Chair for the sessions of GRSP scheduled in the year 2020.

XXXIII. Other business (agenda item 32)

A. Exchange of information on national and international requirements on passive safety

55. No new information was provided under this agenda item.

B. Definitions and acronyms in Regulations under GRSP responsibilities

56. No new information was provided under this agenda item.

C. UN Regulation No. 0 (International Whole Vehicle Type Approval)

Documentation: Informal documents WP.29-179-08 and GRSP-66-18

- 57. The expert from Japan, on behalf of the IWVTA Ambassador of GRSP, informed GRSP about IWVTA IWG progress and introduced WP.29-179-08 on the proposed list of UN Regulations applicable to IWVTA Phase 2 (2018 2022). The expert from Finland introduced GRSP-66-18 to promote the Database for the Exchange of Type Approval (DETA), on using DETA, and information for competent authorities and manufacturers. GRSP was requested to provide feedback at its May 2020 session. GRSP also noted that WP.29 had encouraged GRs to review the application of the Unique Identifier (UI) and markings, and to provide guidance on how to proceed (ECE/TRANS/WP.29/1149, para. 65) on the basis of:
- Option 1: Use UI and keep the installation marking and the information on the part.
- Option 2: Use UI only for the approval marking and provide open access to the communication document, which would also include the necessary installation marking. GRSP agreed to resume discussion on this subject at its May 2020 session.

D. Highlights of the March 2019 session of WP.29

58. The Secretary reported on the highlights of the 178th and 179th sessions of WP.29 (ECE/TRANS/WP.29/1147 and ECE/TRANS/WP.29/1149).

E. Three-dimensional H-point machine

59. GRSP agreed to defer discussion on this subject to its next session. However, the expert from OICA, requested more time at the May 2020 session of GRSP to discuss the way forward on this important topic.

F. Intelligent transport systems

60. No new information was provided under this agenda item.

G. Children left in cars

61. The expert from IC recalled the national law adopted by Italy to prevent this problem. He added that EuroNCAP would soon introduce protocols on this subject.

H. Priorities of work by GRSP

Documentation: Informal document GRSP-66-39-Rev.5

62. GRSP noted the request of WP.29 and of the Executive Committee of the 1998 Agreement to provide its priorities of work (ECE/TRANS/WP.29/1149, para. 127). This had been listed in GRSP-66-39-Rev.5 which GRSP agreed to transmit to the secretariat of WP.29 as had been requested of all GR Chairs.

I. Tributes

Documentation: Informal document GRSP-66-42

- 63. GRSP noted that Mr. J.W. Lee (Republic of Korea), Vice-Chair of GRSP, would no longer attend the sessions. His farewell letter was read by the expert from the Republic of Korea on his behalf (GRSP-66-42). GRSP commended the commitment of Mr. Lee as Vice-Chair of GRSP and his continued contributions during his years of participation in the sessions. GRSP wished Mr. Lee all the best in his future activities and recognized his commitment with a long applause.
- 64. GRSP also noted that Mr. H. Ammerlaan (the Netherlands) would retire and would no longer attend the sessions. GRSP acknowledged his commitment and continued contributions during his many years of participation in the sessions. GRSP wished Mr. Ammerlaan a long and happy retirement and recognized his commitments with a long applause.

XXXIV. Provisional agenda for the next session (agenda item 33)

Documentation: Informal document GRSP-66-44

- 65. The sixty-seventh session is scheduled to be held in Geneva from 11 May (2.30 p.m.) to 15 May (12.30 p.m.) 2020. GRSP noted that the deadline for the submission of official documents to the secretariat is 14 February 2020, twelve weeks prior to the session. Referring to GRSP-66-39-Rev.5 (see para. 61), GRSP agreed to the following provisional agenda (GRSP-66-44):
- 1. Adoption of the agenda.
- 2. UN Global Technical Regulation No. 9 (Pedestrian safety):
 - (a) Proposal for Amendment 3;
 - (b) Proposal for Amendment 4.
- 3. UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cell Vehicles).
- 4. UN Global Technical Regulation No. 20 (Electric vehicle safety).
- 5. UN Regulation No. 16 (Safety-belts).
- 6. UN Regulation No. 17 (Strength of seats).
- 7. UN Regulation No. 22 (Protective helmets).
- 8. UN Regulation No. 80 (Strength of seats and their anchorages (buses)).
- 9. UN Regulation No. 94 (Frontal collision).

- 10. UN Regulation No. 95 (Lateral collision).
- 11. UN Regulation No. 100 (Electric power-train vehicles).
- 12. UN Regulation No. 127 (Pedestrian safety).
- 13. UN Regulation No. 129 (Enhanced Child Restraint Systems).
- 14. UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles).
- 15. UN Regulation No. 137 (Frontal impact with focus on restraint systems).
- 16. Mutual Resolution No. 1.
- 17. Securing of children in buses and coaches.
- 18. Exchange of views on vehicle automation.
- 19. Other business:
 - (a) Exchange of information on national and international requirements on passive safety;
 - (b) UN Regulation No. 0 (International Whole Vehicle Type Approval);
 - (c) Highlights of the March 2020 session of WP.29;
 - (d) Three-dimensional H-point machine;
 - (e) Intelligent transport systems;
 - (f) Children left in cars.

Annex I

[English only]

List of informal documents (GRSP-66-...) distributed without an official symbol during the session

No.	Transmitted by	Agenda item	Language	Title	Follow- up
01	GRSP/Chair	1	Е	Running order of the session	(d)
02	Spain	20	E	Proposal for Supplement 4 to the 03 series of amendments to UN Regulation No. 129	
03	Russian Federation	28	E	Buses for carrying children	(d)
04/ Rev.1	EC	26	E	Amendment to ECE/TRANS/WP.29/GRSP/2019/38	(a)
05	The Netherlands	21	E	Proposal for supplement 4 to UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles)	(c)
06	Spain	28	E	Status Report of the IWG on Safer Transport of Children in Buses and Coaches (IWG-STCBC)	(d)
07	Finland	14	E	Seat back according to UN Regulation No. 80	(a)
08	Finland	8	E	Equipping seats with three-point belt according to UN Regulation No. 16	(a)
09/ Rev.1	Sweden	28	E	Crash test on motor caravans	(a)
10	Japan	20	E	Proposal for Corrigendum 4 to 00 Series Corrigendum 1 to 01 Series, Corrigendum 1 to 02 Series, Corrigendum 2 to 03 Series of amendments of UN Regulation No. 129 (Enhanced Child Restraint Systems)	1 3
11	CLEPA	20	E	Supplement 4 to the 03 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems)	` '
12	CLEPA	20	Е	Supplement 4 to the 03 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems) Type Approval test report)
13	CLEPA	20	Е	Supplement 4 to the 03 series of amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems) Type Approval test report - Dimensional measurement assessments) -

No.	Transmitted by	Agenda item	Language	Title	Follow- up
14	EC	8	Е	Proposal of amendment to ECE/TRANS/WP.29/GRSP/2019/15	(c)
15/ Rev.1	GRSP Chair	1	E	GRSP 66th session - Internal annotations to the agenda	(a)
16	Secretariat	7	E	Supplement 1 to the 09 series of amendments to UN Regulation No. 14 (Safety-belt anchorages)	(d)
17	OICA	8	Е	Draft Supplement 6 to the 07 series of amendments and draft Supplement 1 to the 08 series of amendments of UN Regulation No. 16 (Safety-belts)	(b)
18	DETA/IWG	32(c)	Е	Database for the Exchange of Type Approval documentation (DETA)	(a)
19	Poland	13	E	Evaluation of real scientific data about new CRS available on the market so called "belt guide" vs other approved CRS	(a) S
20	IMMA	24	E	Three-step approach for Harmonisation of(passive) safety requirements under GRSP of bodied, heavy quadricycles (L7)	(a)
21	Reg.22/IWG	10	E	Proposal for the 06 series of amendments of UN Regulation No. 22 (Protective helmets)	(d)
22	Reg.22/IWG	10	Е	Proposal for the 06 series of amendments of UN Regulation No. 22	(a)
23	DPPS/IWG	3(b)	E	Status report of the IWG	(a)
24	Japan	9	Е	Proposal for amendments to ECE/TRANS/WP.29/GRSP/2019/27 (the 10 series of amendments to UN Regulation No. 17 (Strength of seats))	(b)
25/ Rev.1	EC	16	E	Proposal for the 04 series of amendments to UN Regulation No. 95 (Lateral collision)	(d)
26	Japan, NL& EC	9	E	Proposal for the 10 series of amendments to UN Regulation No. 17 (Strength of seats) - Amending GRSP/2019/27	(a)
27	CLEPA	19	E	Proposal for the 10 series of amendments to UN Regulation No. 17 (Strength of seats) - Amending GRSP/2019/27	(a)
28	Japan	20	E	Proposal for Supplement 3 to 03 Series of amendments of Regulation No. 129 (Enhanced Child Restraint Systems)	(c)
29	Japan	24	Е	Japan's position on series of amendments of UN Regulation No. 137	(a)
30	Spain	13	E	Positioning and securing on the vehicle	(a)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
31	Japan	15, 16, 17 & 24	Е	Transposition of GTR20 (EVS-GTR) to UN Regulations	(a)
32	Japan	15	Е	Proposal for to the 04 series of amendments of Regulation No. 94 – protection of the occupants in the event of a frontal collision	(a)
33	Japan	16	Е	Proposal for to the 05 series of amendments of Regulation No. 95 protection of the occupants in the event of a lateral collision	-
34	Japan	17	E	Proposal for the 03 series of amendments to UN Regulation No. 100 (Specific requirements for the electric power train)	
35	Japan	17	Е	Proposal for the 03 series of amendments to UN Regulation No. 100 (Specific requirements for the electric power train)—Consolidated document	;
36	Japan	24	Е	Proposal for to the 02 series of amendments of UN Regulation No. 137 – frontal collision with focus on the restraint system	(a)
37	EC, IC & ANEC	13	E	Proposal for Supplement 18 to the 04 series of amendments to UN Regulation No. 44 (Child Restraint Systems)	(d)
38	Japan	13	E	Research of Belt Guide Device	(a)
39/ Rev.5	(EU, USA, France, Japan, Sweden, Korea, OICA)	32(h)	Е	Work by GRs – Priorities and recurrent items	(c)
40	NL	21	E	Labelling proposal UN Regulation No. 134 - Hydrogen vehicles	(a)
41	Germany	2	Е	Introduction to Revision of GTR 7 Formal Document ECE/TRANS/WP.29/GRSP/2019/26	(a)
42	Korea	32(i)	E	Farewell letter of Mr. Jae Wan Lee	(a)
43	Secretariat	30	E	ITC Strategy 2030 - Special focus: Draft ITC Recommendations for enhancing National Road Safety	(a)
44	GRSP Chair	33	E	Provisional agenda for the next session	(a)

Notes:

- (a)
- (b)
- Consideration completed or superseded.
 Continue consideration at the next session with an official symbol.
 Continue consideration at the next session as an informal document. (c)
- Adopted and to be submitted to WP.29. (d)

Annex II

Draft amendments to UN Regulation No. 14 (Safety-belt anchorages)

Adopted text based on GRSP-66-16 (see paragraph 16 of this report)

Annex 6, key to symbols 3: amend to read:

"Annex 6

..

3: Two lower anchorages and one upper anchorage which allow the installation of a three-point safety-belt type A, or of safety-belts types Ar, Ar4m or Ar4Nm, where required by **UN Regulation No. 16, Annex XVI**."

..

Annex III

Draft amendments to UN Regulation No. 22 (Protective helmets)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/25 (see paragraph 23 of this report)

Paragraph 2.7., amend to read:

"2.7. "lower face cover (**chin guard**)" means a detachable, movable or integral (permanently fixed) part of the helmet covering the lower part of the face;"

Paragraph 2.23., amend to read:

"2.23. "trade mark" means the trade name which is used by the manufacturer or by the holder of the manufacturer's name or by their duly accredited representative and declared on the approval certificate to mark the helmet or the visor."

Paragraph 2.24., amend to read:

"2.24. "HPI **Helmet** Position Index" means..."

Paragraph 4.4., amend to read:

"4.4. The marking **shall be clearly** legible, **resistant to wear** and in readily accessible place."

Paragraph 5.1.4.1.2.1., amend to read:

"5.1.4.1.2.1. A slash and symbol:

...

"NP" if the helmet has a **detachable or movable** non protective lower face cover.

..."

Paragraph 5.1.4.1.4., amend to read:

"5.1.4.1.4. The marking on the helmet and, if appropriate, lower face cover shall be clearly **legible and resistant** to wear."

Paragraph 5.1.4.1.5., amend to read:

"5.1.4.1.5. The **marking** can also include, not in alternative, a bar or QR code for digital reading."

Paragraph 5.1.12., amend to read:

"5.1.12. The **approval marks** referred to in paragraph 5.1.9. above shall be clearly legible and resistant to wear."

Paragraph 5.1.14., shall be deleted

Paragraph 5.2.5., the note, amend to read:

"5.2.5.

Note:

An ultra-destructive marking can also be an acceptable marking on the visors."

Insert new paragraphs 5.3. and 5.3.1., to read:

"5.3. Approval of a Sun Shield

5.3.1. Where the sun shield meets the requirements of this UN Regulation, it shall be marked. The marking shall be reported on the Approval Certificate of the helmet where it is installed."

Paragraph 6.2.2., the note, amend to read:

"6.2.2. ...

Note: this symbol or indication must **be** visible and extend over at least 2 cm²"

Paragraph 6.16.3.4., amend to read:

"6.16.3.4. Visors shall have a luminous transmittance τv ≥ 80 per cent, relative to the standard illuminant D65. A luminous transmittance 80 per cent > τv ≥ 35 per cent – or 20 per cent only in case of photochromic and/or liquid crystal visor—, measured by the method given in paragraph 7.8.3.2.1.1. ... When describing the transmittance properties of photochromic, liquid crystal or equivalent visors, two values are to be considered: one corresponds to the faded state, the other to the darkened state...

. . .

Note: this symbol or indication must **be** visible and extend over at least 1 cm²"

Paragraph 7.3.1.3.1., amend to read:

"7.3.1.3.1. ... When testing impact points B, X, P, R **and extra points** the helmet is tipped towards the rear so that the ..."

Paragraph 7.3.1.3.5., amend to read:

"7.3.1.3.5. ...No helmet shall be modified from its original specification as manufactured. Accessories must be fitted in accordance with the helmet manufacturer's instructions. Only accessories tested during the type approval procedure of the helmet keep the type approval valid."

Paragraph 7.3.1.4., amend to read:

"7.3.1.4. The test shall be completed in not more than five minutes after the helmet is taken from the conditioning chamber.

Tests at point S shall be carried out after tests at points B, X, P and R. For the extra point the sequence is at the choice of the technical service.

. . .

On the helmet on its base configuration:

8.2 (+ 0.15/- 0.0) m/s for linear high energy, only flat anvil shall be used 6.0 (+ 0.15/-0.0) m/s for linear low energy, both anvils may be used."

Paragraph 7.3.3.4., Table 1., amend to read:

"Table 1

. . .

argest Siş	e specif	ied (cu	ný .										
	50	51	52	53	54	55	56	57	58	59	60	61	62
50	A	A	C										
51		A	C	C									
52			C	C	E								
₽ 53				C	E	E							
g 54					E	E	E						
55						E	E	J					
56							E	J	J				
57								J	J	J			
53 54 55 55 56 57 58									J	J	M		
59										J	M	M	
60											M	M	0
61												M	0
62													0

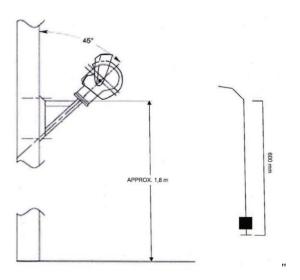
Paragraph 7.3.4.2.1., amend to read:

"7.3.4.2.1. ...

Impacts points should be within 10 mm radius of the defined point."

Paragraph 7.4.3.3., the Figure, amend to read:

"



Paragraph 7.8.2.2., amend to read:

"7.8.2.2. The test apparatus used shall be as described in paragraph 7.8.2.2.1., the metal punch being placed in contact with the visor in the vertical symmetrical plane of the **headform.** The apparatus ..."

Paragraph 7.9.1.1., amend to read:

"7.9.1.1. Prior to any type of further conditioning **for optical** test, as specified in paragraph 7.9.1., ..."

Insert new paragraph 8.2., to read:

"8.2. Each technical service shall store the raw data of test paragraph 7.13. to make them available for the approval authority for the purpose of improvement of the regulation at a later stage."

Annex 2 B, amend to read:

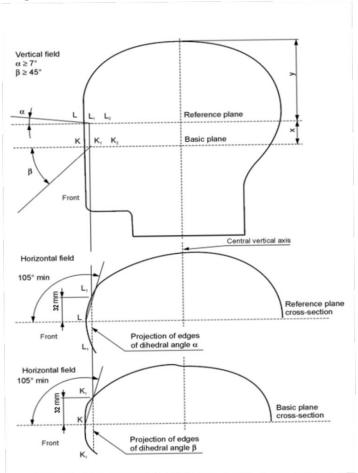
"Annex 2B

...The approval number shows that approval was granted in accordance with the requirements of the Regulation incorporating the 05 06 series of amendments at the time of approval and that its production serial number is 1952..."

Annex 4, Figure 2A, amend to read:

"Figure 2A

Peripheral vision



Annex 7,

Paragraph 2.3., Table 1, amend to read:

"2.3. Mass, Centrum of Gravity (CoG) and Moment of Inertia (MOI)

Table 1

Properties of the headforms

The headform inertia matrix of reference for the homologation is according to Table 1 (principal directions only, with regards to the centre of gravity):

Headform			lxx [Kg cm"]	lyy [Kgcm")	lzz [Kg cm²")
denomination	Circumference [mm)	Mass [Kg)	(±5%)	(±5%)	(±5%)
A	495.	3.1 (± 0.10)	142.2	166.6	95.0
C	515'	$36 (\pm 0.10)$	172.6	203.3	113.2
E	535⋅	$4.1 (\pm 0.12)$	202.9	238.6	141.3
J	575⋅	$4.7 (\pm 0.14)$	264.0	318.3	193.1
M	605'	5 6 (± 0.16)	337.4	402.7	252.7
0	625'	$6.1 (\pm 0.18)$	383.6	461.1	293.5

Tolerances according to UN 960:2006

Note: X axis => rear to nose - Y axis => ear to ear - Z axis => vertical"

Paragraph 2.7., amend to read:

"2.7. **The headform** shall be positioned so that the head form bottom plan is horizontal."

Paragraph 3.1., amend to read:

"3.1. Principle

...in accordance to **HPI** (helmet positioning index) provided by the manufacturer, ..."

Paragraph 3.2.3., amend to read:

"3.2.3. Guidance system and helmet carrier

. . .

The guidance system shall be attached to the helmet carrier that keeps maintains the headform and the helmet in its initial position during the raise and drop of the head form/helmet assembly by limiting the rotation to a maximum of 5 degrees.

The helmet carrier shall not affect the head form/helmet assembly during the impact meaning no less than 30 ms from initial contact between helmet and anvil."

Annex 17, paragraph 2.2., amend to read:

"2.2. Propulsion equipment

The apparatus shall be capable of imparting known speeds of up **to 80** m/s to a 6 mm nominal diameter steel ball of 0,86 g minimum mass. ..."

Insert new Annex 19, to read

"Annex 19

GUIDELINE

A - Sampling

Helmet configuration 1:

Shell 1: L(59-60), XL(61-62), XXL(63-64)

Shell 2: XS(53-54), S(55-56), M(57-58)

Approval test sampling:

- -2 samples XXL(63-64) for Rigidity test of the shell 1
- -5 samples XXL(63-64) for Impact Absorption
- -2 samples XXL(63-64) for Oblique impact test
- -1 sample XL(61-62) for checking coverage area and field of vision requirements
- -2 samples of the shell 1 size chosen as worst case for Extra point
- -2 samples of the shell 1 size chosen as worst case for High/Low energy Impact
- -2 samples L(59-60) for Impact Absorption
- -1 sample L(59-60) for retention system tests (Detaching + Dynamic test)
- -1 sample M(57-58) for Projection and surface friction (This sample is chosen to representative of both shells)
- -2 samples M(57-58) for Rigidity test of the shell 2
- -5 samples M(57-58) for Impact Absorption
- -2 samples M(57-58) for Oblique impact test
- -1 sample S(55-56) for checking coverage area and field of vision requirements
- -2 samples of the shell 2 size chosen as worst case for Extra point
- -2 samples of the shell 2 size chosen as worst case for Hi/Low energy Impact
- -2 samples XS(53-54) for Impact Absorption
- -1 sample XS(53-54) for retention system tests (Detaching + Dynamic test)

Total samples: 35

Production Qualification test sampling:

- -20 samples XXL(63-64) for Impact Absorption Shell 1
- -20 samples M(57-58) for Impact Absorption Shell 2
- -10 samples L(59-60) for Dynamic retention system test Shell 1
- -10 samples XS(53-54) for Dynamic retention system test Shell 2

Total samples: 60

Remarks:

-If there are more than one buckle must be added 10 samples of each shell for each different buckle.

Helmet configuration 2:

Shell 1: XL(61-62), XXL(63-64)

Shell 2: M(57-58), L(59-60)

Shell 3: XS(53-54), S(55-56)

Approval test sampling:

- -2 samples XXL(63-64) for Rigidity test of the shell 1
- -5 samples XXL(63-64) for Impact Absorption
- -2 samples XXL(63-64) for Oblique impact test
- -2 samples of the shell 1 size chosen as worst case for Extra point
- -2 samples of the shell 1 size chosen as worst case for High/Low energy Impact
- -1 sample XL(61-62) for retention system tests (Detaching + Dynamic test)
- -1 sample M(57-58) for Projection and surface friction (This sample is chosen to representative of all shells) -2 samples L(59-60) for Rigidity test of the shell 2
- -5 samples L(59-60) for Impact Absorption
- -2 samples L(59-60) for Oblique impact test
- -2 samples of the shell 2 size chosen as worst case for Extra point
- -2 samples of the shell 2 size chosen as worst case for Hi/Low energy Impact
- -2 samples M(57-58) for Impact Absorption
- -1 sample M(57-58) for retention system tests (Detaching + Dynamic test)
- -2 samples S(55-56) for Rigidity test of the shell 3
- -5 samples S(55-56) for Impact Absorption
- -2 samples S(55-56) for Oblique impact test
- -2 samples of the shell 3 size chosen as worst case for Extra point
- -2 samples of the shell 3 size chosen as worst case for Hi/Low energy Impact
- -1 sample XS(53-54) for retention system tests (Detaching + Dynamic test)

Total samples: 45

Production Qualification test sampling:

- -20 samples XXL(63-64) for Impact Absorption Shell 1
- -20 samples M(57-58) for Impact Absorption Shell 2
- -20 samples S(55-56) for Impact Absorption Shell 3
- -10 samples XL(61-62) for Dynamic retention system test Shell 1
- -10 samples M(57-58) for Dynamic retention system test Shell 2
- -10 samples XS(53-54) for Dynamic retention system test Shell 3

Total samples: 90

Helmet configuration 3:

Shell 1: XS(53-54), S(55-56), M(57-58), L(59-60), XL(61-62), XXL(63-64)

Approval test sampling:

- -2 samples XXL(63-64) for Rigidity test
- -5 samples XXL(63-64) for Impact Absorption
- -2 samples XXL(63-64) for Oblique impact test
- -1 sample XL(61-62) for checking coverage area and field of vision requirements
- -2 samples size chosen as worst case for Extra point
- -2 samples size chosen as worst case for Hi/Low energy Impact
- -2 samples L(59-60) for Impact Absorption
- -1 sample M(57-58) for Projection and surface friction
- -2 samples M(57-58) for Impact Absorption
- -1 sample S(55-56) for checking coverage area and field of vision requirements
- -2 samples XS(53-54) for Impact Absorption
- -1 sample XS(53-54) for retention system tests (Detaching + Dynamic test)

Total samples: 23

Production Qualification test sampling:

- -20 samples XXL(63-64) for Impact Absorption
- -10 samples XS(53-54) for Dynamic retention system test

Total samples: 30

Annex IV

Draft amendments to UN Regulation No. 42 (Front and rear protection devices)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/31 (see paragraph 25 of this report)

Paragraph 6.1.5., amend to read:

"6.1.5. The vehicle's ...

This requirement does not apply to sensors, cameras, radar devices, etc. being part of driver assist **systems. They** may become damaged, disoriented or broken due to an impact carried out according to Annex 3 as long as the basic braking and steering performance are still intact."

Annex V

Draft amendments to UN Regulation No. 44 (Child Restraint Systems)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/23 (see paragraph 26 of this report)

Insert new paragraphs 17.22. to 17.25., to read:

- "17.22. As from 1 September 2021, Contracting Parties applying this UN Regulation shall not be obliged to accept type approvals issued according to this UN Regulation, first issued after 1 September 2021.
- 17.23. Until 1 September 2023, Contracting Parties applying this UN Regulation shall accept type approvals issued according to the 04 series of amendments to this UN Regulation, first issued before 1 September 2021.
- 17.24. As from 1 September 2023, Contracting Parties applying this UN Regulation shall not be obliged to accept type approvals issued in accordance with this UN Regulation.
- 17.25. Notwithstanding paragraph 17.24., Contracting Parties applying this UN Regulation shall continue to accept type approvals of vehicle specific "built in" or specific vehicle "built in" child restraint systems issued according to the 04 series of amendments to this UN Regulation."

Annex VI

Draft amendments to UN Regulation No. 94 (Frontal collision)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/29 (see paragraph 31 of this report)

Paragraph 5.3.1., amend to read:

"5.3.1. Vehicles of category $M_1 \dots$

...

(b) or the ratio between the distance from the driver's R-point to the centre of the rear axle (L101-L114) and the centre of the front axle and the driver's R-point (L114) is more than **1.30** (see figure 4 below)."

Paragraph 5.3.2., amend to read:

"5.3.2. Vehicles of category N1 ...

...

(b) or the ratio between the distance from the driver's R-point to the centre of the rear axle (L101-L114) and the centre of the front axle and the driver's R-point (L114) is more **1.30** (see figure 4 below)."

Annex VII

Draft amendments to UN Regulation No. 95 (Lateral collision)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/30 (see paragraph 34 of this report)

Paragraph 5.2.1.5., shall be deleted

Paragraph 5.3.3.1., amend to read:

"5.3.3.1. open at least one door ...other tools.

For vehicles of category N1 this evacuation may be done via an emergency window if this window can be easily opened, but if tools are necessary, (e.g. for breaking the window) these tools shall then be provided by the manufacturer and shall be visible and located in close proximity to that emergency window.

This shall be ..., when applicable."

Paragraphs 10.13. to 10.17., amend to read:

- "10.13. As from the official date of entry into force of the 04 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 04 series of amendments.
- 10.14. As from **5 July 2022**, Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the preceding series of amendments, first issued after **5 July 2022**.
- 10.15. Until **5 July 2024**, Contracting Parties applying this Regulation shall accept type approvals to the preceding series of amendments, first issued before **5 July 2022**.
- 10.16. As from **5 July 2024**, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments to this Regulation.
- 10.17. Notwithstanding paragraph 10.16., Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the preceding series of amendments to this Regulation, for the vehicles which are not affected by the changes introduced by the 04 series of amendments."

Annex VIII

Draft amendments to UN Regulation No. 129 (Enhanced Child Restraint Systems)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/32 (see paragraph 40 of this report)

Paragraph 6.6.4.3.1., amend to read:

"6.6.4.3.1. Injury assessment criteria for frontal and ...

Resultant head acceleration 3 ms	 	 	 	
Resultant chest acceleration 3 ms	 	 	 	

..."

Paragraph 6.6.4.4.2., amend to read:

"6.6.4.4.2. When Enhanced Child Restraint Systems ..., the head performance criterion (HPC) and the **resultant** head acceleration 3 ms shall be ... "

Amend Paragraph 6.6.4.5.2. to read:

" 6.6.4.5.2. Additional injury assessment criteria for lateral impact

. . .

Resultant head acceleration 3 ms	 								

... "

Paragraph 8.1., amend to read:

[&]quot; 8.1. The test report shall record the results of all tests and measurements including the following test data:

(a) ...

. . .

(i) The following dummy criteria: HPC, **Resultant** head acceleration Cum 3 ms, Upper neck tension force, Upper neck moment, **Resultant** chest acceleration Cum 3 ms, Chest deflection, Abdominal pressure (in frontal and rear impact), and ..."

ECE/TRANS/WP.29/GRSP/2019/33, ECE/TRANS/WP.29/GRSP/2019/34 (see paragraph 40 of this report)

Paragraph 6.6.4.3.1., amend to read:

"6.6.4.3.1. Injury assessment criteria for frontal and ...

	 	 		•••			
Resultant head acceleration 3 ms	 	 					
Resultant chest acceleration 3 ms	 	 					

..."

Paragraph 6.6.4.4.2., amend to read:

"6.6.4.4.2. When Enhanced Child Restraint Systems ..., the head performance criterion (HPC) and the **resultant** head acceleration 3 ms shall be ... "

Amend Paragraph 6.6.4.5.2. to read:

" 6.6.4.5.2. Additional injury assessment criteria for lateral impact

• • •

Resultant head acceleration 3 ms	 								

... "

Paragraph 8.1., amend to read:

- " 8.1. The test report shall record the results of all tests and measurements including the following test data:
 - (a) ...

...

(i) The following dummy criteria: HPC, **Resultant** head acceleration Cum 3 ms, Upper neck tension force, Upper neck moment, **Resultant** chest acceleration Cum 3 ms, Chest deflection, Abdominal pressure (in frontal and rear impact), and ..."

Paragraph 9.2.2., amend to read:

"9.2.2. Dynamic tests for lateral impact

The monitoring of **resultant** head acceleration ... "

Amendments adopted to ECE/TRANS/WP.29/GRSP/2019/35 (see paragraph 40 of this report)

Paragraph 5.3., amend to read:

"5.3. Notice of approval or of extension or refusal of approval of an Enhanced Child Restraint Systems pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in Annex 1 to this Regulation."

Paragraph 6.6.4.3.1., amend to read:

"6.6.4.3.1. Injury assessment criteria for frontal and ...

	 	 	 •••	
Resultant head acceleration 3 ms	 	 	 	
Resultant chest acceleration 3 ms	 	 	 	

..."

Paragraph 6.6.4.4.2., amend to read:

"6.6.4.4.2. When Enhanced Child Restraint Systems ..., the head performance criterion (HPC) and the **resultant** head acceleration 3 ms shall be ... "

Amend Paragraph 6.6.4.5.2. to read:

" 6.6.4.5.2. Additional injury assessment criteria for lateral impact

. . .

Resultant head acceleration 3 ms	 	 	 	

... "

Paragraph 7.1.3., amend to read:

- "7.1.3. Dynamic testing for frontal, rear and lateral impact:
 - (a) Frontal impact tests shall be performed on all Enhanced Child Restraint Systems within the scope of this regulation.
 - (b) Rear impact tests shall be performed on all Rearward and Lateral facing Enhanced Child Restraint Systems within the scope of this regulation;
 - (c) Lateral impact tests are shall be performed on all Enhanced Child Restraint Systems within the scope of this regulation, except builtin systems and booster cushions;
 - (d) The ECRS shall ..."

Paragraph 8.1., amend to read:

- " 8.1. The test report shall record the results of all tests and measurements including the following test data:
 - (a) ...

. . .

(i) The following dummy criteria: HPC, **Resultant** head acceleration Cum 3 ms, Upper neck tension force, Upper neck moment, **Resultant** chest acceleration Cum 3 ms, Chest deflection, Abdominal pressure (in frontal and rear impact), and ..."

Paragraph 9.2.2., amend to read:

"9.2.2. Dynamic tests for lateral impact

The monitoring of **resultant** head acceleration ... "

Annex IX

[English only]

List of GRSP informal working groups

		Expiry date of the mandate		
Informal working group	Chair	[pending WP.29 decision]	Secretary	
Harmonized side impact dummies	Mr. David SUTULA (USA) Phone: +1 202 366 32 73 Fax: +1 202 493 29 90 Email: david.sutula@dot.gov	Suspended		
Head Restraints (GTR7-Phase 2)	Mr. Bernard FROST (UK) Phone: +44(0)207 9442107 Fax: +44(0)207 9449623 Email: bernie.frost@dft.gsi.gov.uk	Dissolved	OICA	
UN GTR No. 9 on	Mr. Jin Seop PARK (Republic of Korea)	June 2020	OICA	
Pedestrian Safety Deployable – Pedestrian Protection Systems (DPPS)	Email: jspark@kotsa.or.kr			
UN GTR No. 20 (EVS) – Phase 2	` '		Japan	
	Phone: +1 202 366 4026 Email: martin.koubek@dot.gov			
Three-dimensional H-point machine	Mr. Luis MARTINEZ (Spain) Phone: +34 91 336 53 00 Fax: +34 91 336 53 02 Email: luis.martinez@upm.es	[]		
UN GTR No. 13 (HFCV) – Phase 2	Mr. Martin KOUBEK (USA)(co-chaired by Japan and vice-chaired by China and Republic of Korea) Phone: +1 202 366 4026 Email: martin.koubek@dot.gov	December 2020	[]	
Protective helmets	Mr. Luca ROCCO Phone: +39 06 4158 3268 Fax: +39 06 4158 3253 Email: luca.rocco@mit.gov.it	Suspended		
Securing children in buses and coaches	Ms. Marta ANGLES Phone: +34 977 166 020 Fax: ++34 977 166 009 Email: mangles@idiada.com]	March 2023		