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**Working Party on Passive Safety** 

Sixty-ninth session

Geneva, 17–21 May 2021 (online)

### **Report of the Working Party on Passive Safety** on its sixty-ninth session

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### I. Attendance

- The Working Party on Passive Safety (GRSP) virtually held its sixty-ninth session from 17 to 21 May 2021 in Geneva. The meeting was chaired by Mr. Martin Koubek (United States of America). Experts from the following countries participated in the work following Rule 1(a) of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/690/Rev.1): Belgium, Canada, China, Czechia, Finland, France, Germany, India, Israel, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland, United States of America. The European Commission (EC) participated. Experts from the following non-governmental organizations participated: International Motor Vehicle Inspection Committee (CITA), Consumers International (CI), European Association for the Coordination of Consumer Representation in Standardization (ANEC), European Association of Automotive Suppliers (CLEPA), EuroMed Transport Support Project, Federation International de l'Automobile (FIA), Federation Internationale de Motocyclisme (FIM), Global New Car Assessment Programme (Global NCAP), International Association of the Body and Trailer Building Industry (CLCCR), International Motorcycle Manufacturers Association (IMMA), International Organization of Motor Vehicle Manufacturers (OICA) and World Bicycle Industry Association (WBIA).
- 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/2021/1

Informal documents GRSP-69-12, GRSP-69-27 and GRSP-69-33-

Rev.1

3. GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2021/1) proposed for the sixty-ninth session, the running order (GRSP-69-27), virtual meeting guidelines (GRSP-69-12) and the annotations (GRSP-68-33-Rev.1). GRSP informal working groups are listed in Annex XI of this report.

# III. UN Global Technical Regulation No. 9 (Pedestrian safety) (agenda item 2)

### A. Proposal for Amendment 3

Documentation: ECE/TRANS/WP.29/GRSP/2021/53 and

ECE/TRANS/WP.29/GRSP/2021/54

ECE/TRANS/WP.29/AC.3/31

Informal documents GRSP-65-17 and GRSP-69-43-Rev.1

4. GRSP Chair, informed GRSP of the discussion held at the March 2021 session of the Executive Committee of the 1998 Agreement (AC.3) (see ECE/TRANS/WP.29/1157, paras. 143 to 148). GRSP Chair recalled GRSP that AC.3 agreed to defer vote under this agenda item to its June 2021 session pending further discussions concerning the proposal for Amendment 3 to UN Global Technical Regulation (UN GTR) No. 9 at the next session of GRSP, scheduled to take place in May 2021. He also reminded that AC.3 requested GRSP to give highest priority to the task and to report back to AC.3 and WP.29 with the greatest urgency on the progress towards a resolution of outstanding matters in this context. He continued that to that end, he had contacted the concerned Contracting Parties including AC.3 Chair and the GRSP Secretary, to meet at the earliest possible date and asked the new expert representing the United States of America to report on the developments since WP.29. The expert of the United States of America informed GRSP about the meeting of the interested experts held virtually on April 23, when especially the experts from the United States of

GRSP experts participated remotely. Simultaneous interpretation was available into the official UNECE languages.

America and Germany, presented on the findings and conclusions of their respective experts. It was agreed that more discussions are warranted and with inclusion of the industry. During that time, United States of America and Germany continued the dialogue and exchanges of views and technical information to find a solution. She also added that experts met on Monday, May 17, just prior to GRSP meeting and agreed to establish as soon as possible a task force to solve the issue between the May and December 2021 GRSP sessions. She assumed that the first meeting of the task Force would be held on June 14 and that most likely a proposal would be ready by the GRSP meeting in December 2021. The experts from Germany, EC, Canada, United Kingdom of Great Britain and Northern Ireland, Japan, the Netherlands, and Republic of Korea, supported the United States of America approach and underlined the relevance of timing. The expert from the United States of America proposed to include other relevant issues in the programme of work of the Task Force. The expert from OICA stressed the importance not to delay the finalisation of the extension of the impact zone, explaining that this is urgently needed due to the European Union requirements of the General Safety Regulation which are already decided in general (including the application dates), but which are currently under development in the framework of UN Regulation N° 127. He feared that, if such topics are referred back to GTR N°9, then the deadlines would not be respected, creating for industry a legal void. The experts from the Netherlands and the United States of America introduced GRSP-69-43-Rev.1 amending the previous authorization to develop Amendment 3 (ECE/TRANS/WP.29/AC.3/31). GRSP recommended on provisional basis ECE/TRANS/WP.29/AC.3/31/Rev.1, as reproduced in Annex II to this report, to provide a revised request of authorization of work to finalize Amendment 3 to UN GTR No. 9 (Pedestrian safety) for consideration to the June 2021 session of AC.3. To ensure the work proceeds in a timely manner, GRSP agreed to establish a Task Force, and it was recommended to withdraw the current proposed Amendment 3 from consideration and vote at the June 2021 session of AC.3. Moreover, GRSP agreed to forward (ECE/TRANS/WP.29/GRSP/2019/18, agenda item 11 ECE/TRANS/WP.29/GRSP/2020/9 and GRSP-69-21-Rev.1) to the TF for consideration (see para. 20 below).

5. Concerning the issue of different heights of the vehicle from adjustable suspension systems, the expert from Germany withdrew GRSP-65-17 and informed GRSP that a revised proposal would be submitted at the December 2021 session.

### B. Proposal for Amendment 4

Documentation: Informal document GRSP-69-20

The expert from the Republic of Korea introduced GRSP-69-20, providing the progress report of the Informal Working Group on Deployable Pedestrian Protection Systems (IWG-DPPS). He confirmed his previous statement at the December 2020 session of GRSP that due to the limitation caused by the COVID-19 pandemic, the IWG had still open issues and the finalization of a proposal would be expected by May 2022 session of GRSP. Accordingly, he requested the extension of the mandate until November 2022. In the meantime, he requested the official position of Contracting Parties on applying the numerical simulation method to the proposed requirements to the UN Regulation/UN GTR. He explained that this would constitute the core proposed amendments and in the case of a negative response of CPs this would have a negative effect on the work performed so far by the IWG. GRSP endorsed the request of the expert from the Republic of Korea to extend the mandate of the IWG to seek endorsement of WP.29 and AC.3 at their June 2021 sessions. Moreover, GRSP requested experts of C.P.s of both 1958 and 1998 Agreements to provide an answer to the Chair of the IWG concerning the simulation method by the December 2021 session of GRSP at the latest. The expert from United States of America announced her participation in the next IWG meeting.

# IV. UN Global Technical Regulation No. 13 (Hydrogen and Fuel Cell Vehicles) (agenda item 3)

Documentation: Informal document GRSP-69-37

7. The IWG Chair, on behalf of the co-sponsors (Japan, Republic of Korea, the European Union and the United States of America) informed GRSP about the work progress of IWG on Hydrogen and Fuel Cell Vehicles (HFCV) UN GTR No. 13, Phase 2 by referring to GRSP-69-37.

# V. UN Global Technical Regulation No. 20 (Electric vehicle safety) (agenda item 4)

Documentation: Informal document GRSP-69-38

8. The IWG Chair, on behalf of the co-sponsors (China, Japan, European Union and the United States of America) and all members of IWG GTR No. 20, Phase 2 reported on the progress of the IWG meeting by referring to GRSP-69-38. GRSP noted that IWG requested an eighteen months mandate extension (June 2023), which would envision the formal vote on the Phase 2 of the UN GTR either in March or November 2024 sessions of AC.3. GRSP endorsed the request of the Chair to seek endorsement of AC.3 at its June 2021 session of AC.3.

### VI. UN Regulation No. 12 (Steering mechanism) (agenda item 5)

Documentation: Informal document GRSP-69-08

9. GRSP noted the proposal tabled by expert from the Netherlands (GRSP-69-08) to introduce requirements concerning post-crash electrical safety as was agreed for UN Regulation No. 94 (Frontal collision). GRSP requested the secretariat to distribute GRSP-69-08 with an official symbol at its December 2021 session, pending a further revision submitted by the expert of the Netherlands by the deadline for submission of official documents.

# VII. UN Regulation No. 14 (Safety-belt anchorages) (agenda item 6)

Documentation: ECE/TRANS/WP.29/GRSP/2021/9

Informal document GRSP-69-35

10. The expert from Germany introduced ECE/TRANS/WP.29/GRSP/2021/9, concerning the minimum number of lower anchorages for folding seat. In the same time GRSP considered GRSP-69-35 to amend the reference to Consolidated Resolution on the Construction of Vehicles (R.E.3) (Annex 13, Appendix 1) by a reference to UN Regulation No. 16, Annex 16, in the note on two anchorages. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/9 as amended by Annex III to the report. The secretariat was requested to submit the proposal as the draft Supplement 9 to the 07 series of amendments, Supplement 1 to the 08 series of amendments and Supplement 2 to the 09 series of amendments to UN Regulation No. 14, for consideration and vote at the November 2021 sessions of WP.29 and to the Administrative Committee of the 1958 Agreement (AC.1).

### VIII. UN Regulation No. 16 (Safety-belts) (agenda item 7)

Documentation: ECE/TRANS/WP.29/GRSP/2021/10

ECE/TRANS/WP.29/GRSP/2021/16

Informal documents GRSP-66-08, GRSP-66-14, GRSP-69-23 and

GRSP-69-24

11. GRSP considered and adopted ECE/TRANS/WP.29/GRSP/2021/10, to amend an omission in paragraph 3 of the UN Regulation, with regard to information on safety-belt reminders and ECE/TRANS/WP.29/GRSP/2021/16, both not amended, as a correction to the

information sheet (Certificate) in its paragraph 3.3. The secretariat was requested to submit the proposals as draft Supplement 7 to the 07 series of amendments, draft Supplement 3 to the 08 series of amendments (ECE/TRANS/WP.29/GRSP/2021/10) and Corrigendum 1 to Supplement 12 to the 06 series of amendments (ECE/TRANS/WP.29/GRSP/2021/16) to UN Regulation No. 16 (Safety-belts) for consideration and vote at the November 2021 sessions of WP.29 and to AC.1.

- GRSP resumed discussion on ECE/TRANS/WP.29/GRSP/2019/15 and GRSP-66-14, on the subject of an alternative (at the choice of the manufacturer) airbag switch-off for frontal airbags in combination with rearward-facing child restraint systems in the rear seat. The expert from the International Organization of Motor Vehicle Manufacturers, clarified that some informal meetings had taken place to explain the proposal and that general support was received. However, he explained that further research was needed on soft air-bag technology and requested GRSP further feedback on this subject. The expert from the United Kingdom expressed concerns to the proposal and requested robust evidence and rationales looking forward for a revised proposal. The expert from EC clarified that he needed to have consultation with European Union (EU) member states whether or not the approach would be acceptable, namely placing a rearward facing Child Restraint Systems on a place with active front airbag, since this is not compatible with safety-belt wearing Directive 91/671/EEC and must be amended as a result. Hence, it is necessary to have an overview of EU Member States views.". GRSP agreed to resume discussion on this subject at its December 2021 session, on the basis of a revised proposal prepared by the expert from OICA in consultation with interested parties.
- 13. The expert from Japan introduced GRSP-69-23 through a presentation (GRSP-69-24), aimed at solving the issue of safety-belt slipping up to the neck and submarining occurring in some cases when the booster seat was fixed to the vehicle by an ISOFIX attachment increasing the risk of child occupant's neck and abdomen injuries. The experts from the CLEPA and OICA requested a study reservation on the proposal. GRSP agreed to resume discussion at its December 2021 session and requested the secretariat to distribute GRSP-69-23 with an official symbol at its next session.
- 14. GRSP agreed to defer discussion at its December 2021 session on GRSP-66-08, concerning the possibility to have three-point safety-belts in M<sub>2</sub> and M<sub>3</sub> categories of vehicles.

### IX. UN Regulation No. 17 (Strength of seats) (agenda item 8)

Documentation: ECE/TRANS/WP.29/GRSP/2020/12

Informal documents GRSP-69-02, GRSP-69-06 and GRSP-69-34

- 15. The expert from Japan reiterated his concerns to ECE/TRANS/WP.29/GRSP/2020/12, tabled by the expert from OICA, to clarify the test procedure for the height of head restraints in the case of vehicles having a low roof construction (see ECE/TRANS/WP.29/GRSP/68, para. 11). He finally requested time for further analysis. In the same time, the expert from CLEPA requested to be involved in the consultation. GRSP agreed to defer consideration of the proposal at its December 2021 session.
- 16. The expert from Norway introduced a presentation (GRSP-69-06) concerning the main findings of a report (GRSP-69-02) from the Norwegian Safety Investigation Authority (NSIA) related to a high-speed frontal road-collision. He added that the car collision occurred between a passenger car and a van and that two passengers seating in the rear seat row died during the collision also due to the luggage displacement, while frontal seating passengers sustained minor injuries. The expert from Consumer International (CI) proposed that more stringent requirements for rear seat strength should be introduced into the UN Regulation. The expert from EC stated his intention to study the case and report at the next GRSP sessions. The expert from OICA argued that crash speed (80 km/h) of the reported accident was beyond the speed considered into the UN Regulation. Moreover, he suggested that also harmonized international traffic rules on the obligation of securing luggage should be pursued. GRSP agreed to resume discussion on this subject and defer discussion on GRSP-69-34 at its December 2021 session.

### X. UN Regulation No. 22 (Protective helmets) (agenda item 9)

Documentation: ECE/TRANS/WP.29/GRSP/2021/13

ECE/TRANS/WP.29/GRSP/2021/15

Informal documents GRSP-69-17, GRSP-69-18, GRSP-69-19, GRSP-69-

26, GRSP-69-32 and GRSP-69-36

17. The expert from Italy, Chair of the ad-hoc group on safety helmets introduced ECE/TRANS/WP.29/GRSP/2021/13, through a presentation (GRSP-69-19) to address the need of a text that can be enforced in a practical manner until specific requirements for the type approval of helmet accessories would be defined. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/13, as amended by (GRSP-69-17) Annex IV to this report. The secretariat was requested to submit the proposal, as draft Supplement 1 to the 06 series of amendment to UN Regulation No. 22 (Protective helmets), for consideration and vote at the November 2021 session of WP.29 and to AC.1.

GRSP also noted ECE/TRANS/WP.29/GRSP/2021/15, amended by GRSP-69-18 aimed at preventing the issue of invalidating a UN Approval with the use of an aftermarket product. The proposal received some comments from the experts of Euromed (GRSP-69-26) and proposed changes from the expert from Italy (GRSP-69-32). GRSP Chair and the Chair of the ad-hoc group proposed to convey the above proposals into the activity of the ad-hoc group on safety-helmets. The expert from Euromed argued that the for sake of transparency it was advisable to establish an informal working group (IWG) and he introduced the terms of reference of the IWG (GRSP-69-36). However, concerns were expressed about the number of interested experts and about the need to be much more responsive in providing a possible solution to the December 2021 session. Following the suggestion of the expert from the Netherlands, GRSP agreed to continue the activities of the ad-hoc group and requested the secretariat to provide a wiki page on the ECE website. In the meantime, it was clarified that rules of procedure of IWGs, ad-hoc group, Task Force shall be the same of those of parent group. Accordingly, GRSP reminded all the Chairs and secretaries of the above-mentioned groups to verify consistent credentials of attendees and receive copyright disclaimers for documents posted on UNECE website. GRSP agreed to resume the discussion on this subject of the waiting the outcome of discussion ad-hoc group ECE/TRANS/WP.29/GRSP/2021/15, GRSP-69-26, GRSP-69-32 and GRSP-69-36.

### XI. UN Regulation No. 95 (Lateral collision) (agenda item 10)

Documentation: ECE/TRANS/WP.29/GRSP/2021/8

19. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/8, not amended, to further amend the current scope of UN Regulation No. 95 (Lateral collision) proposing the deletion of the newly created mass restriction for M<sub>1</sub> vehicles, while recognising the specific conditions of heavy M<sub>1</sub> vehicles with a high seating position. The secretariat was requested to submit the proposals, as draft Supplement 1 to the 04 series and draft Supplement 2 to the 05 of amendments to UN Regulation No. 95, for consideration and vote at the November 2021 session of WP.29 and to the AC.1.

### XII. UN Regulation No. 127 (Pedestrian safety) (agenda item 11)

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

ECE/TRANS/WP.29/GRSP/2020/9 Informal document GRSP-69-21-Rev.1

20. GRSP agreed to forward ECE/TRANS/WP.29/GRSP/2019/18 and ECE/TRANS/WP.29/GRSP/2020/9 and GRSP-69-21-Rev.1 to the Task Force on Pedestrian Safety (see para. 4 above) in order to keep alignment tight between UN GTR No. 9 and UN Regulation No. 127.

# XIII. UN Regulation No. 129 (Enhanced Child Restraint Systems) (agenda item 12)

Documentation: ECE/TRANS/WP.29/GRSP/2021/3

ECE/TRANS/WP.29/GRSP/2021/4 ECE/TRANS/WP.29/GRSP/2021/5 ECE/TRANS/WP.29/GRSP/2021/6 ECE/TRANS/WP.29/GRSP/2021/7

Informal documents GRSP-68-13, GRSP-69-09 and

GRSP-69-25

21. GRSP considered GRSP-69-09, concerning the interpretation of the expert from the Netherlands on the way "one belt route" defined by the current text of UN Regulation No. 129 (Enhanced Child Restraint Systems). He also requested guidance to GRSP how to deal in the future with questions of this kind. GRSP agreed on the interpretation provided by the expert from the Netherlands:

""one belt route" shall be strictly interpreted, only asymmetrical attachments can still be regarded as "one belt route"

GRSP agreed that such an interpretation would not need to amend the current text of UN Regulation No. 129. Moreover, GRSP agreed that such decision would be reported orally by the Chair of GRSP at the June 2021 session of WP.29 as well as the request of guidance to address issue of interpretations of this kind in a more coordinated way in the work of WP.29 and its subsidiary bodies.

- 22. GRSP also adopted: ECE/TRANS/WP.29/GRSP/2021/3, ECE/TRANS/WP.29/GRSP/2021/4, ECE/TRANS/WP.29/GRSP/2021/5 and ECE/TRANS/WP.29/GRSP/2021/6, all not amended, clarifying the application of the dynamic tests procedures to ECRS. The secretariat was requested to submit the proposals, for consideration and vote at the November session of WP.29 and AC.1, for consideration and vote at the June 2021 session of WP.29 and to the AC.1, as draft:
- (a) Supplement 11 to the original version of UN Regulation No. 129. (ECE/TRANS/WP.29/GRSP/2021/3);
- (b) Supplement 8 to the 01 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/4);
- (c) Supplement 7 to the 02 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/5);
- (d) Supplement 6 to the 03 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/6). In the same time GRSP clarified that built-in ECRS are defined into the UN Regulation No. 129 since to 03 series of amendments to the UN Regulation.
- 23. The expert from Spain, introduced ECE/TRANS/WP.29/GRSP/2021/7 to clarify how to assess the head containment and in addition to increase the time frame for its assessment. The expert from EC requested a study reservation on the proposal. GRSP agreed to resume discussion on this subject at its December 2021 session.
- 24. Finally, the expert from Japan introduced GRSP-69-25 to inform GRSP on results from tests performed in his country concerning frontal impact using the Q1.5 dummy and four types of ECRS type approved according to the UN Regulation and focusing on the effect of contact between the chin and chest on the dummy's neck injury. The expert from Spain volunteered to cooperate with the expert from Japan on this issue and provide together an update at the December 2021 session of GRSP. In the same time the expert from Spain withdrew GRSP-68-13.

# XIV. UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles (HFCV)) (agenda item 13)

Documentation: ECE/TRANS/WP.29/GRSP/2021/12

Informal documents GRSP-69-22-Rev.2 and GRSP-69-31

25. The experts from OICA, introduced ECE/TRANS/WP.29/GRSP/2021/12, amended by GRSP-69-22-Rev.2, aiming to allow alternative test methods for heavy duty vehicles in order to improve applicability of the requirements to vehicles of categories  $M_2$ ,  $M_3$ ,  $N_2$  and  $N_3$ . The proposal received comments from the expert of Japan (GRSP-69-31). GRSP adopted ECE/TRANS/WP.29/GRSP/2021/12, as amended by Annex V to this report. The secretariat was requested to submit the proposal as draft Proposal for Supplement 4 to the original version and Supplement 1 to the 01 series of amendments to UN RegulationNo.134 (Hydrogen and Fuel Cell Vehicles) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.

### XV. UN Regulation No. 135 (Pole side impact) (agenda item 14)

Documentation: ECE/TRANS/WP.29/GRSP/2021/14

Informal document GRSP-69-10

- 26. The expert from Germany introduced ECE/TRANS/WP.29/GRSP/2021/14, aiming at defining parameters to enable a reproducible measurement of the acute angle alpha ( $\alpha$ ) to decide whether or not the vehicle is in the scope of the UN Regulation. GRSP adopted ECE/TRANS/WP.29/GRSP/2021/14, as amended by Annex VI to this report. The secretariat was requested to submit the proposal as draft Supplement 3 to the 01 series of amendments to UN Regulation No. 135 (Pole Side Impact (PSI)) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
- 27. The expert from the Netherlands introduced GRSP-69-10, aiming at introducing requirements concerning post-crash electrical safety in the event of a pole side impact collision, as was agreed for UN Regulation No. 94 (Frontal collision) and proposed for UN Regulation No. 12 (see para. 9 above). The secretariat was requested to distribute GRSP-69-10 with an official symbol at its December 2021 session.

### XVI. UN Regulation No. 136 (Electric vehicle L) (agenda item 15)

Documentation: Informal documents GRSP-69-13 and GRSP-69-14

28. The expert from International Motorcycle Manufacturers Association (IMMA) introduced GRSP-69-13, aiming at updating the requirements for electric vehicles of category L in UN Regulation No. 136, by aligning them to the new 03 series of amendments to UN Regulation No. 100 and UN GTR No. 20. Moreover, he explained that the proposal included new optional requirements to enable the mounting of removable Rechargeable Electric Energy Storage System (REESS) in any orientation, to enable safe deployment of swappable batteries. He also mentioned GRSP-69-14, providing a consolidated version of the amended UN Regulation. GRSP agreed to resume discussion on this subject at its December 2021 session and requested to distribute GRSP-69-13 with an official symbol at its next session.

# XVII. UN Regulation No. 137 (Frontal impact with focus on restraint systems) (agenda item 16)

Documentation: Informal document GRSP-69-11

29. The expert from the Netherland introduced GRSP-69-11, aiming at clarifying the requirements for the adjustment of the passenger seat back when installing the Hybrid-III 5<sup>th</sup> percentile female dummy. He requested feedback to his proposal to GRSP experts, prior to the deadline for submission of official documents to the December 2021 session of GRSP.

# XVIII. UN Regulation No. 145 (ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size) (agenda item 17)

Documentation: ECE/TRANS/WP.29/GRSP/2021/11

30. The expert from the Netherland introduced ECE/TRANS/WP.29/GRSP/2021/11 aimed at clarifying the requirements for the location of ISOFIX systems in case the vehicle type is equipped with rearward facing seats. GRSP adopted, not amended, ECE/TRANS/WP.29/GRSP/2021/11 and requested the secretariat to submit the proposal as draft Supplement 1 to the original version to UN Regulation No.145 ((ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size)) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.

### XIX. Mutual Resolution No. 1 (Agenda item 18)

Documentation: ECE/TRANS/WP.29/GRSP/2021/2

Informal documents GRSP-69-01, GRSP-69-15, GRSP-69-39 and

GRSP-69-42

- The expert from United Kingdom of Great Britain and Northern Ireland introduced ECE/TRANS/WP.29/GRSP/2021/2 and GRSP-69-39 (this last correcting typo errors) through GRSP-69-01 as proposal for Addendum 1 to Mutual Resolution No. 1 (Specifications for the Construction, Preparation and Certification of the 50th percentile male Biofidelic Rear Impact Dummy, anthropomorphic test Device (BioRID-II UN). He explained that the structure of the proposal was stemming from GRSP-54-05 (Draft addendum 1 to M.R.1), introduced at the fifty-fourth session of GRSP (see ECE/TRANS/WP.29/GRSP/54, para. 4) and that the body of the proposal introduced the general design of the dummy, including the essential dimensions and how they are checked. He added that the text associated with the procedures for dismantling, assembling and adjusting the dummy had received editorial review and that proprietary names had been removed. It was noted that copyrights were expected to be removed from drawings when the proposal would be finally adopted by WP.29 and AC.3. He finally urged GRSP to recommend the proposal to allow a thorough implementation of UN Regulation No. 17 and UN GTR No. 7 by Contracting Parties of both Agreements. The experts from the Netherlands, Germany, Japan, France agreed with the recommendation of the expert from the United Kingdom of Great Britain and Northern Ireland. The expert from the United States of America endorsed in principle the proposal, however, she explained that a full technical review of the document was not completed by her Administration and requested a time reservation. It was noted that time for possible revision was still available prior the November sessions of WP.29 and AC.3 and being integrated even on informal basis if they would not be relevant. Finally, GRSP recommended ECE/TRANS/WP.29/GRSP/2021/2, as amended by Annex VII to the report, and requested the secretariat to submit it as draft Amendment 3 to M.R.1 to the November 2021 sessions of WP.29 and AC.3.
- 32. The expert from Netherlands on behalf of a dummy manufacturer introduced GRSP-69-15, explaining that his company would work with any interested parties concerning devices that represent vulnerable occupants. He also offered full cooperation concerning the 50th percentile female dummies and offered to actively support Sweden in the development and evaluation of the respective Anthropomorphic Test Device. The experts from Sweden introduced (GRSP-69-42) reiterating the result of a study conducted in her country showing that adult female were poorly represented by existing dummies. She therefore suggested to start to form an ad hoc group to understand the issue and elaborate a suggestion for terms of reference for an IWG addressing both men and women equally and diversity of occupants to be presented for the December 2021 session of GRSP. She suggested to cooperate with interested Contracting Parties and manufacturers and to invite experts of the Global Forum for Road Traffic Safety (WP.1) and of the Working Party on Regulatory Cooperation and Standardization Policies (WP.6) to join if were still lingering questions. It was noted that possible participation of WP.1 and WP.6 should be consulted with the Administrative Committee on the coordination of work of WP.29 (AC.2) to receive endorsement. GRSP

agreed about with suggestion of the expert from Sweden to start consultation with interested parties concerning the issue.

### **XX.** Securing of children in buses and coaches (agenda item 19)

Documentation: Informal document GRSP-69-05

33. The expert from Spain, on behalf of IWG on safer transport of children in buses and coaches informed GRSP about the progress of the group (GRSP-69-05). She confirmed the that the group was examining different configurations of testing (e.g.: seating position, Q dummies with or without CRS, types of CRS) considering bus requirements. The expert from OICA suggested that GRSP should focus keenly on this activity and decide which kind of child restraint system should be considered.

### XXI. Exchange of views on vehicle automation (agenda item 20)

34. GRSP agreed to defer discussion on this subject at its December 2021 session.

## XXII. Strategy of the Inland Transport Committee (agenda item 21)

35. GRSP agreed to defer discussion on this subject at its December 2021 session.

### XXIII. List of priority work of GRSP (agenda item 22)

Documentation: Informal document GRSP-69-29-Rev.2, GRSP-69-40 and WP.29-183-13

36. GRSP considered GRSP-69-29 tabled by the expert from the European Commission, as well as GRSP-69-40 tabled by the expert from the United States of America, providing updated lists of work priorities of GRSP. GRSP finally adopted GRSP-69-29-Rev.2, as reproduced in Annex VIII to this report and requested the secretariat to submit it to the June 2021 session of WP.29.

### XXIV. Other business (agenda item 22)

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

37. The expert from CLEPA took the opportunity to ask to all CPs to report their intention new transitional provision in UN Regulation No. 44 (ECE/TRANS/WP.29/2020/111, Supplement 18 to the 04 series of amendments to UN Regulation No. 44 (Child Restraint Systems)) adopted at the November 2020 session of WP.29 allowing CPs to no longer accept approvals according to that UN Regulation as from 1 September 2023. The expert from EC, clarified that as follow up to the implementation of the new General Safety Regulation (GSR) 2019/2144, all European Union member states will implement this expiring date. The expert from CLEPA informed GRSP about their request to amend GSR (EU) 2019/2144, to include an European Union applicable transitional provision to allow CRS that are already in stock in the EU (type approved according to the UN Regulation), to be sold for additional months beyond the above mentioned date. GRSP agreed to request to non-European CPs about the above mentioned implementation of Supplement 18 to the 04 series of amendments to UN Regulation No. 44.

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

38. GRSP agreed to defer discussion on this subject to its December 2021 session.

### C. Highlights of the March 2021 session of WP.29

Documentation: Informal document GRSP-69-28

39. The Secretary reported on the highlights (GRSP-69-28) of the 183rd session of WP.29 (ECE/TRANS/WP.29/1157).

### D. Three-dimensional H-point machine

40. GRSP agreed to defer discussion on this subject to its December 2021 session.

### E. Intelligent transport systems

41. GRSP agreed to defer discussion on this subject at its December 2021 session.

### F. Children left in cars

Documentation: Informal document GRSP-69-16

- 42. The expert from Italy introduced GRSP-69-16, providing an update on the measures adopted in his country to cope with this issue. He clarified that according to national law it had been implementing mandatory measures from 7 November 2019, for Child Reminder Systems when children under four years old are transported on cars. GRSP agreed to resume discussion on this subject based on information provided by the experts from other Contracting Parties.
- 43. The expert from Italy requested to correct his previous statement reported in the minute of the December 2020 session of GRSP (see ECE/TRANS/WP.29/GRSP/68, para. 44):
- "44. ... The expert from Italy informed GRSP that no data was available yet. He also clarified that technical solution were currently subjected to fiscal incentives and not covered by legislation. GRSP ..."

### G. UN Regulation No. 100 (Electric power trained vehicles)

Documentation: Informal documents GRSP-69-03, GRSP-69-04 and GRSP-69-30.

- 44. The expert from CLEPA introduced a proposal GRSP-69-04, through a presentation (GRSP-69-03) to clarify specific conditions concerning a clear interpretation of an AC voltage (rms). GRSP adopted GRSP-69-04 as reproduced in Annex IX to this report. The secretariat was requested to submit the proposal as draft Supplement 1 to the 03 series of amendments to UN Regulation No. 100 (Electric power-train vehicles) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
- 45. The expert from International Association of the Body and Trailer Building Industry (CLCCR) introduced GRSP-69-30, to propose a future amendment to UN Regulation No. 100 to introduce provisions for a kind of an electric axle in a trailer. As a first step he asked the opinion of interested expert on this subject, to check defined requirements and review possible use cases for the trailer. GRSP agreed to resume discussion on this subject at its December 2021 session.

# H. UN Regulation No. 153 (Fuel system integrity and electric power train safety at rear-end collision)

Documentation: Informal documents GRSP-69-07.

46. GRSP noted GRSP-69-07, tabled by the expert from Germany, proposing to extend the condition of the necessity of an influence on the results of the impact test to all criteria. GRSP agreed to resume discussion at its December 2021 session. The secretariat was requested to distribute GRSP-69-07 with an official symbol at the next session of GRSP.

### I. Collective amendments to UN Regulations Nos. 94, 95, 137 and 153 (Electric vehicles of category L (EV-L))

Documentation: Informal document GRSP-69-41

- 47. Referring to the amendment adopted under agenda item 23(g) (see para. 44 above), the expert from CLEPA introduced GRSP-69-41, to align UN Regulations Nos. 94, 95, 137 and 153. GRSP adopted GRSP-69-41, as reproduced in Annex X to this report. The secretariat was requested to submit the proposal for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1. as draft:
- (a) Supplement 1 to the 04 series of amendments to UN Regulation No. 94 (Frontal collision);
- (b) part of Supplement 2 (see para. 19 above) to the 05 series of amendments to UN Regulation No. 95 (Lateral collision);
- (c) Supplement 2 to the 02 series of amendments to UN Regulation No. 137 (Frontal impact with focus on restraint systems);
- (d) Supplement 2 to the original series of amendments to UN Regulation No. 153 (Fuel system integrity and safety of electric power train in the event of a rear-end collision).

### J. Decisions submitted to silence procedure

Documentation: Informal document GRSP-69-44

48. GRSP agreed on the main decision list GRSP-69-44, as reproduced in Annex XII to this report, taken during the session for approval by silence procedure of 72 hours by the participating delegations to the session as part of the special procedures established for the COVID-19 pandemic period (ECE/EX/2020/L.12).

### K. Provisional agenda for the next session

- 49. GRSP noted that its seventieth session was scheduled to be held in Geneva from 7 December (2.30 p.m.) to 10 December (12.30 p.m.) 2021. GRSP noted that the deadline for the submission of official documents to the secretariat is 10 September 2021, twelve weeks prior to the session. GRSP is expected to follow the provisional agenda here below reproduced:
- 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. 12 (Steering mechanism).
- 6. UN Regulation No. 16 (Safety-belts).
- 7. UN Regulation No. 17 (Strength of seats).
- 8. UN Regulation No. 22 (Protective helmets).
- 9. UN Regulation No. 100 (Electric power trained vehicles).
- 10. UN Regulation No. 127 (Pedestrian safety).
- 11. UN Regulation No. 129 (Enhanced Child Restraint Systems).
- 12. UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles).
- 13. UN Regulation No. 135 (Pole side impact (PSI)).

- 14. UN Regulation No. 136 (Electric vehicle L).
- 15. UN Regulation No. 137 (Frontal impact with focus on restraint systems).
- 16. UN Regulation No. 153 (Fuel system integrity and electric power train safety at rearend collision).
- 17. Mutual Resolution No. 1.
- 18. Securing of children in buses and coaches.
- 19. Exchange of views on vehicle automation.
- 20. Strategy of the Inland Transport Committee.
- 21. List of priority work of GRSP.
- 22. Election of officers.
- 23. 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 June and November 2021 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-69-...) distributed without an official symbol during the session

No.	Transmitted by	Agenda item	Language	Title	Follow- up
01	United Kingdom	18	Е	Proposal for Addendum 1 to Mutual Resolution No. 1 (Specifications for the Construction, Preparation and Certification of the 50th percentile male Biofidelic Rear Impact Dummy, (BioRID-II UN) anthropomorphic test Device)	(a)
02	Norway	8	E	(Norway) Report on a head-on collision between a passenger car and a van on the E39 at Austefjorden, Volda, Møre og Romsdal on 20 October 2019	(c)
03	CLEPA	23(g)	E	UN Regulation No. 100, 03series of amendments, Issue Risk for AC 48V Motor Generators	(a)
04	GRSP/Chair	23(g)	E	Proposal for Supplement 1 to the 03 series of amendments to UN Regulation No. 100 (Electric power-train vehicles)	
05	Spain	19	Е	Status Report of the Informal Working Group on Safer Transport of Children in Buses and Coaches (IWG-STCBC)	(a)
06	Norway	8	E	Presentation of main findings in report from: Norwegian Safety Investigation Authority (NSIA) related to a high-speed frontal road-collision (GRSP-69-02)	(a)
07	Germany	23(h)	Е	(Germany) Proposal for an amendments to UN Regulation No. 153 (Rear-end collision)	(b)
08	The Netherlands	5	E	Proposal for 05 series of amendments to UN Regulation No. 12 - protection of the driver against the steering mechanism in the event of impact	(b)
09	The Netherlands	12	E	Confirmation of GRSP on draft interpretation "one belt route" UN Regulation No. 129	. ,
10	The Netherlands	14	E	Proposal for 02 series of amendments to UN Regulation No. 135	o (b)
11	The Netherlands	11	Е	Proposal for supplement [4] to UN Regulation No. 137, 01 series of amendments and supplement [1] to UN Regulation No. 137, 02 series of amendments	f J
12	Secretariat	16	E	Virtual meeting participation guideline (Webex)	s (a)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
13	IMMA	15	Е	Proposal for the 01 series of amendments to UN Regulation No. 136 (specific requirements for the electric power train of vehicles of category L)	(b)
14	Rep. of Korea	2(b)	Е	Proposal for the 01 series of amendments to UN Regulation No. 136 (specific requirements for the electric power train of vehicles of category L) – Consolidated document	(c)
15	The Netherlands	18	E	Equitable Safety for Female Occupants	(a)
16	Italy	22(f)	E	Systems to Prevent Small Children from Being Left Unattended in Vehicles	(a)
17	Secretariat	9	E	Proposal of Supplement 2 to the 06 series of amendments to UN Regulation No. 22 (Protective helmets)	(d)
18	OICA	9	Е	Proposal of Supplement 2 to the 06 series of amendments to UN Regulation No. 22 (Protective helmets) - accessories	(c)
19	Italy	9	E	Proposal of supplement to the 06 series of amendment of Regulation No. 22 (Protective helmets) Accessories	(a)
20	Rep. of Korea	9	E	Status of Informal Working Group on Deployable Pedestrian Protection Systems (IWG-DPPS)	(a)
21/ Rev.1	OICA	11	Е	Proposal for the 03 series of amendments to UN Regulation No. 127 (Pedestrian safety)	(c)
22/ Rev.2	OICA	13	E	Proposal to replace document ECE/TRANS/WP.29/GRSP/2021/12	(d)
23	Japan	7	E	Proposal for the 09 series of amendments of UN Regulation No. 16 (Safety-belts)	(b)
24	Japan	7	E	Study of ISOFIX Booster Seats	(a)
25	Japan	12	Е	Test Data of Q1.5 Dummy's Neck Injury Measures in R129 Frontal Test	(a)
26	Euromed	9	E	Comments on the Informal document GRSP-69-18	(c)
27	GRSP/Chair	1	E	Running order of the provisional agenda	(a)
28	Secretariat	28	E	Highlights of WP.29 March 2021 session	(a)
29/ Rev.2	GRSP/Chair	22	E	Programme of work- List of priority work of GRSP	(a)
30	GRSP/Chair	23(g)	E	Advanced axles in trailers	(a)
31	Japan	7	E	Japan's comment on GRSP/2021/12 UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles) and GRSP-69-22 Proposal to replace document ECE/TRANS/WP.29/GRSP/2021/12	(a)
32	Secretariat	9	E	Comments to GRSP-69-26	(c)

No.	Transmitted by	Agenda item	Language	Title	Follow- up
33/ Rev.1	Secretariat	1	Е	Annotated provisional agenda	(a)
34	Secretariat	8	E	Proposal for Corrigendum 1 to the 10 series of amendments to UN Regulation No. 17 (Strength of seats)	(c)
35	Secretariat	6	E	Proposal for amendment to ECE/TRANS/WP.29/GRSP/2021/9	(d)
36	Euromed	9	E	Terms of Reference for the new informal working group of Regulation No. 22 (Protective Helmets)	(c)
37	United States of America	3	E	Chair's status report on the Progress of the Hydrogen GTR 13 IWG, as presented to GRSP on May 17	(a)
38	United States of America	4	E	Status report of the Chair of the Informal Working Group (IWG) on Electric Vehicle Safety (EVS) GTR 20	(a)
39	United Kingdom	18	E	Proposal of corrections to ECE/TRANS/WP.29/GRSP/2021/2	(d)
40	United States of America	23(j)	E	Comments on WP.29 Document ECE/TRANS/WP.29/2021/1 (Program of Work)	(a)
41	CLEPA	23(j)	Е	Collective amendments to UN Regulations Nos. 94, 95, 137 and 153	(d)
42	Sweden	18	E	What can we do in the GRSP to get the same protection level for male and female occupants?	(a)
43/ Rev.1	United States of America			Proposal for an amendment to the Authorization for the development of amendments to gtr No. 9 (Pedestrian safety) (ECE/TRANS/WP.29/AC.3/31 March 2012)	f n
44	GRSP/Chair	23(i)		Decisions submitted to silent procedure	(d)

### Notes:

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

### **Annex II**

# Draft amendment to the authorization for the development of amendments to UN Global Technical Regulation No. 9 (ECE/TRANS/WP.29/AC.3/31)

Adopted text based on GRSP-69-43-Rev.1 (see paragraph 4 of this report)

In the text of document ECE/TRANS/WP.29/AC.3/31, insert a new section III to read as follows:

### "III. Amendment to the Authorization

- 18. At the sixtieth session of the Executive Committee (AC.3) of the 1998 Agreement in March 2021, a proposed Amendment 3 to UN GTR No. 9 was tabled for a vote (ECE/TRANS/WP.29/2021/53). The representatives of the United States of America requested that AC.3 agree to a deferral of the vote on this item due to its final technical evaluation of the amendment earlier this year. Upon repeated consultations with the Committee concerning positions of AC.3 members with respect to the possible establishment of the amendment, the Chair of AC.3 concluded that the support from the Committee to reach consensus was not adequate. Therefore, AC.3 agreed to defer vote under this agenda item to its June 2021 session pending further discussions concerning the proposal for Amendment 3 to UN GTR No. 9 at the next session of GRSP, scheduled to take place in May 2021. AC.3 requested GRSP to give highest priority to the task and to report back to AC.3 and WP.29 with the greatest urgency on the progress towards a resolution of outstanding matters in this context. AC.3 agreed to keep this item on its agenda for the next session with the expectation to vote on the amendment.
- 19. Subsequently, the Chair of GRSP invited some of the key parties to the discussions in AC.3 and development of the proposal to a meeting on 23 April 2021. Present at the meeting were representatives of Canada, the European Commission, Germany, Japan, the Netherlands, South Korea, the United Kingdom of Great Brittan and Northern Ireland and the United States of America, as well as the UN Secretary for GRSP. At the meeting, the United States of America presented further information regarding its concerns with amendment 3, while Germany presented material supporting the targeting method changes. During the discussions, it was noted that the United States of America concerns focused on loss of testable area, while the German presentation focused on repeatability, reproducibility and consistency with established legislative interpretation and practice in the European Union. The group agreed that further discussion could lead to an ultimate resolution of how to balance these competing concerns in an amendment that all parties could agree on. The group also discussed the possibility that the differences could be the result of differing enforcement systems. The group agreed that further discussion could lead to an ultimate resolution of how to balance these competing concerns in an amendment that all parties could agree on. The group also discussed the possibility that the differences could be the result of differing enforcement systems.
- 20. Further meetings could not be arranged prior to the May session of GRSP, though the United States of America and Germany, providing the European Union perspective, continued to exchange information by online.
- 21. At the May session of GRSP, the United States of America representative summarize the events since WP.29, and expressed her country's belief that a reengagement in further dialogue on the issues could lead to an eventual amendment that would be agreed to by all parties. She further noted that this would be a preferred outcome from a harmonization perspective, as pedestrian safety was a renewed priority in her country. She therefore asked

that GRSP form a Task Force to continue these discussions, and request that WP.29 further delay the vote on the pending amendment until its work is finished.

- 22. During the May session of GRSP, the United States of America representative also made note of two additional pending amendments to gtr No. 9 that could potentially affect the headform test zone and indicated a single amendment on this issue would be preferred to separate amendments. The GRSP agreed the Task Force could consider these issues if it did not delay the work on amendment 33.
- 23. The new Task Force will be chaired by the United States of America, with decisions on possible co-chair(s) and Secretary at the first meeting in June. The Task Force is directed to have a new proposal ready for the December 2021 session of GRSP."

In the text of document ECE/TRANS/WP.29/ACE/31, Section III, renumber as section IV.

### **Annex III**

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

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/9 (see paragraph 10 of this report)

Annex 6, key to symbols 2: amend to read:

### "Annex 6

"...
2: Two lower anchorages, which allow the installation of a safety-belt type B, or of safety-belts types Br, Br3, Br4m or Br4Nm, where required by UN Regulation No. 16, Annex 16
..."

### **Annex IV**

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

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/13 (see paragraph 17 of this report)

. . .

Annex 17 paragraph 3, amend to read:

"........... Insert a sheet of carbon paper on top of a sheet of white paper, between the eye-protector and the head-form. Position the eye-protector/headform assembly in front of the propulsion equipment, the point of impact being not more than 250 mm from the exit end of the speed sensing equipment.

Project the steel ball at 60 m/s (-0+2 m/s). The points of impact are ( $L_1$  and  $L_2$ ).

- (a) Left eye frontal;
- (b) Right eye frontal;

### Annex V

# Draft amendments to UN Regulation No. 134 (Hydrogen and Fuel Cell Vehicles)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/12 (see paragraph 25 of this report)

•••

# "5. Part I – Specifications of the compressed hydrogen storage system

This part specifies the requirements ...

All new compressed hydrogen storage systems produced for on-road vehicle service shall have a NWP of 70 MPa or less and a service life of 15 years (or upon the request of the manufacturer 20 years in case of vehicles of categories M<sub>2</sub>, M<sub>3</sub>, N<sub>2</sub> and N<sub>3</sub> (hereinafter referred to as "20 years")9 or less, and be capable of satisfying the requirements of paragraph 5.

...'

Paragraph 5.1.2., amend to read:

"5.1.2. Baseline initial pressure cycle life.

Three (3) containers shall be hydraulically pressure cycled at the ambient temperature of 20 ( $\pm$ 5) °C to 125 per cent NWP ( $\pm$ 2/-0 MPa) without rupture for 22,000 cycles for a 15-year service life or 30,000 cycles for a 20-year service life of vehicles of categories  $M_2$ ,  $M_3$ ,  $N_2$  and  $N_3$  (hereinafter referred to as "a 20-year service life"), or until a leak occurs (Annex 3, paragraph 2.2. test procedure). Leakage shall not occur within 11,000 cycles for a 15-year service life or 15,000 cycles for a 20-year service life. "

. . .

Paragraph 5.6., amend to read:

"5.6. Labelling

. . .

Date of removal from service shall not be more than 15 **years** (or 20 years) after the date of manufacture."

• •

Paragraph 7.2., amend to read:

"7.2. Post-crash fuel system integrity

• • •

In case that one or both of the vehicle crash tests specified above are not applicable to the vehicle, the compressed hydrogen storage system shall, instead, be subject to the relevant alternative accelerations specified below and the compressed hydrogen storage system shall **comply with** the relevant requirements in paragraphs 7.2.3. and 7.2.4. The accelerations shall be measured at the location where the compressed hydrogen storage system is

installed. **The compressed** hydrogen storage system shall be mounted and fixed on the representative part of the vehicle...

..."

Paragraph 7.2.4.2., amend to read:

"7.2.4.2. ... located 200 mm inside from the both outermost edge of the vehicle in the proximity of its **container(s).**"

Insert new paragraphs 7.2.4.3.-7.2.5., to read:

"7.2.4.3. .

7.2.4.3.1. Test conditions

... At the manufacturer's discretion **and in agreement with the Technical Service** the compressed hydrogen storage system may be fixed to a representative part of the frame or on a complete vehicle. The protective structure shall be defined by the manufacturer.

. . .

7.2.4.3.3. Lateral impact on compressed hydrogen storage system

... The impact direction shall be in an angle of 90° to the longitudinal axis of the test set-up as defined in paragraph 7.2.4.3.1. and the container shall be adjusted in a way that the middle of the front plate of the barrier matches the middle of the container in the horizontal and vertical.

After this lateral impact test the compressed hydrogen storage system shall comply with the requirements in 7.2.1. – and 7.2.3.

7.2.4.3.4. A calculation method may be used instead of practical testing if its equivalence can be demonstrated by the applicant for approval to the satisfaction of the Technical Service and in agreement with the type-approval authority."

Paragraph 8.1., amend to read:

"8.1. ... The Authority shall then, **referring to Annex 6**, either:

(a) ...

Annex 3, Paragraph 3.2., amend to read:

"3.2. Drop (impact) test (unpressurized)

The storage container is drop tested ...

If more than one container is used to execute all drop specifications, then those containers shall undergo pressure cycling according to Annex 3, paragraph 2.2. until either leakage or 22,000 cycles for a 15-year service life or 30,000 cycles for a 20-year service life without leakage have occurred. Leakage shall not occur within 11,000 cycles for a 15-year service life or 15,000 cycles for a 20-year service life.

The orientation of the container being dropped in accordance with the requirement of paragraph 5.2.2. shall be identified as follows:

- (a) ...;
- (b) If more than one container is used to execute the four drop orientations, and if all containers reach 22,000 cycles for a 15-year service life or 30,000 cycles for a 20-year service life without leakage,...;

(c) If more than one container is used to execute the four drop orientations and if any container does not reach 22,000 cycles for a 15-year service life or 30,000 cycles for a 20-year service life without leakage, ... "

further testing as specified in paragraph 5.2. "

Annex 4, Paragraph 1.1., amend to read:

"1.1. Pressure cycling test.

Five TPRD units undergo 11,000 internal pressure cycles for a 15-year service life or 15,000 internal pressure cycles for a 20-year service life with hydrogen gas having gas quality compliant with ISO 14687-2/SAE J2719...."

Paragraph 2.3., amend to read:

- "2.3. Extreme temperature pressure cycling test
  - (a) The total number of operational cycles is 11,000 for a 15-year service life or 15,000 operational cycles for a 20-year service life for the check valve and 50,000 for a 15-year service life or 67,000 operational cycles for a 20-year service life for the shut-off valve. ...
  - (b) ...
  - (c) Check valve chatter flow test: Following 11,000 operational cycles for a 15-year service life or 15,000 operational cycles for a 20-year service life and leak tests in Annex 4, paragraph 2.3.(b), the check valve is subjected to 24 hours of chatter flow at a flow rate that causes the most chatter (valve flutter). At the completion of the test the check valve shall comply with the ambient temperature leak test (Annex 4, paragraph 2.2.) and the strength test (Annex 4, paragraph 2.1.)."

...

Insert new Annex 6, to read:

### "Annex 6

### **Approval testing for CHSS modifications**

- 1. Modifications to an existing type approval of CHSS may be approved in accordance with the reduced test programme specified in Table 1 below.
- 2. For modifications not specified in Table 1, the necessary test programme shall be identified by the Technical Service taking account of the similarities of the intended modification to the items specified in the Table 1.

Table 1 Change of Design

Changed Item	Required Tests
Metallic container or liner material	<ul><li>Initial burst, Initial pressure cycle life</li><li>Sequential hydraulic tests</li><li>Fire test</li></ul>
Plastic liner material	<ul><li>Initial pressure cycle life</li><li>Sequential hydraulic tests</li><li>Sequential pneumatic tests</li></ul>
	- Fire test

Changed Item		Required Tests
Fiber materi	al <sup>1</sup>	<ul><li>Initial burst, Initial pressure cycle life</li><li>Sequential hydraulic tests</li><li>Fire test</li></ul>
Resin materi	al	<ul><li>Initial burst, Initial pressure cycle life</li><li>Sequential hydraulic tests</li><li>Fire test</li></ul>
Diameter <sup>2</sup>	≤20%	- Initial burst, Initial pressure cycle life
	>20%	- Initial burst, Initial pressure cycle life
		- Sequential hydraulic tests
		- Fire test
Length	≤50%	- Initial burst, Initial pressure cycle life
		- Fire test <sup>3</sup>
	>50%	- Initial burst, Initial pressure cycle life
		- Sequential hydraulic tests
		- Fire test <sup>3</sup>
Coating		- Sequential hydraulic tests
		- Fire test <sup>4</sup>
Boss <sup>5</sup>	Material, geometry, opening size	- Initial burst, Initial pressure cycle life
	Sealing (liner and/or valve interface)	- Sequential pneumatic tests
Fire protection	on system	- Fire test
Valve change	6	<ul> <li>Sequential pneumatic tests</li> <li>Fire test <sup>7</sup></li> </ul>

### Notes:

- 1. Change of fiber type, e.g., glass to carbon is not applicable. Change of design applies only to changes of materials properties or manufacturer within a fiber type.
- 2. Only when thickness change is proportional to diameter change.
- 3. Fire test is not required, provided safety relief devices or device configuration passed the required fire test on a container with equal or greater internal water volume.
- 4. Fire test required if coating affects fire performance.
- 5. Tests are not required if the stresses in the neck are equal to the original stresses or reduced by the design change (e.g., reducing the diameter of internal threads, or changing the boss length), the liner to boss interface is not affected, and the original materials are used for boss, liner, and seals.
- 6. Alternative valve shall be approved in accordance with part II.
- 7. Fire test not required if TPRD design has not been changed, and the mass of the changed valve is +/-30% of the original valve.

### **Annex VI**

# **Draft amendments to UN Regulation No. 135 (Pole side impact)**

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/14 (see paragraph 26 of this report)

Paragraph 1.1. (b), amend to read:

### "1. Scope

- 1.1. This Regulation applies to:
  - (a) Category M1 vehicles with a gross vehicle mass of up to 3,500 kg; and
  - (b) Category  $N_1$  vehicles where, when positioned on a level surface with all tyres inflated as recommended by the vehicle manufacturer and the vehicle in unladen condition as defined in paragraph 2.24., the acute angle alpha ( $\alpha$ ), measured, ...

..."

<sup>&</sup>lt;sup>1</sup> In accordance with the general guidelines on the scope of UN Regulations (see document ECE/TRANS/WP.29/1044/Rev.1), Regulation No. 135 type approvals may only be granted for vehicles within the scope of this Regulation and shall be accepted by all the Contracting Parties applying this Regulation. However, decisions regarding the vehicle categories required on a regional/national basis to meet the requirements of this Regulation shall be dealt with at the regional/national level. A Contracting Party may therefore restrict application of the requirements in its national legislation if it decides that such restriction is appropriate.

### **Annex VII**

### Draft amendments to Mutual Resolution No. 1

# Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/2 (see paragraph 31 of this report)

### I. Proposal

Contents, list of Appendices,

Appendix 7, amend to read:

"Appendix 7. – Arms and Hands"

Appendix 8., amend to read:

"Appendix 8. - Legs and Feet"

Insert new Appendix 9, to read:

"Appendix 9. - Tools"

Text of the Resolution,

Annex 2, Engineering Drawings and Parts List, paragraph 4, amend to read:

"4. List of Appendices

Appendix 1. Assembly Drawings

Appendix 2. Head

Appendix 3. Cervical Spine

Appendix 4. Thoracic and Lumbar Spine

Appendix 5. Torso and Pelvis

Appendix 6. Muscle Substitute

Appendix 7. Arms and Hands

Appendix 8. Legs and Feet

Appendix 9. - Tools."

Figure 81, amend to read:

"Figure 81

#### Inserting the Bumper in the Vertebra



Remove the two M2.5 SHCS that retain the T1 pin at the C7-T1 joint (Figure 82). Slide the T1 pin out of the vertebrae joint (Figure 83) and set it aside along with the two M2.5- $0.45 \times 8$  SHCS for re-installation later."

#### GRSP Priority/ Title Tasks / Deliverables References Allocation Timeline Initiator Comments s / IWGs recurrent Short term US/EC Pedestrian Safety ECE/TRANS/WP.29/2021/53 TF to be To be 1. Priority Review proposed Amendment 3 to ECE/TRANS/WP.29/2021/54 started created GTR9 AC3/31/Rev.1 GRSP-69-43-Rev.1 Head impact zone ECE/TRANS/WP.29/GRSP/2020/9 WP.29 June EC, JPN To be Inclusion in GTR9 T.b.d. 2021 enlargement started ECE/TRANS/WP.29/GRSP/2019/18 GRSP-69-21-Rev.1 Transposition in UN Head impact zone ECE/TRANS/WP.29/GRSP/2020/9 N/A 2022 EC. JPN Ongoing enlargement R127 ECE/TRANS/WP.29/GRSP/2019/18 GRSP-69-21-Rev.1 11/2022 Deployable Inclusion in GTR9 ECE/TRANS/WP.29/AC.3/45 IWG-KOR Ongoing **DPPS** pedestrian ECE/TRANS/WP.29/AC.3/45/Rev.1 protection systems To be N/A WP.29 June EC, JPN Deployable Transposition in UN N/A pedestrian R127 2021 started protection systems and head impact zone enlargement No WP29/AC.3 2. Priority Amendment to Inclusion of ECE/TRANS/WP.29/GRSP/2021/2 UK Urgent Addendum 1 Mutual matter. GRSP-69-01 November Resolution No. 1 (BioRID) since the - Addendum 1 lack of 2021 specificatio ns may hamper the

# Annex VII

# Draft amendments to list of priority work of GRSP Adopted text based on GRSP-69-29-Rev.2 (see paragraph 36 of this report)

							proper use of UN GTR No. 7 and UN Regulation No. 17
Recurrent	UN Regulation No. 17	Test procedure for the height of head restraints in the case of vehicles having a low roof construction.	ECE/TRANS/WP.29/GRSP/2020/12	N/A	2022	OICA	Ongoing
Recurrent	UN Regulation No. 22	Type approval of accessories to helmets	ECE/TRANS/WP.29/GRSP/2020/13 GRSP-69-17	Ad hoc group	WP29 November 2021	Israel	Ongoing
Recurrent	UN Regulation No. 100	Specific conditions concerning a clear interpretation of an AC voltage	GRSP-69-04				
Recurrent	UN Regulation No. 129	head containment assessment for side impact testing;	ECE/TRANS/WP.29/GRSP/2021/7	N/A	2021	Spain	Ongoing
			Medium term				
Priority	Amendment to Mutual Resolution No. 1 – Addendum 4	Inclusion of Addendum 4 (Q dummies)	N/A	Task Force	2021-2022	Germany	Urgent matter, since the lack of specificatio ns may hamper the proper use of UN Regulation No. 129

Priority	Amendment to Mutual Resolution No. 1 – Addendum x	Inclusion of Addendum x (Female Dummies) But also other vulnerable occupants and seating position	N/A	[T/F]	2021	Sweden	Urgent matter, to provide the same level of protection to females in the event of crashes to fulfil UN SDG5
Priority	Alternative test methods for heavy duty vehicles in order to improve applicability	Transposition in UN GTR13	N/A	IWG	T.b.d	T.b.d	To be started
Priority	Hydrogen safety material compatibility and new tank concepts	Inclusion in GTR13 'phase 2'	ECE/TRANS/WP.29/AC.3/49	IWG- HFCV	WP.29 June 2023	JPN, KOR, EC	Ongoing
Priority	Hydrogen safety material compatibility and new tank concepts	Transposition in UN R134 [and R146]	N/A	T.b.d.		EC, JPN	To be started if agreed by GRSP
Priority	Electric vehicles safety	GTR20 Phase 2		IWG- EVS	Proposal at March November 2024 WP.29	US, EC, CN, JP	Ongoing
Recurrent	Children in buses	New reg	2019/22 and GRSP-66-06	IWG- STCBC	WP29 March 2023	SP	Ongoing
Recurrent	UN Regulation No. 16	Alternative (at the choice of the manufacturer) to the airbag switch-off for frontal airbags in	ECE/TRANS/WP.29/GRSP/2019/15 and GRSP-66-14	N/A	2021	OICA	Ongoing

		combination with rearward-facing child restraint systems in the rear seat					
Recurrent	UN Regulation No. 136	To update R136 considering new provisions in UN R100.03 and to clarify requirements for swappable Rechargeable Electric Energy Storage Systems (REESS)	GRSP-69-13 and GRSP-69-14	N/A	2021/2022	IMMA	
			Long term		L	l	
1. Priority	Passive safety with regard to new seating configurations in automated/autono mous vehicles	At the request of AC.2 and GRVA, collect available information and data describing the expected future seating position configurations (including children) related to highly automated and autonomous vehicles.  Create a common understanding on the readiness of new systems over time and related regulatory needs and timeline  Identify a step-wise "regulatory approach" to enable	Link to GRVA and WP29 (e.g. WP29-179-23 and WP29-179-25)	GRSP  Taskforce to collect existing data/info	Depending from the identified "regulatory timeline"	To be defined	Automated/ autonomous vehicles are seen to offer significant benefits in road safety  It is expected that higher levels of automation will be available in the near future allowing occupants to aim for new seating configuratio ns, e.g. improved comfort, working

32			the above identified solutions.					environmen t or improved communicat ion.
-	2.Priority	UN GTR on ECRS	N/A	N/A	N/A	N/A	N/A	Need to harmonize ECRS provisions
	3. Priority	Crash tests that represents the entire population.	N/A	N/A	N/A	N/A	Sweden	
-	Recurrent	Helmets	07 series of amdt Phase 2 of IWG	2019/25 and GRSP-66-22	IWG PH (mandate to be proposed)	2022?	FR IT	To be started if agreed by GRSP

### Subjects under consideration by the Working Party on Passive Safety (GRSP)

Document symbol Documentation ECE/TRANS/WP.29/... Subject availability 7.1. 1958 Agreement For document symbols and its availability, please refer to the agenda 7.1.1. Proposal for draft amendments to existing for the sixty-ninth session UN Regulations (1958 Agreement): (GRSP/2021/1) 21 (Interior fittings); 22 (Protective helmets); (Strength of seats and their anchorages (buses)); 94 (Frontal collision); 95 (Lateral collision) 100 (Electric power trained vehicles); 127 (Pedestrian safety); 129 (Enhanced child restraint systems) 134 (Hydrogen and fuel cell vehicles (HFCV)) 137 Frontal impact with focus on restraint systems 7.1.2. Proposal for draft new UN Regulations: Nil 7.2. 1998 Agreement (Global) For document symbols and its availability, please refer to the agenda (Pedestrian safety); for the sixty-ninth session (GRSP/2021/1) (Hydrogen and Fuel Cells Vehicles) (Electric vehicle safety) Electric vehicles

7.3. 1997 Agreement (Inspections)

Vehicle Crash compatibility

Nil

7.4. Proposal for draft recommendations or amendments to existing recommendations

Mutual Resolution No. 1.

### **Annex IX**

# Draft amendments to UN Regulation No. 100 (Electric power trained vehicles)

Amendments adopted to ECE/TRANS/WP.29/GRSP/2021/14 (see paragraph 44 of this report)

Paragraph 2.42., add a second note to read:

"2.42. "Specific voltage condition" ...

Note 1: ...

Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."

### Annex X

## Draft collective amendments to UN Regulations Nos. 94, 95, 137 and 153

Adopted text based on GRSP-69-41 (see paragraph 47 of this report)

# I. Proposal for Supplement 1 to the 04 series of amendments to UN Regulation No. 94

Paragraph 2.40., add a second note to read:

"2.40. "Specific voltage condition" ...

Note 1: ...

Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."

# II. Proposal for Supplement 2 to the 05 series of amendments to UN Regulation No. 95

Paragraph 2.45., add a second note to read:

"2.45. "Specific voltage condition" ...

Note 1: ...

Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."

# III. Proposal for Supplement 2 to the 02 series of amendments to UN Regulation No. 137

Paragraph 2.37., add a second note to read:

"2.37. "Specific voltage condition" ...

Note 1: ...

Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."

# IV. Proposal for Supplement 2 to the original series of amendments to UN Regulation No. 153

Paragraph 2.31., add a second note to read:

"2.31. "Specific voltage condition" ...

Note 1: ...

Note 2: For pulsating DC voltages (alternating voltages without change of polarity) the DC threshold shall be applied."

### Annex XI

[English only]

### List of GRSP informal working groups

Informal working group	Chair	Expiry date of the mandate [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 Pedestrian Safety	Mr. Jin Seop PARK (Republic of Korea)	[November 2022]	OICA
Deployable – Pedestrian Protection Systems (DPPS)	Email: jspark@kotsa.or.kr		
UN GTR No. 20 (EVS) – Phase 2	Mr. Martin KOUBEK (USA) and vice- chaired by EC, Japan, and China)		
	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)	June 2022	[]
	Phone: +1 202 366 4026 Email: martin.koubek@dot.gov		
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	

### **Annex XII**

[English only]

# Decisions submitted to silence procedure following formal meetings with remote participation of the Working Party on Passive Safety (GRSP), 21 May 2021

### Adopted text based on GRSP-69-29-44 (see paragraph 48 of this report)

Agenda	Document No (link)	Decision
item		
1	https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 01e_0.pdf https://unece.org/sites/default/files/2021- 05/GRSP-69-27epdf https://unece.org/sites/default/files/2021- 05/GRSP-69-12e.pdf https://unece.org/sites/default/files/2021- 05/GRSP-69-33r1.pdf	In accordance with Chapter III, Rule 7 of the Rules of Procedure (TRANS/WP.29/690/Rev.1) of the World Forum for Harmonization of Vehicle Regulations (WP.29), GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2021/1) proposed for the sixty-ninth session, the running order (GRSP-69-27), virtual meeting guidelines (GRSP-68-12) and the annotations (GRSP-69-33-Rev.1).
2(a)	https://unece.org/sites/default/files/2021- 05/GRSP-69-43r1e.pdf	GRSP recommended on provisional basis AC.3/31-Rev.1, to provide a revised request of Authorization of work to finalize Amendment 3 to UN GTR No. 9 (Pedestrian safety) for consideration to the June 2021 session of AC.3.
6	https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 09e 1.pdf https://unece.org/sites/default/files/2021- 05/GRSP-69-35e.pdf	Concerning the minimum number of lower anchorages for folding seats GRSP adopted ECE/TRANS/WP.29/GRSP/2021/9 as amended by GRSP-69-35. The secretariat was requested to submit the proposal as draft Supplement 9 to the 07 series, Supplement 1 to the 08 series and Supplement 2 to the 09 series of amendment to UN Regulation No. 14 (Safety-belt anchorages), for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
7	https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 10e_1.pdf https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 16e_0.pdf	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/10, not amended, to amend an omission in paragraph 3 of the UN Regulation, with regard to information on safety-belt reminders; ECE/TRANS/WP.29/GRSP/16, a correction to the the information sheet (Certificate) in its paragraph 3.3. The secretariat was requested to submit the proposal as draft Supplement 7 to the 07 series of amendment to UN Regulation No. 16 (Safety-belts) and Corrigendum 1 to Supplement 12 to the 06 series of amendments for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
9	https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 13e_1.pdf https://unece.org/sites/default/files/2021- 05/GRSP-69-17e.pdf	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/13, as amended by GRSP-69-17 to address the need of a text that can be enforced in a practical manner until specific requirements for the type approval of helmet accessories will be defined. The secretariat was requested to submit the proposal, as draft Supplement 1 to the 06 series of amendment to UN Regulation No. 22 (Protective helmets), for

	<u></u>	11 1 1 1 1 1 2001
		consideration and vote at the November 2021 session of WP.29 and to the AC.1.
10	https://unece.org/sites/default/files/2021- 03/ECE-TRANS-WP.29-GRSP-2021- 08e_1.pdf	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/8, not amended, to further amend the current scope of UN Regulation No. 95 (Lateral collision). The secretariat was requested to submit the proposals, as draft Supplement 1 to the 04 series and draft Supplement 2 to the 05 of amendments to UN Regulation No. 95, for consideration and vote at the November 2021 session of WP.29 and to the AC.1.
12	https://unece.org/sites/default/files/2021-05/GRSP-69-09e.pdf https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-03e_0.pdf https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-04e_0.pdf https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-05e_0.pdf https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-03/ECE-TRANS-WP.29-GRSP-2021-03/ECE-TRANS-WP.29-GRSP-2021-06e_0.pdf	GRSP adopted GRSP-69-09 confirming the interpretation of the expert from the Netherlands on the way "one belt route" defined by the current text of UN Regulation No. 129 (Enhanced Child Restraint Systems). The adoption of the document will not amend the text of the UN Regulation and such decision will be reported orally by the Chair of GRSP at the November 2021 session of WP.29. GRSP also adopted: ECE/TRANS/WP.29/GRSP/2021/3, ECE/TRANS/WP.29/GRSP/2021/4, ECE/TRANS/WP.29/GRSP/2021/5 and ECE/TRANS/WP.29/GRSP/2021/6, all not amended, clarifying the application of the dynamic tests procedures to ECRS. The secretariat was requested to submit the proposals, for consideration and vote at the November session of WP.29 and AC.1, for consideration and vote at the June 2021 session of WP.29 and to the AC.1, as draft: a) Supplement 11 to the original version of UN Regulation No. 129. (ECE/TRANS/WP.29/GRSP/2021/3) (b) Supplement 8 to the 01 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/4) (c) Supplement 7 to the 02 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/5). (d) Supplement 6 to the 03 series of amendment to UN Regulation No. 129 (ECE/TRANS/WP.29/GRSP/2021/5).
13	https://unece.org/sites/default/files/2021-04/ECE-TRANS-WP.29-GRSP-2021-12e.pdf	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/12 as amended by GRSP-69-22-Rev.2 aiming to allow alternative test methods for heavy duty vehicles in
	https://unece.org/sites/default/files/2021- 05/GRSP-69-22r1e.pdf	order to improve applicability of the requirements to vehicles of categories M <sub>2</sub> , M <sub>3</sub> , N <sub>2</sub> and N <sub>3</sub> . The secretariat was requested to submit the proposal as draft Proposal for Supplement 4 to the original version and Supplement 1 to the 01 series of amendments to UN RegulationNo.134 (Hydrogen and Fuel Cell Vehicles) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
14	https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-14e_0.pdf	GRSP adopted ECE/TRANS/WP.29/GRSP/2021/14, amended, aiming at defining parameters to enable a reproducible measurement of the acute angle alpha (α) to decide whether or not the vehicle is in the scope of the UN Regulation. The secretariat was requested to submit the proposal as draft Supplement 3 to the 01 series of amendments to UN Regulation No. 135 (Pole

		Side Impact (PSI)) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1
17	https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-11e_0.pdf  https://unece.org/sites/default/files/2021-03/ECE-TRANS-WP.29-GRSP-2021-02e.pdf https://unece.org/sites/default/files/2021-	GRSP adopted, not amended, ECE/TRANS/WP.29/GRSP/2021/11 aimed at clarifying the requirements for the location of ISOFIX systems in case the vehicle type is equipped with rearward facing seats. The secretariat was requested to submit the proposal as draft Supplement 1 to the original version to UN Regulation No.145 ((ISOFIX anchorage systems, ISOFIX top tether anchorages and i-Size)) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1  GRSP adopted ECE/TRANS/WP.29/GRSP/2021/2, as amended by GRSP-69-39  To incorporate Biomechanical Rear Impact Device
18	05/GRSP-69-39e.pdf	Dummy into Mutual Resolution No. 1 (M.R.1). The secretariat was requested to submit the proposal, as draft Amendment 3 to M.R.1. for consideration and vote at the November 2021 session of WP.29 and to the AC.3.
22	https://unece.org/sites/default/files/2021- 05/GRSP-69-29r2e1.pdf	GRSP adopted GRSP-69-29-Rev.2 as revised list of priority work of GRSP.
23(g)	https://unece.org/sites/default/files/2021- 04/GRSP-69-04e.pdf	GRSP adopted GRSP-69-04, to clarify specific conditions concerning a clear interpretation of an AC voltage (rms). The secretariat was requested to submit the proposal as draft Supplement 1 to the 03 series of amendments to UN Regulation No. 100 (Electric power-train vehicles) for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1.
23(j)	https://unece.org/sites/default/files/2021- 05/GRSP-69-41e 0.pdf	GRSP adopted GRSP-69-41, to clarify the definition "special voltage condition" and avoid misinterpretation in the application of the isolation resistance test after exposure to water.  The secretariat was request to submit the proposal for consideration and vote at the November 2021 sessions of WP.29 and to the AC.1. as draft:  (a) supplement 1 to the 04 series of amendments to UN Regulation No. 94 (Frontal collision)  (b) supplement 2 to the 05 series of amendments to UN Regulation No. 95 (Lateral collision)  (c) supplement 2 to the 02 series of amendments to UN Regulation No. 137 (Frontal impact with focus on restraint systems)  (d) supplement 2 to the original series of amendments to UN Regulation No. 153 (Fuel system integrity and safety of electric power train in the event of a rear-end collision)

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