



# Economic and Social Council

Distr.: General  
20 June 2012

Original: English

## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

### Working Party on Passive Safety

#### Fifty-first session

Geneva, 21–25 May 2012

## Report of the Working Party on Passive Safety on its fifty-first session

### Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Attendance.....	1–2	3
II. Adoption of the agenda (agenda item 1) .....	3	3
III. Global technical regulation No. 1 (Door locks and door retention components) (agenda item 2).....	4	3
IV. Global technical regulation No. 7 (Head restraints) (agenda item 3) .....	5–9	3
V. Global technical regulation No. 9 (Pedestrian safety) (agenda item 4) .....	10–11	5
A. Phase 2 of the global technical regulation .....	10	5
B. Proposal for Amendment 2 .....	11	5
VI. Side impact (agenda item 5) .....	12–15	5
A. Draft global technical regulation on Pole Side Impact .....	12–13	5
B. Harmonization of side impact dummies .....	14–15	6
VII. Global technical regulation on electric vehicles (agenda item 6).....	16	6
VIII. Crash compatibility (agenda item 7) .....	17	6
IX. Hydrogen and fuel cell vehicles (agenda item 8) .....	18–19	6
X. Regulation No. 11 (Door latches and hinges) (agenda item 9) .....	20	7
XI. Regulation No. 14 (Safety-belt anchorages) (agenda item 10).....	21–22	7
XII. Regulation No. 16 (Safety-belts) (agenda item 11).....	23–24	8

XIII.	Regulation No. 17 (Strength of seats) (agenda item 12) .....	25–26	8
XIV.	Regulation No. 22 (Protective helmets) (agenda item 13) .....	27	8
XV.	Regulation No. 44 (Child restraint systems) (agenda item 14) .....	28-29	8
XVI.	Regulation No. 94 (Frontal collision) (agenda item 15).....	30-31	9
XVII.	Regulation No. 95 (Lateral collision) (agenda item 16).....	32	9
XXVIII.	Regulation No. 100 (Construction and functional safety of battery electric vehicles) (agenda item 17) .....	33–35	9
XIX.	Buses and coaches (agenda item 18) .....	36	10
XX.	Draft Regulation on pedestrian safety (agenda item 19) .....	37–38	10
	A. Proposal for Supplement 1 to the draft Regulation .....	37	10
	B. Proposal for the 01 series of amendments to the draft Regulation.....	38	11
XXI.	Draft new Regulation on child restraint systems (agenda item 20).....	39–40	11
XXII	Collective amendments – Regulations Nos. 12, 94, 95 and 100 (agenda item 21) .....	41	11
XXIII.	Other business (agenda item 22) .....	42–48	11
	A. Exchange of information on national and international requirements on passive safety .....	42	11
	B. 1997 Agreement (Inspections) – Development of draft rule No. 2.....	43	11
	C. Intelligent Transport Systems (ITS).....	44	12
	D. Quiet Road Transport Vehicles (QRTV) .....	45	12
	E. Definitions and acronyms in Regulations under GRSP responsibilities on the basis of an initiative of the Working Party on Pollution and Energy .....	46	12
	F. Development of the International Whole Vehicle Type Approval (IWVTA) system and involvement of the Working Parties.....	47	12
	G. Regulation No. 29 (Cabs of commercial vehicles) .....	48	12
XXIV.	Provisional agenda for the next session (agenda item 23).....	49	13

## Annexes

I.	List of informal documents (GRSP-51-...) distributed without an official symbol during the session .....	15
II.	Terms of reference of the informal working group on Electric Vehicle Safety (EVS) .....	19
III.	Draft amendments to Regulation No. 14 .....	22
IV.	Draft amendments to Regulation No. 44 .....	23
V.	Draft amendments to Regulation No. 100 .....	24
VI.	Proposal of extending the mandate of the Phases 2 and 3 of the informal working group on Child Restraint Systems .....	31
VII.	Proposal of amendments to Regulations Nos. 12, 94, 95 and 100 .....	32
VIII.	List of GRSP informal working groups. ....	34

## **I. Attendance**

1. The Working Party on Passive Safety (GRSP) held its fifty-first session in Geneva from 21 to 25 May 2012, chaired by Ms. M. Versailles (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) (TRANS/WP.29/690 and Amend.1): Australia; Belgium; Canada; China; Czech Republic; France; Germany; Hungary; India; Italy; Japan; Netherlands; Norway; Poland; Republic of Korea; Russian Federation; Serbia; South Africa; Spain; Sweden; Switzerland; Turkey; United Kingdom of Great Britain and Northern Ireland and United States of America. An expert from the European Commission (EC) participated. Experts from the following non-governmental organizations participated: Consumers International (CI); European Association of Automotive Suppliers (CLEPA); European Enhanced Vehicle-Safety Committee (EEVC); Foundation for the Automobile and Society (FIA Foundation); International Organization of Motor Vehicle Manufacturers (OICA) and International Motorcycle Manufacturers Association (IMMA).

2. The informal documents distributed during the session are listed in Annex I to this report.

## **II. Adoption of the agenda (agenda item 1)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/1  
Informal document GRSP-51-04

3. GRSP considered and adopted the agenda (ECE/TRANS/WP.29/GRSP/2012/1) proposed for the fifty-first session with the new agenda items 22(f), 22(g) and 23 as well as the running order (GRSP-51-04). The list of GRSP informal working groups is contained in Annex VIII to this report.

## **III. Global technical regulation No. 1 (Door locks and door retention components) (agenda item 2)**

4. No new information was provided for this agenda item.

## **IV. Global technical regulation No. 7 (Head restraints) (agenda item 3)**

*Documentation:* Informal documents GRSP-51-22, GRSP-51-23, GRSP-51-24 and GRSP-51-37

5. The expert from the United Kingdom, Chair of the informal working group on UN GTR No. 7 Phase 2, informed GRSP about the ongoing activities of the group:

(a) The informal working group had made good progress on development of a proposal to redefine the height of the head restraints in terms of its “effective” rather than absolute height and to deliver a new procedure for its measurement. It was noted that the actual value to be ascribed as a height requirement was sensitive and that it may be more efficient to discuss this during GRSP proper sessions rather than during the meetings of the informal working group.

(b) The informal group had noted that there are differences in some dimensions of the various three-dimensional H point machines (3-D "H") in the market and that some manufacturers use tighter tolerances for their machines than those defined in the Society of American Engineers (SAE) standard. The informal working group is considering whether new tolerances for the 3-D H machine should be specified and, if so, whether this should be specific to UN GTR No. 7 (and UN Regulation No. 17) or for all UN Regulations and UN GTRs where the machine is used. The expert from SAE was invited as members of the informal working group and it was hoped that proposals for a transparent and open definition of the machine could be agreed.

(c) Regarding the dynamic test to assess the risk of whiplash injury, it was confirmed that the group is working for an agreement to define only the Biofidelic Rear Impact Dummy (BioRID II) within the UN GTR (replacing the current reference to the Hybrid III dummy). The development of injury criteria was of critical importance to the delivery of this outcome but unfortunately research in this area has not proceeded as scheduled.

6. The Chair of the informal working group reminded GRSP that the European Enhanced Vehicle Safety Committee (EEVC) recommended BioRID II as a unique choice for a kinematic assessment and that GRSP had received a proposal from the experts of Japan and the EC to adopt this approach into UN Regulation No. 17. He added that an initial assessment of the data from the recent EC study suggested that the reproducibility question for BioRID was not an issue when used for kinematics. He indicated that the drafting of UN GTR currently provides for BioRID to be introduced as an option to Hybrid III and this possibility, using the kinematic approach, remained. Finally, he announced that the next meeting of the informal working group was scheduled on 18-19 of June 2012 in Munich, Germany.

7. The expert from Germany, Chair of the BioRID Technical Evaluation Group (TEG), introduced the status report (GRSP-51-22) of the group. He underlined that the dummy response was sensitive to the change of parts and that certification tests and better control of material properties might be needed.

8. The expert from the Netherlands introduced GRSP-51-23 detailing the main conclusion of the informal working group on UN GTR No. 7 Phase 2 concerning the height of head restraint issue. Moreover, through GRSP-51-24 he underlined the actual need for increasing head restraint height. The expert from OICA stated that the discussion should focus first on the definition of the measurement method and then on the height thresholds. Referring to the first phase of the UN GTR, the expert from OICA reminded GRSP that EEVC conclusion at that time was for introducing a limited increase of the height and of a backset of 40 mm to maximize cost benefits. GRSP agreed to resume discussion at its December 2012 session on possible proposals on draft UN GTR No. 7 phase 2 submitted by the informal working group. It was also recommended that similar proposals would also be simultaneously made in the same time to UN Regulation No. 17 to keep the texts of the two Regulations aligned.

9. GRSP noted the decision of WP.29, at its March 2012 session (ECE/TRANS/WP.29/1095 para. 93) to develop a Special Resolution No. 2 (S.R.2) for a protocol to manage drawings, calibration and maintenance associated with test tools. As a follow up of this discussion the Chair of the informal working group on UN GTR No. 7 Phase 2 introduced GRSP-51-37 as a concrete proposal based on the inclusion of BioRID II dummy as a start. The proposal received in principle the endorsement of GRSP and experts were invited to send further comments in due time to the Chair of the informal working group on UN GTR No. 7, to allow him to prepare an updated proposal for the June 2012 session of WP.29 for consideration.

## **V. Global technical regulation No. 9 (Pedestrian safety) (agenda item 4)**

### **A. Phase 2 of the global technical regulation**

*Documentation:* ECE/TRANS/WP.29/GRSP/2011/13  
Informal document GRSP-51-25

10. The expert from Germany, Chair of the informal working group on UN GTR No. 9 Phase 2, introduced the second progress report of the informal group (GRSP-51-25) and expressed his intention to submit it to the June 2012 session of WP.29. GRSP agreed to resume discussion on this agenda item at its December 2012 session, awaiting the outcome of the informal working group on UN GTR No. 9 Phase 2.

### **B. Proposal for Amendment 2**

*Documentation:* ECE/TRANS/WP.29/AC.3/31  
ECE/TRANS/WP.29/GRSP/2012/2  
Informal document GRSP-51-10-Rev.1 and GRSP-51-33-Rev.2

11. As follow-up of the concerns raised during the December 2011 session of GRSP, the expert from EC introduced GRSP-51-10-Rev.1, jointly prepared by the experts from the Netherlands and OICA, amending the initial proposal. The proposal received further comments from the experts from South Korea, Japan and the United States of America. Accordingly, GRSP considered GRSP-51-33-Rev.2 (superseding GRSP-51-10 GRSP-51-10-Rev.1 and GRSP-51-33-Rev.1). However, some experts requested a study reservation of the proposal. GRSP requested the secretariat to distribute GRSP-51-33-Rev.2 with an official symbol at its December 2012 session. Finally, GRSP recommended experts to prepare an update of the final report of the amendment of the UN GTR (ECE/TRANS/WP.29/GRSP/2012/2), if needed and draft a similar proposal of amendments to the UN Regulation on pedestrian safety for the next session of GRSP.

## **VI. Side impact (agenda item 5)**

### **A. Draft global technical regulation on Pole Side Impact**

*Documentation:* Informal document GRSP-51-16

12. The expert from Australia, on behalf of the Chair of the informal working group on a UN Global Technical Regulation (UN GTR) on pole side impact, introduced a proposal for a draft UN GTR on this subject (GRSP-51-16). He informed GRSP about the close collaboration with the informal working group on harmonization of side impact dummies. He added that the reference to the 3-D H Machine was provisional in the proposal and that in the future it should apply in the S.R.2 to keep harmonized tolerances of the seating position (see para. 5 of this report). He finally announced that the next meeting of the informal working group was scheduled on 20-21 June 2012.

13. GRSP recommended experts to send comments concerning GRSP-51-16 to the expert from Australia by 7 June 2012 for consideration at the next meeting of the informal working group.

## **B. Harmonization of side impact dummies**

*Documentation:* Informal document GRSP-51-30

14. The expert from the United States of America informed GRSP (GRSP-51-30) about the outcome of the last meeting of the informal working group on the harmonization work of the World Side Impact Dummy (WorldSID) held in London, on 21 March, 2012. She reported that the informal working group was confident to finalize the work for the 50<sup>th</sup> percentile dummy within the scheduled time. However, she indicated major issues remaining the readiness of the dummy: (i) the drawing package and user's manual still need negotiation with the manufacturer for its availability, (ii) additional certification work is needed for the pelvis and (iii) further discussion was necessary on instrumentation for multi-axis thorax deflection.

15. The experts from OICA and UK suggested the same timeline for adopting the WorldSID and the UN GTR on pole side impact to make the dummy available to Contracting Parties. GRSP agreed to resume discussion on this agenda item at its December 2012 session on the basis of a proposal submitted by the informal working group.

## **VII. Global technical regulation on electric vehicles (agenda item 6)**

*Documentation:* ECE/TRANS/WP.29/AC.3/32  
Informal document GRSP-51-19-Rev.1 and GRSP-51-20-Rev.1

16. Following to the decision of AC.3 to establish two informal working group on electric vehicles (see ECE/TRANS/WP.29/1095, para. 133), GRSP considered the first status report of the informal working group on electric safety (GRSP-51-20-Rev.1) and its terms of reference (GRSP-51-19-Rev.1) prepared by the expert from the United States of America. He clarified that the two informal working groups would have a different schedule and for the time being, they would report separately on the work progress to the Executive Committee of the 1998 Agreement (AC.3). GRSP endorsed the first status report of the informal working group, adopted its terms of references (GRSP-51-19-Rev.1) as reproduced in Annex II to this report and agreed to seek consent from AC.3 at its June 2012 session.

## **VIII. Crash compatibility (agenda item 7)**

17. No new information was provided for this agenda item.

## **IX. Hydrogen and fuel cell vehicles (agenda item 8)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2011/33  
ECE/TRANS/WP.29/GRSP/2012/12  
Informal document GRSP-51-05 and GRSP-51-21-Rev.1

18. The expert from the United States of America introduced GRSP-51-21, reflecting the last changes proposed by the special informal working group safety (SGS) to the main text of the draft UN GTR (ECE/TRANS/WP.29/GRSP/2012/12 superseding ECE/TRANS/WP.29/GRSP/2011/33). The expert from OICA introduced GRSP-51-05

proposing to delete of the square brackets from the provisions on the physical protection from high voltage. The proposals received some comments from the expert from Japan that mainly focused on the tolerances of the hydrogen container pressure (GRSP-51-21-Rev.1). The experts from Japan and EC urged the adoption of the draft UN GTR. The expert from EC indicated that a comparative analysis of the European legislation on hydrogen powered vehicles (i.e.: Regulations (EC) No. 79/2009 and (EU) No. 406/2010) against the draft UN GTR was available at:

[http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report-hydrogen-powered-vehicles\\_en.pdf](http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report-hydrogen-powered-vehicles_en.pdf)

19. However, GRSP agreed to defer the adoption of the draft UN GTR to its December 2012 session to give more time for discussion to SGS experts concerning the last changes introduced and the physical protection from high voltage. Experts were invited to provide comments on the proposal (GRSP-51-21-Rev.1 and ECE/TRANS/WP.29/GRSP/2012/12) to the expert of the United States of America, before the deadline for submission of official documents to the December 2012 session of GRSP (see para. 49). In the mean time it was agreed to seek the consent of WP.29 and AC.3 at their June 2012 sessions to extend the mandate of the SGS group until December 2012.

## **X. Regulation No. 11 (Door latches and hinges) (agenda item 9)**

20. No new information was provided for this agenda item.

## **XI. Regulation No. 14 (Safety-belt anchorages) (agenda item 10)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/3  
ECE/TRANS/WP.29/GRSP/2012/4  
Informal document GRSP-51-08

21. The expert from the United Kingdom introduced ECE/TRANS/WP.29/GRSP/2012/3 aimed at introducing requirements to permit the effective upper belt anchorages of M<sub>2</sub> and M<sub>3</sub> vehicles to be adjusted below the minimum height required by the Regulation. GRSP noted that the proposal did not address any child restraint system (CRS) type approved according to UN Regulation No. 44. Accordingly, the expert from Germany suggested resuming discussion on the issue of CRS in buses at the next GRSP session. GRSP, finally adopted ECE/TRANS/WP.29/GRSP/2012/3, as amended by Annex III to this report. The secretariat was requested to submit the proposal to WP.29 and AC.1, for consideration and vote at their November 2012 sessions as draft Supplement 5 to the 07 series of amendments.

22. GRSP considered ECE/TRANS/WP.29/GRSP/2012/4 tabled by the experts from Belgium and Germany to solve errors concerning the anchorage angles ( $\alpha_1$  and  $\alpha_2$ ) and GRSP-51-08, tabled by the expert from OICA, to solve an error in the requirements of front seats of vehicle of category M<sub>1</sub>. GRSP adopted ECE/TRANS/WP.29/GRSP/2012/4 not amended and GRSP-51-08, as reproduced in Annex III to this report. The secretariat was requested to submit both proposals to WP.29 and AC.1, for consideration and vote at their November 2012 sessions as part of (see para. 21 of this report) draft Supplement 5 to the 07 series of amendments.

## **XII. Regulation No. 16 (Safety-belts) (agenda item 11)**

*Documentation:* Informal documents GRSP-51-09 and GRSP-51-14

23. GRSP noted GRSP-51-09 proposing to increase the strap acceleration to 3 g to prevent the locking phenomena during the buckling up of the safety-belts. However, some GRSP experts questioned the real impact on safety of this proposal and asked further justification. GRSP agreed to resume consideration on this subject at its December 2012 session on the basis of a revised proposal prepared by the expert from CLEPA.

24. GRSP considered GRSP-51-14, tabled by the expert from OICA, proposing to align the text of the UN Regulation No. 16 with the air-bag label provisions recently introduced into UN Regulation No. 94 (frontal collision). The proposal received some comments such as whether it was better to reproduce the whole text of these requirements (present into the UN Regulation No. 94) rather than refer to their paragraph numbers. GRSP agreed to resume discussion on this agenda item at its December 2012 session on the basis of a revised proposal tabled by the expert from OICA.

## **XIII. Regulation No. 17 (Strength of seats) (agenda item 12)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2009/15  
ECE/TRANS/WP.29/GRSP/2009/23  
(ECE/TRANS/WP.29/GRSP/2011/10)

25. The expert from the Netherlands withdrew ECE/TRANS/WP.29/GRSP/2009/23 and GRSP agreed to keep ECE/TRANS/WP.29/GRSP/2009/15 in the agenda of its future sessions awaiting the outcome of the informal working group on UN GTR No. 7 Phase 2.

26. Finally, the expert from Germany announced a revised proposal on folding seats for the December 2012 session of GRSP.

## **XIV. Regulation No. 22 (Protective helmets) (agenda item 13)**

*Documentation:* Informal document GRSP-51-32

27. The expert from the France made a presentation (GRSP-51-32) announcing a new proposal of amendment at the December 2012 session of GRSP to introduce provisions for sunscreen of helmet visors.

## **XV. Regulation No. 44 (Child restraint systems) (agenda item 14)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/5  
ECE/TRANS/WP.29/GRSP/2012/6  
Informal documents GRSP-51-15, GRSP-51-27, GRSP-51-31 and  
GRSP-51-36-Rev.1

28. GRSP considered ECE/TRANS/WP.29/GRSP/2012/5 tabled by the expert from Spain to prevent unintentional disengaging of ISOFIX child restraint systems from their anchorages. The proposal received some comments and proposals to change from GRSP experts (GRSP-51-15 and GRSP-51-27). Moreover, GRSP considered GRSP-51-36-Rev.1 superseding GRSP-51-15, GRSP-51-27 and ECE/TRANS/WP.29/GRSP/2012/5. Finally, GRSP adopted ECE/TRANS/WP.29/GRSP/2012/5, as amended by Annex IV to this report. The secretariat was requested to submit the proposal to WP.29 and AC.1, for consideration



and vote at their November 2012 sessions as draft Supplement 6 to the 04 series of amendments.

29. The expert from the Netherlands introduced GRSP-51-31, superseding ECE/TRANS/WP.29/GRSP/2012/6, to solve some interpretation issues on the position of the lap belt during the dynamic test. The expert from UK suggested introducing a diagram into the proposal to definitively prevent misinterpretation. GRSP agreed to resume consideration on this matter at its December 2012 session awaiting a new document prepared by the expert from the Netherlands. In the same time the secretariat was requested to distribute GRSP-51-31 with an official symbol.

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

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/7  
Informal documents GRSP-51-06, GRSP-51-07-Rev.1 and GRSP-51-26

30. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2012/7 introducing provisions for vehicles with automatically activated door locking systems. The expert from OICA made a presentation (GRSP-51-06) introducing a proposal (GRSP-51-07-Rev.1) aimed at introducing a further possibility of testing the vehicle in a mixed configuration of locked and unlocked doors. The expert from Japan raised a study reservation to GRSP-51-07-Rev.1 and GRSP requested the secretariat to distribute it with an official symbol at its December 2012 session of GRSP.

31. The Chair of the informal working group on Frontal Collision introduced the last progress report of his group (GRSP-51-26). He informed GRSP that the informal working group would consider existing tools and make use of results from ongoing research programs on this matter at the international level. He informed that, as a first step and as a follow-up of these results, the group would propose an amendment to UN Regulation No. 94 by the May 2014 session of GRSP.

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

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/9  
Informal documents GRSP-51-12 and GRSP-51-13

32. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2012/9 on identical requirements for vehicles with automatically activated door locking systems for UN Regulation No. 95 (see para. 30 above). Accordingly, the expert from OICA made a presentation (GRSP-51-13) introducing a proposal to equate the provisions (GRSP-51-12). GRSP requested the secretariat to distribute GRSP-51-12 with an official symbol at its December 2012 session of GRSP.

## **XVIII. Regulation No. 100 (Construction and functional safety of battery electric vehicles) (agenda item 17)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/8  
ECE/TRANS/WP.29/GRSP/2012/10  
Informal documents GRSP-51-02, GRSP-51-11 and  
GRSP-51-35

33. The expert from Germany, Chair of the group of interested experts on Rechargeable Energy Storage Systems (REESS), informed GRSP about the conclusions of the work of the group in its last progress report (GRSP-51-35). He introduced ECE/TRANS/WP.29/GRSP/2012/10 and the last draft amendments (GRSP-51-02) proposed by the REESS group to UN Regulation No. 100. He also introduced a consolidated version of the UN Regulation, incorporating the amendments proposed (GRSP-51-11). GRSP adopted ECE/TRANS/WP.29/GRSP/2012/10, as amended by Annex V to this report. The secretariat was requested to submit the proposal to WP.29 and AC.1, for consideration and vote at their November 2012 sessions as draft 02 series of amendments to UN Regulation No. 100.

34. Moreover, GRSP agreed to seek guidance to WP.29 at its June 2012 session for a possible request to the Working Party on the Transport of Dangerous Goods (WP.15) to solve the issue of the ban on transportation (both shipping and airfreight) of batteries heavier than 35 kilos.

35. The expert from the Netherlands introduced ECE/TRANS/WP.29/GRSP/2012/8 aiming at covering electric vehicles of category L within the scope of the UN Regulation No. 100. GRSP recalled that the terms of reference of the REESS group, adopted at the May 2011 session of GRSP (see ECE/TRANS/WP.29/GRSP/49, Annex VI), covered a second step of the work mandate of the group dealing with L category of electric vehicles. GRSP agreed to refer ECE/TRANS/WP.29/GRSP/2012/8 to the REESS group and a possible proposal announced by the expert from EC. GRSP agreed to resume consideration on this agenda item at its December 2012 session awaiting the outcome of the REESS group.

## **XIX. Buses and coaches (agenda item 18)**

36. GRSP concluded the discussion on this matter under agenda item 10 (see paragraph 20 above) and agreed to keep this item in the agenda of its further sessions.

## **XVIII. Draft Regulation on pedestrian safety (agenda item 19)**

### **A. Proposal for Supplement 1 to the draft Regulation**

*Documentation:* ECE/TRANS/WP.29/GRSP/2011/18  
ECE/TRANS/WP.29/GRSP/2011/19

37. With reference to the discussion under agenda item 4(b) (see para. 10), GRSP agreed to defer discussion on this agenda item to its December 2012 session.

**B. Proposal for the 01 series of amendments to the draft Regulation**

*Documentation:* ECE/TRANS/WP.29/GRSP/2011/14  
ECE/TRANS/WP.29/GRSP/2011/20

38. GRSP agreed to defer discussion on this agenda item at its December 2012 session awaiting the outcome of the informal working group.

**XIX. Draft new Regulation on child restraint systems (agenda item 20)**

*Documentation:* ECE/TRANS/WP.29/2012/53  
Informal documents GRSP-51-34, GRSP-51-38, GRSP-51-39,  
GRSP-51-40 and GRSP-51-41

39. The expert from France, Chair of the informal working group on CRS introduced the status report of the work progress of his group (GRSP-51-34). He finally requested extending the work mandate of the informal working group for the Phases 2 and 3 of the planned work. GRSP endorsed the request amending the terms of references of the informal working group found in GRSP-51-34, as reproduced in Annex VI to this report and to seek consent from WP.29 at its June 2012 session.

40. The expert from Japan made two presentations (GRSP-51-38 and GRSP-51-39) and showed a summary of research conducted in his country (GRSP-51-40) on side impact test on CRS to introduce a proposal of amendment (GRSP-51-41) to the draft UN Regulation on CRS. GRSP agreed to resume consideration of GRSP-51-41 together with a further possible proposal of amendments to the draft UN Regulation (ECE/TRANS/WP.29/2012/53) at its December 2012 session. Accordingly, the secretariat was requested to distribute GRSP-51-41 with an official symbol at the next session of GRSP.

**XX. Collective amendments – Regulations Nos. 12, 94, 95 and 100 (agenda item 21)**

*Documentation:* ECE/TRANS/WP.29/GRSP/2012/11  
Informal document GRSP-51-01-Rev.1

41. GRSP considered GRSP-51-01-Rev.1, superseding ECE/TRANS/WP.29/GRSP/2012/11 introducing editorial corrections in the UN Regulations. Finally, GRSP adopted ECE/TRANS/WP.29/GRSP/2012/11 as amended by Annex VII to this report. The secretariat was requested to submit the proposal to WP.29 and AC.1, for consideration and vote at their November 2012 sessions as draft Supplement 2 to the 04 series of amendments to UN Regulation No. 12, draft Supplement 3 to the 02 series of amendments to UN Regulation No. 94, draft Supplement 2 to the 03 series of amendments to UN Regulation No. 95 and as draft Supplement 2 to the 01 series of amendments to UN Regulation No. 100.

## **XXI. Other business (agenda item 22)**

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

*Documentation:* Informal document GRSP-51-17

42. The expert from the United States of America introduced GRSP-51-17 informing GRSP about the on-going proposal of amendment to the safety-belt anchorage test procedure, to specify a new force application device (FAD) of the Federal Motor Vehicle Safety Standard 210 (seat belt anchorage assembly). He indicated the website where the petitions and comments could be posted and informed GRSP that they could ask the National Highway Traffic Safety Agency for an extension to the deadline for such submission.

### **B. 1997 Agreement (Inspections) – Development of Rule No. 2**

43. No new information was provided.

### **C. Intelligent Transport Systems (ITS)**

44. GRSP noted that the "UNECE Road Map for promoting Intelligent Transport Systems (ITS) – 20 global actions 2012 – 2020" was adopted by the Inland Transport Committee during its seventy-fourth session.

### **D. Quiet Road Transport Vehicles (QRTV)**

45. GRSP took note that the first meeting of the informal working group on Quiet Road Transport Vehicles was planned on July 18-20 in Washington, D.C. and invited interested experts to participate.

### **E. Definition and acronyms in Regulations under GRSP responsibilities on the basis of an initiative of the Working Party on Pollution and Energy**

*Documentation:* Informal documents GRSP-51-03 and GRSP-51-28

46. GRSP resumed consideration of the initiative of the Working Party on Pollution and Energy (GRPE) to have all definitions and acronyms present in the Regulations under its responsibility so as to avoid misconception when these were used in other Regulations. Accordingly, the expert from EC introduced GRSP-51-03, listing all those present in the current texts of UN Regulations annexed to the 1958 Agreement. In the same time, the expert from France, Chair of the Informal Working Group on CRS introduced GRSP-51-28, listing all the acronyms and definitions from UN Regulation No. 44. GRSP, requested its experts and the Chairs of the informal working groups to send comments about GRSP-51-03 to the expert from EC before the deadline for submission of official document (see para. 49) of its December 2012 session.

## **F. Development of the International Whole Vehicle Type Approval (IWVTA) system and involvement of the Working Parties**

*Documentation:* Informal document GRSP-51-18

47. Referring to the discussion held during the March 2012 session of WP.29 (ECE/TRANS/WP.29/1095, paras. 57-59), the expert from Japan introduced GRSP-51-18 reporting on the activities of the Informal Working Group on IWVTA and the role of the IWVTA ambassador in assisting the Working Parties (GRs). GRSP agreed to appoint the Japanese delegation as its ambassador and to await the outcome of the June 2012 session of WP.29 for detailed information on this matter.

## **G. Regulation No. 29 (Cabs of commercial vehicles)**

*Documentation:* Informal document GRSP-51-29-Rev.1

48. The expert from the Russian Federation introduced GRSP-51-29-Rev.1, proposing that the former scope of the UN Regulation be applicable to all N vehicle categories. He explained the current text exempted all vehicles not having a separate cab from the loading compartment (van type). The expert from Sweden argued that the tests of the 03 series of amendments to the UN Regulation, had been designed by the informal working group on truck cab strength for vehicles heavier than 7.5 tons. He indicated that the extension of the scope, as proposed by the expert from the Russian Federation, could be a second phase of work of the informal working group. The expert from OICA, former secretary of the informal working group, reminded GRSP that his group decided specifically to increase the severity of the tests focusing only on vehicles with a separate driver's cab. GRSP agreed to resume consideration of this agenda item at its December 2012 session and requested the secretariat to distribute GRSP-51-29-Rev.1 with an official symbol.

## **XXII. Provisional agenda for the next session (agenda item 23)**

49. For its fifty-second session, scheduled to be held in Geneva from 11 (2.30 p.m.) to 14 (12.30 p.m.) December 2012, GRSP noted that the deadline for submission of official documents to the secretariat was 14 September 2012, twelve weeks prior to the session. Moreover, the following provisional agenda was adopted:

1. Adoption of the agenda.
2. Global Technical Regulation No. 1 (Door locks and door retention components).
3. Global Technical Regulation No. 7 (Head restraints).
4. Global Technical Regulation No. 9 (Pedestrian safety):
  - (a) Phase 2 of the global technical regulation;
  - (b) Proposal for Amendment 2.
5. Side impact:
  - (a) Draft global technical regulation on Pole Side Impact;
  - (b) Harmonization of side impact dummies.
6. Global technical regulation on electric vehicles.
7. Crash compatibility.
8. Hydrogen and fuel cell vehicles.

9. Regulation No. 11 (Door latches and hinges).
10. Regulation No. 14 (Safety-belt anchorages).
11. Regulation No. 16 (Safety-belts).
12. Regulation No. 17 (Strength of seats).
13. Regulation No. 22 (Protective helmets).
14. Regulation No. 29 (Cabs of commercial vehicles).
15. Regulation No. 44 (Child restraints systems).
16. Regulation No. 94 (Frontal collision).
17. Regulation No. 95 (Lateral collision).
18. Regulation No. 100 (Battery electric vehicle safety).
19. Buses and coaches.
20. Draft Regulation on pedestrian safety:
  - (a) Proposal for Supplement 1 to the draft Regulation;
  - (b) Proposal for the 01 series of amendments to the draft Regulation.
21. Draft new Regulation on child restraint systems.
22. Other business:
  - (a) Exchange of information on national and international requirements on passive safety;
  - (b) 1997 Agreement (Inspections)–Development of draft Rule No. 2;
  - (c) Intelligent Transport Systems (ITS);
  - (d) Quiet Road Transport Vehicles (QRTV);
  - (e) Definition and acronyms in Regulations under GRSP responsibilities on the basis of an initiative of the Working Party on Pollution and Energy;
  - (f) Development of the International Whole Vehicle Type Approval (IWVTA) system and involvement of the Working Parties.
23. Election of officers.

## Annex I

[English only]

**List of informal documents (GRSP-51-...) distributed without an official symbol during the session**

<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
01/ Rev.1	OICA	21	E	Proposal for amendments to ECE/TRANS/WP.29/GRSP/2012/11 - Proposal for supplements to UN Regulations Nos. 12, 94, 95 and 100	(d)
02	Chair REESS	of 17	E	Proposed amendment to document ECE/TRANS/WP.29/GRSP/2012/10 (Proposal for the 02 series of amendments to UN Regulation No. 100)	(d)
03	European Commission	22(e)	E	Abbreviations and Acronyms used in the UN Regulations of GRSP (and other GRs) (1958 Agreement)	(c)
04	(Chair of GRSP)	1	E	Running order of the provisional agenda	(a)
05	OICA	8	E	Proposal for amendments to ECE/TRANS/WP.29/GRSP/2012/12 - UN Draft global technical regulation (UN GTR) on hydrogen fuelled vehicles	(a)
06	OICA	15	E	UN Regulation No. 94 (Frontal collision)	(a)
07/ Rev.1	OICA	10	E	Proposal for revision of ECE/TRANS/WP.29/GRSP/2012/7 - Proposal for Supplement [3] to the 02 series of amendments to UN Regulation No. 94 (Frontal-collision)	(b)
08	OICA	10	E	Proposal of amendments to the 07 series of amendments to UN Regulation No. 14 (Safety-belt anchorages)	(d)
09	CLEPA	11	E	Proposal for Supplement 4 to the 06 series of amendments to UN Regulation No. 16 (Safety-belts)	(a)
10/ Rev.1	(EC/NL/OICA)	4(b)	E	Comments on the proposed amendments to UN GTR No. 9 in working document ECE/TRANS/WP.29/AC.3/31	(a)

<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
11	Germany	17	E	Proposal for the 02 series of amendments to UN Regulation No. 100	(a)
12	OICA	16	E	Proposal for revision of ECE/TRANS/WP.29/GRSP/2012/9 - Proposal for Supplement [2] to the 03 series of amendments to UN Regulation No. 95 (Lateral collision)	(b)
13	OICA	16	E	UN Regulation No. 95 (Lateral collision)	(a)
14	OICA	11	E	Proposal for Supplement 3 to the 06 series of amendments to UN Regulation 16 (safety belts)	(a)
15	Japan	14	E	Proposal for amendment to ECE/TRANS/WP.29/GRSP/2012/5 (UN Regulation No.44 Child Restraint Systems)	(a)
16	Australia	13	E	Draft proposal of UN Global Technical Regulation on Pole Side Impact	(a)
17	USA	22(a)	E	Proposal to Amend the FMVSS 210 Test Procedure	(a)
18	Japan	22(f)	E	Development of the International World Vehicle Type Approval (IWVTA) system and involvement of the Working Parties: Candidate items for technical regulations applicable to IWVTA and guideline for grs to review technical regulations applicable to IWVTA	(a)
19/ Rev.1	USA	6	E	Terms of Reference for the informal group on Electric Vehicle Safety (EVS)	(d)
20/ Rev.1	USA	5(a)	E	Report of the 1st Meeting of the informal group on Electrical Vehicle Safety - Global Technical Regulation	(a)
21/ Rev.1	USA	8	E	Proposal of amendments to ECE/TRANS/WP.29/GRSP/2012/12	(a)
22	Germany	3	E	Draft status report of the BioRID Technical Expert Group (TEG)	(a)
23	The Netherlands	3	E	UN GTR No. 7 measuring method for effective head restraint height	(a)
24	The Netherlands	3	E	Actual needed height of head restraints	(a)
25	Germany	4(a)	E	Draft second progress report of the informal group on Phase 2 of UN GTR No. 9 (IG GTR9 - PH2)	(a)
26	France	15	E	51st GRSP Session status report of Informal Group on Frontal Impact	(a)



<i>No.</i>	<i>Transmitted by</i>	<i>Agenda item</i>	<i>Language</i>	<i>Title</i>	<i>Follow-up</i>
27	France	14	E	UN Regulation No. 44 (CRS) - Proposal for Supplement 6 to the 04 series of amendments	(a)
28	France	22(e)	E	List of acronyms (English/French) in UN Regulation No. 44 (CRS)	(c)
29/ Rev.1	Russian Federation	22(g)	E	Proposal for draft revision to UN Regulation No. 29 (Cab's strength) – 03 series of amendments	(b)
30	Chair of the Side Impact Dummies Group	5(b)	E	Report on the 8th meeting of the Side Impact Dummies informal working group, held in London, UK on March 21, 2012.	(a)
31	The Netherlands	14	E	Proposal for Supplement 6 to the 04 series of amendments to UN Regulation No. 44 (CRS)	(b)
32	France	13	E	Proposal of amendments to UN Regulation No. 22 (Protective helmets)	(a)
33/ Rev.2	European Commission	4(b)	E	Proposal to modify the proposed amendments to UN GTR No 9 (Pedestrian safety) in working document ECE/TRANS/WP.29/AC.3/31	(b)
34	France	13	E	Status report of the Informal Working Group on Child Restraint Systems for the 51th GRSP session	(d)
35	Chair of REESS	17	E	Final status report of the Rechargeable Energy Storage systems (REESS) group of interested experts	(a)
36/ Rev.1	France	14	E	Proposal for Supplement 6 to the 04 series of amendments to UN Regulation No. 44 (CRS)	(d)
37	UK and USA	3	E	Draft UN Special Resolution No. 2	(c)
38	Japan	20	E	Comparison of CRS Side Impact Test Results Using by Acceleration Type Sled and Deceleration type Sled	(a)
39	Japan	20	E	Japanese proposal for the draft new Regulation on Child Restraints Systems	(a)
40	Japan	20	E	Summary of Research on CRS Side Impact Test in Japan (draft new Regulation on Child Restraint Systems)	(a)
41	Japan	20	E	Proposal of amendment to ECE/TRANS/WP.29/2012/53 (draft new Regulation on Child Restraints Systems)	(b)

*Notes:*

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

## Annex II

### **Terms of reference of the informal working group on Electric Vehicle Safety (EVS)**

**Adopted text based on GRSP-51-19-Rev.1 (see para. 16 of this report)**

#### **A. Introduction**

1. The Executive Committee of the 1998 Agreement/(AC.3) gave, in November 2011, its general support to a joint proposal by the United States of America, Japan and the European Union to establish 2 working groups to address the safety and environmental issues associated with electric vehicles (EVs). This proposal (ECE/TRANS/WP.29/2012/36. and its Corr.1) was submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) at its March 2012 session for further consideration and formal adoption. The WP.29 Committee adopted this proposal with China as one of the co-sponsors together with Japan and the United States, and European Union, as recorded in the reports.

2. The objective of the two working groups is to seek regulatory convergence on the global scale via the work in the framework of the 1998 Agreement. The purpose of this document is to set forth the Terms of Reference (TOR) for the electric vehicle safety (EVS) working group whose goal is establishing a UN Global Technical Regulation (UN GTR) for EVs covering high voltage electrical safety, safety of electrical components, and rechargeable energy storage systems (REESS).

#### **B. Objective of the proposal**

3. The GTR will address the unique safety risks posed by EVs and their components. It will be performance-based to the extent possible so as not to restrict future technology development. It will be preceded by an exchange of information on current and future planned domestic regulatory safety requirements for electric vehicles based on section C of the formal proposal, (ECE/TRANS/WP.29/2012/36 and its Corr.1) including the underlying scientific and technical basis and research.

4. Given that electric vehicle technology is advancing and that vehicle manufacturers are planning to produce EVs at higher production volumes in the near future, it is necessary to address potential safety risks of EVs while in use and after a crash event, including electrical shocks associated with the high voltage circuits of EVs and potential hazards associated with lithium-ion batteries and/or other rechargeable energy storage systems (REESS) (in particular, containing flammable electrolyte).

5. The GTR will also set provisions and test protocols to ensure the vehicle system and/or electrical components perform safely, are appropriately protected, and are electrically managed while recharging from external electricity sources, whether at a residence or other charging location.

6. The UN GTR will cover high voltage electrical safety, electrical components such as electric connectors and inlets, and REESS, in particular those containing flammable electrolyte. The provisions will address the safety of electric vehicles, both in-use and post-crash. The key items would be as follows:

- (a) In-use normal operation of the vehicle excluding maintenance and repair:
  - (i) Protection against electrical shock;
  - (ii) Safety requirements for conductive and inductive charging, including connectivity;
  - (iii) Safety requirements for REESS risks, including thermal shock, thermal cycling, mechanical shock, over-discharge, isolation resistance, over-charge, vibration, fire resistance and short circuit, etc.
- (b) During and post-crash:
  - (i) Protection against electrical shock;
  - (ii) REESS crashworthiness, including the limitation of electrolyte leakage, physical battery retention, and the maintenance of essential safety performance;
  - (iii) REESS safety assessment and stabilization procedures.

7. To the extent possible, the experts of the subgroup will develop the GTR using the following processes:

- (a) Identify potential safety risks specific to EVs;
- (b) Develop and evaluate the requirements by reviewing analyses and evaluations conducted to support the requirements;
- (c) Develop and validate test procedures using existing evaluations and research; and
- (d) Avoid design-restrictive requirements and provisions that are not technically supported.

8. Other topics that the EVS informal working group could consider, insofar as these topics may be relevant for the technical requirements to be developed:

- (a) The different standards for electro-mobility (vehicle inlets for charging) and for vehicle-to-grid communication (intelligent charging);
- (b) Best practices or guidelines for manufacturers and/or emergency first responders.

9. Noise issue and electromagnetic compatibility will not be addressed by the EVS UN GTR informal working group.

### **C. Operating principles**

(a) The EVS informal working group will be chaired by the United States of America, vice-chaired by the European Union and China, and Japan will be the secretariat.

(b) The EVS informal working group will report to the Working Party on Passive Safety (GRSP). Participation in the EVS informal working group is open but not limited to participants of GRSP including Contracting Parties and Non Governmental Organizations (NGOs) to the 1958 and 1998 Agreement. The Chair shall ensure that the appropriate

experts participate in the meetings and may allow the participation of others whose expertise would assist the group.

- (c) The official language of the EVS informal working group will be English.
- (d) Sessions shall be held in agreement with the majority of the participants based on the joint proposal by the Chair, Vice-Chairs, and secretariat.
- (e) All documents will be circulated by e-mail to the members and submitted to the UNECE secretariat and posted on the UNECE/GRSP website in advance of the meetings. The informal working group may refuse to discuss any item or proposal which has not been circulated 10 working days in advance of the scheduled session.
- (f) Agenda: A provisional agenda shall be drawn up by the Chair, Vice-Chair and secretariat in accordance with the participants of the EVS informal working group. The first item upon the provisional agenda for each session shall be the adoption of the agenda. The second item on the provisional agenda will be the discussion, matters arising and adoption of the minutes of the previous session.
- (g) Proposals will be developed by consensus. When consensus cannot be reached, the Chair shall present the different points of view to GRSP. The Chair may seek guidance from AC.3 and GRSP as appropriate.
- (h) Meeting Minutes: Draft meeting minutes will be circulated in advance before the next session in view to be formally adopted at the next meeting.
- (i) Reporting: The progress of the informal Subgroup will be reported to GRSP and AC.3 orally or as an informal document by the Chair or a designated participant of the group.

#### **D. Timeline**

- (a) 14-18 November 2011: World Forum for Harmonization of Vehicle Regulations (WP.29) (155th session) – Executive Committee for the 1998 Agreement (AC.3) supports the proposal by the US, Japan and EU to establish two informal Working Groups on electric vehicles submitted.
- (b) 13-16 March 2012: World Forum for Harmonization of Vehicle Regulations (WP.29) (156th session): official adoption of the decision to launch the two informal working group by WP.29 in Geneva, Chairs, Vice-Chairs, and secretaries are identified.
- (c) April 2012: first meeting of the EVS informal working group.
- (d) May 2012: Adoption of Terms of Reference for the EVS informal working group by GRSP at its fifty-first session.
- (e) 2012-2014: sessions of the EVS WG, regular reporting to GRSP and AC.3, developing proposals for the draft UN GTR on EVS.
- (f) End of 2014: estimated completion of EVS UN GTR.

## Annex III

### Draft amendments to Regulation No. 14

#### Amendments adopted to ECE/TRANS/WP.29/GRSP/2012/3 (see para. 21 of the report)

Insert a new paragraph 5.4.3.6.1., to read:

- "5.4.3.6.1 Notwithstanding ...
- (a) The safety ... of average stature.
  - (b) **The effective upper anchorage shall be so designed to permit adjustment of its height by a manual adjusting device that is readily accessible to the wearer when seated and is convenient and easy to use.**
  - (c) The effective ...
  - (d) ...."

#### Adopted text based on GRSP-51-08 (see para. 22 of this report)

Paragraph 5.4.2.1., amend to read:

- "5.4.2.1. *Front seats, vehicle category M<sub>1</sub>*
- In motor vehicles of category M<sub>1</sub> the angle  $\alpha_1$  .... In the case of adjustable seats with an adjusting **system device** ~~as described in paragraph 2.12.~~ with a seatback angle of less than 20° (see annex 3, figure 1), ...."

Paragraph 5.4.2.4., amend to read:

- "5.4.2.4. *Rear seats and special front or rear seats, vehicle categories other than M<sub>1</sub>*
- In vehicles of categories other than M<sub>1</sub>, in the case of:
- (a) bench seats,
  - (b) adjustable seats (front and rear) with an adjusting **system device** ~~as described in paragraph 2.12.~~ with a seatback angle of less than 20° (see annex 3, figure 1), and
  - (c) other rear ...
- ..."

## Annex IV

### Draft amendments to Regulation No. 44

#### Amendments adopted to ECE/TRANS/WP.29/GRSP/2012/5 (see para. 28 of the report)

Insert a new paragraph 7.2.7., to read:

- "7.2.7. ISOFIX attachments shall .. requirements **specified in (a) or (b)** as follows:
- (a) Release of the locking mechanism **of the complete seat, shall** require 2 consecutive actions, ...out; or
  - (b) **The ISOFIX attachment opening force shall be at least 50 N when tested as prescribed in paragraph 8.2.9. below."**

Insert new paragraphs 8.2.9. to 8.2.9.5., to read:

"8.2.9. **The complete seat, or the component fitted with ISOFIX attachments (e.g. ISOFIX base) if it has a release button, is attached rigidly to a test rig in such a way that ISOFIX connectors are vertically aligned as shown in Figure 7. A 6 mm diameter bar, 350 mm long, shall be attached to the ISOFIX connectors. A mass of 5 kg shall be attached to the extremities of the bar.**

8.2.9.1. An **opening force shall be applied to** the release button or ... applied.

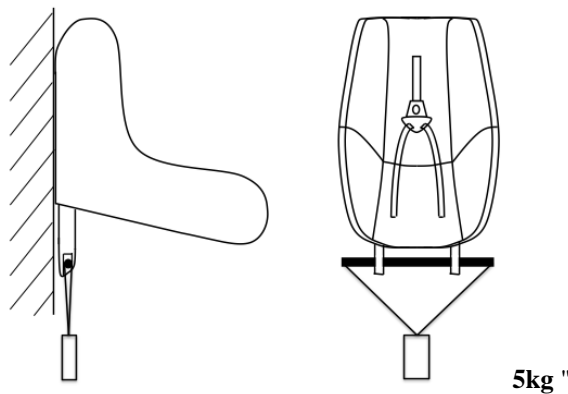
8.2.9.2. The ISOFIX ... of 25 mm.

8.2.9.3 **If the design of the child restraint prevents the application of the procedure described in paragraphs 8.2.9.1. and 8.2.9.2., an alternative method may be applied with the agreement of the Technical Service carrying out the test.**

8.2.9.4. **The ISOFIX attachment opening force to be measured shall be that needed to disengage the first connector.**

8.2.9.5. **The test shall be carried out on a new seat, and repeated on a seat that has been subjected to the cycling procedure specified in paragraph 7.2.6.**

Figure 7



## Annex V

### Draft amendments to Regulation No. 100

#### Amendments adopted to ECE/TRANS/WP.29/GRSP/2012/10 (see para. 33 of this report)

...

*Annex 7*, amend to read:

"Annex 7, - Determination of hydrogen emissions during the charge procedures of the REESS .....  
Appendix 1 - Calibration of equipment for hydrogen emission testing .....  
..."

...

*Insert a new paragraph 2.24.*, to read:

"2.24. "Manufacturer" ... It is not essential that the person or body be directly involved in all stages of the construction of the vehicle **or component** which **is** the subject of the approval process."

...

*Paragraph 2.36. (new)*, amend to read:

"2.36. "Type of REESS" means.....  
.....  
(d) the construction, materials and physical dimensions of **the casing**, and  
..."

...

*Paragraph 5.1.1.*, amend to read:

"5.1.1. Protection against direct contact  
Protection against direct contact with live parts is also required for vehicles equipped with any REESS type approved **under Part II of this Regulation**.  
The protection..."

*Paragraph 5.1.2.*, amend to read:

"5.1.2. Protection against indirect contact  
Protection against indirect contact is also required for vehicles equipped with any REESS type approved **under Part II of this Regulation**."

...



Paragraph 6.4.1.3., amend to read:

"6.4.1.3. Acceptance criteria

During the test, there shall be no evidence of

(a) ....

...

(c1) **Electrolyte leakage if tested according to Paragraph 6.4.1.1.**

(i) **For a period from the impact until 30 minutes after the impact there shall be no electrolyte spillage from the REESS into the passenger compartment.**

(ii) **No more than 7 per cent by volume of the REESS electrolyte capacity shall spill from the REESS to the outside of the passenger department (for open type traction batteries a limitation to a maximum of 5 litres also applies).**

(c2) .....

For a high voltage REESS the isolation resistance of the Tested-Device shall ensure at least 100  $\Omega$ /Volt for the whole REESS measured after the test in accordance with Annex 4A **or Annex 4B of this Regulation**, or the protection degree IPXXB shall be fulfilled for the Tested-Device.

.....

To confirm compliance to (c1) of paragraph 6.4.1.3., an appropriate coating shall, if necessary, be....."

...

Paragraph 6.4.2.1.2., amend to read:

"6.4.2.1.2. Vehicle specific component test

...

...

The manufacturers may, in agreement with the Technical Services, use forces derived from the data obtained from alternative crash test procedures, but these **forces shall be equal to or greater than the** forces that would result from using data **in accordance with the** regulations specified above.

..."

Paragraph 6.4.2.2., amend to read:

"6.4.2.2. Component based test

**The** test shall be conducted in accordance with Annex 8D of this Regulation.

REESS approved according to this paragraph shall be mounted in a position which is **between the two planes; (a) a vertical plane perpendicular to the centre line of the vehicle located 420mm rearward from the front edge of the vehicle, and (b) a vertical plane perpendicular to the centre line of the vehicle located 300 mm forward from the rear edge of the vehicle.**

...

The manufacturers may, in agreement with the Technical Services, use forces derived from the data obtained from alternative crash test procedures, but

these **forces** shall be equal to or greater **than the** forces that would result from using data **in accordance with the regulations** specified above."

*Paragraph 6.4.2.3.*, amend to read:

"6.4.2.3. Acceptance criteria

During the tests there shall be no evidence of

(a) ....

...

(c1) **Electrolyte leakage if tested according to paragraph 6.4.1.1.:**

(i) **For a period from the impact until 30 minutes after the impact there shall be no electrolyte spillage from the REESS into the passenger compartment.**

(ii) **No more than 7 per cent by volume of the REESS electrolyte capacity shall spill from the REESS to the outside of the passenger department. (for open type traction batteries a limitation to a maximum of 5 litres also applies).**

(c2) .....

For a high voltage REESS, the isolation resistance of the Tested-Device shall ensure at least 100  $\Omega$ /Volt for the whole REESS measured in accordance with Annex 4A or **Annex 4B of this Regulation**, or the protection degree IPXXB shall be fulfilled for the Tested-Device.

..."

...

*Annex 6, Part 1, item 3.4.*, amend to read:

"3.4. **Electrical specification:**"

...

*Annex 7,*

*The title,* amend to read:

"DETERMINATION OF HYDROGEN EMISSIONS DURING THE CHARGE PROCEDURES OF **THE REESS**"

...

*Paragraph 5.1.4.4. (new),* amend to read:

"5.1.4.4. The vehicle shall ... in **paragraph 5.1.4.7.** below."

...

*Paragraph 5.1.4.9. (new),* amend to read:

"5.1.4.9. The end of the ... **paragraph 5.1.4.6.** The different times ..."

...

*Paragraph 5.2.4.9. (new),* amend to read:

"5.2.4.9. The end of ... **paragraph 5.2.4.6.** The different times ..."

...

*Paragraph 5.2.5.11. (new), amend to read:*

"5.2.5.11. The end of ... paragraph 5.2.5.8. The times elapsed are recorded. The ...paragraph 6."

...

*Annex 8 (new), amend to read:*

"Annex 8

...

Discharge rate: **The** discharge procedure including termination criteria **shall be** defined by the manufacturer. If not specified, **then it shall be a** discharge with 1C current.

..."

*Annex 8A*

...

*Paragraph 2.1., amend to read:*

"2.1. This test shall be conducted either with the complete REESS or with **related** REESS ... If the electronic management unit for the REESS is not integrated **in the casing enclosing the cells**, then **the electronic management unit** may be omitted from **installation on** the **tested-device** if so requested by the manufacturer."

...

*Paragraph 3.2., amend to read:*

"3.2. Test Procedures

The tested-devices shall be ....

At the request of ... of table 1. **The approval of a REESS tested according to this condition shall be limited to approvals for a specific vehicle type.**

After the vibration..."

...

*Annex 8B, paragraph 2., amend to read:*

"2. This test shall be conducted either with the complete REESS or **with related** REESS subsystem(s) including ... If the electronic management unit for the REESS is not integrated **in the casing enclosing the cells**, then **the electronic management unit** may be omitted from **installation on** the **tested-device** if so requested by the manufacturer."

...

*Annex 8C, paragraph 2.1., amend to read:*

"2.1. This test shall be conducted either with the complete REESS or **with related** REESS subsystem(s) including ... If the electronic management unit for the REESS is not integrated **in the casing enclosing the cells**, then **the electronic management unit** may be omitted from installation on the tested-device if so requested by the manufacturer."

...

Annex 8D

Paragraph 2.1, amend to read:

"2.1. This test shall be conducted with either the complete REESS or with a related REESS subsystem(s) **including** the cells .... If the electronic management unit for the REESS is not integrated **the casing enclosing the cells, then the electronic management unit** may be omitted from **installation on the tested-device** if so requested by the manufacturer."

...

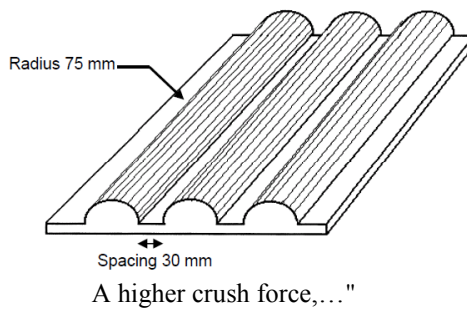
Paragraph 3.2.0., shall be deleted

Paragraph 3.2.1., amend to read:

"3.2.1. Crush force

The Tested-Device shall be crushed between a resistance and a crush plate as described in figure 1 with a force of at least 100 kN, ... but not exceeding 10 s.

Figure 1



**Dimension of the crush plate:  
600 mm x 600 mm or smaller**

...

Annex 8E

...

Paragraph 2.1., amend to read:

"2.1. This test shall be conducted either with the complete REESS or **with related REESS subsystem(s) including** the cells and their electrical connections. If the manufacturer chooses to test with related subsystem(s), the manufacturer shall demonstrate that the test result can reasonably represent the performance of the complete REESS with respect to its safety performance under the same conditions. If the electronic management unit for the REESS is not integrated **in the casing enclosing the cells, then the electronic management unit** may be omitted from **installation on the tested-device** if so requested by the manufacturer. Where the relevant..."

...

Paragraph 3.3., amend to read:

"3.3. The flame to ..., to permit the flame, under free-burning conditions, to burn for the whole **test procedure.**

The fire shall cover..."

...

*Annex 8F*

...

*Paragraph 2.*, amend to read:

- "2. This test shall be conducted either with the complete REESS or with related REESS subsystem(s) including ... If the electronic management unit for the REESS is not integrated in the casing enclosing the cells, then the **electronic management unit** may be omitted from **installation on the tested-device** if so requested by the manufacturer."

...

*Paragraph 3.2.*, amend to read:

- "3.2. Short circuit  
 .....  
 The positive and negative terminals of the **tested-device** shall be connected to each other to produce a short circuit. The connection used for this purpose shall have a resistance not exceeding 5 m Ω.  
 ..."

*Paragraph 3.3.*, amend to read:

- "3.3. Standard Cycle and observation period  
 Directly after the termination of the short circuit a standard cycle as described in Annex 8 Appendix 1 shall be conducted, if not inhibited by the **tested-device**.  
 ..."

*Annex 8G*

...

*Paragraph 2.*, amend to read:

- "2. This test shall be conducted, under standard operating conditions, either with the complete REESS (this maybe a complete vehicle) or with related REESS subsystem(s), including the cells ..."

...

*Paragraph 3.3.*, amend to read:

- "3.3. Standard Cycle and observation period.  
 Directly after the termination of charging a standard cycle as described in Annex 8 shall be conducted, if not inhibited by the **Tested-Device**.  
 ..."

*Annex 8H, paragraph 2.*, amend to read:

- "2. This test shall be ... related REESS subsystem(s), including the cells ..."

*Annex 8I*

*Paragraph 1.*, amend to read:

"1.           PURPOSE

The purpose of this test is to verify the performance of the protection measures of the REESS against internal overheating during **the** operation, **even under** the failure of the cooling function if **applicable**. In the case..."

...

*Paragraph 2.1.*, amend to read:

"2.1          The following test may be conducted with the complete REESS (maybe as a complete vehicle) or with related **REESS** subsystem(s), including the cells and their electrical connections. If the ... conditions. **The test may be performed with a modified Tested-Device as agreed by the manufacturer and the Technical Service. These modifications shall not influence the test results.**"

...

## Annex VI

### **Proposal of extending the mandate of the Phases 2 and 3 of the informal working group on Child Restraint Systems**

#### **Adopted text based on GRSP-51-34 (see para. 39 of the report)**

(a) The informal group shall consider in Phase 2, the development into the new draft Regulation for "enhanced Child Restraint Systems (CRS) used on-board of motor vehicles" of the necessary amendments to integrate the category of non-integral CRS with ISOFIX attachments and to extend the I-size concept to these CRS for consideration by GRSP.

(b) The completion date for Phase 2 shall be targeted for the fifty-first session of GRSP (May **2013**).

(c) Phase 2 will develop definitions, performance criteria and test methods for non-Integral CRS with ISOFIX attachments (Restraint done for the adult safety belt).

(d) In Phase 2, the test pulse for frontal impact (Increased severity and CRS integrity check) will be reviewed in the light of recent accident data.

(e) In Phase 2, the strict application of recognized and accepted injury criteria related to the new generation baby/child crash test Q-dummies, as supported through the European Enhanced Vehicle-safety Committee (EEVC) and other EU research programs, will be reviewed in the light of recent accident data.

(f) Develop transitional provision to withdraw ISOFIX application from Regulation No. 44 after WP.29 adopts Phase 1 and Phase 2. (**December 2013**)

(g) The completion date for Phase 3 shall be targeted for the fifty-third session of GRSP (May **2014**).

(h) Phase 3 will develop the necessary amendments to upgrade Regulation No. 44 for the Seatbelt mounted CRS and Regulation Nos. 14 and 16 in order to introduce for this category of CRS the outcome of Phase 1 and 2.

(i) The informal group will considers among others things, the technical expertise of EEVC working group 18 (WG.18), EEVC WG.12, ISO TC22/SC12, the new program for the assessment of child-restraint systems (NPACS), the child advanced safety project for European roads (CASPER) as well as the results of the discussions held in the informal group and at GRSP.

(j) If necessary, the informal group shall develop complementary test methods and propose alternative judgment criteria.

(k) Consider appropriate measures to limit misuse of child restraint systems, in particular for children less than 15 months of age.

**(l) End of the mandate of informal working group on CRS (end of 2014).**

## Annex VII

### **Proposal of amendments to Regulations Nos. 12, 94, 95 and 100**

**Amendments adopted to ECE/TRANS/WP.29/GRSP/2012/11 (see para. 41 of the report)**

**A. Proposal for Supplement 2 to the 04 series of amendments to Regulation No. 12 (Steering mechanism)**

*Paragraph 2.16.2., amend to read:*

"2.16.2. *"Passenger compartment ... live parts."*

*Paragraph 13.3.6., amend to read:*

"13.3.6. **Where ...Parties applying this Regulation may refuse national {approval}{~~registration~~} of such vehicles ..."**

*The acronym RESS, correct with REESS through all the text of the Regulation*

**B. Proposal for Supplement 3 to the 02 series of amendments to Regulation No. 94 (Frontal collision protection)**

*Paragraph 2.7.2., amend to read:*

"2.7.2. *"Passenger compartment ... live parts."*

*Paragraph 11.7., amend to read:*

"11.7. **Where ... Parties applying this Regulation may refuse national {approval}{~~registration~~} of such vehicles ..."**

*The acronym RESS, correct with REESS through all the text of the Regulation*

**C. Proposal for Supplement 02 to the 03 series of amendments to Regulation No. 95 (Lateral collision protection)**

*Paragraph 2.3.2., amend to read:*

"2.3.2. *"Passenger compartment ... live parts."*

"10.9. **Where at the time ...Parties applying this Regulation may refuse national {approval}{~~registration~~} of such vehicles ..."**

*The acronym RESS, correct with REESS through all the text of the Regulation*



**D. Proposal for Supplement 2 to the 01 series of amendments to Regulation No. 100 (Battery electric vehicles safety)**

*Paragraph 2.18.*, amend to read:

"2.18.           "*Luggage compartment* ... bulk head."

*Paragraph 2.21.*, amend to read:

"2.21.           "*Passenger compartment* ... live parts."

***The acronym RESS, correct with REESS through all the text of the Regulation***

## Annex VIII

[English only]

## List of GRSP informal working groups

<i>Informal working group</i>	<i>Chair</i>	<i>Expiry date of the mandate [pending WP.29 decision]</i>	<i>Secretary</i>
Frontal Impact (FI)	Mr. Pierre Castaing Phone : +33 1-69801750 Fax : +33 1-69801719 Email : pierre.castaing@utac.com	December 2014	
Harmonized side impact dummies	Ms. Mary Versailles Phone : +1 202 366 20 57 Fax : +1 202 493 29 90 Email : mary.versailles@dot.gov	---	
Head restraints (GTR7-Phase 2)	Mr. Bernard Frost Phone : +44-(0)207 9442107 Fax : +44-(0)207 9449623 Email : bernie.frost@dft.gsi.gov.uk	December 2012	OICA
Hydrogen and fuel cells subgroup safety (SGS)	Mr. Kazuyuki Narusawa Phone : +81 4-22413218 Fax : +81 4-22768604 Email : narusawa@ntsel.go.jp	[December 2012]	USA
Child restraint systems (CRS)	Mr. Pierre Castaing Phone : +33 1-69801750 Fax : +33 1-69801719 Email : pierre.castaing@utac.com	[December 2014]	
Electric safety (ELSA)	Mr. Gerd Kellermann Phone : +49 228 99 300 4304 Mobile : +49 151-16822235 Fax : +49 228 99 300 807 4304 Email: Gerd.Kellermann@bmvbs.bund.de	December 2012	
Pedestrian safety (GTR9-Phase 2)	Mr. Richard Damm Tel.: +49 (0) 228 99 300 4302 Fax: +49 (0) 228 99 300 807 4302 Email: richard.damm@bmvbs.bund.de	May 2013	
Pole side impact (PSI)	Mr. Robert Hogan Phone : +61 2 62 74 72 66 Fax : +61 2 62 74 74 77 Email : robert.hogan@infrastructure.gov.au	---	
Electric Vehicle Safety (EVS)	United States of America., vice-chaired by the European Union and China	December 2014	Japan