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Working Party on General Safety Provisions
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**Report of the Working Party on General Safety Provisions on
its 125th session**
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I. Attendance

1. The Working Party on General Safety Provisions (GRSG) held its 125th session from 27 to 31 March 2023, hosted from Geneva. The meeting was chaired by Mr. A. Erario (Italy). Experts from the following countries participated in the work, following Rule 1 of the Rules of Procedure of the World Forum for Harmonization of Vehicle Regulations (WP.29) (ECE/TRANS/WP.29/690/Rev.1): Canada, China, Finland, France, Germany, India, Italy, Japan, Netherlands, Norway, Poland, Republic of Korea, South Africa, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, and United States of America. Experts from the European Commission participated. Experts from non-governmental organizations participated: European Association of Automotive Suppliers (CLEPA), Federation International de l'Automobile (FIA) Foundation for the Automobile and Society, International Motor Vehicle Inspection Committee (CITA), International Motorcycle Manufacturers Association (IMMA) and International Organization of Motor Vehicle Manufacturers (OICA).

II. Adoption of the Agenda (agenda item 1)

Documentation: ECE/TRANS/WP.29/GRSG/2023/1
Informal documents: GRSG-125-06 and GRSG-125-19

2. GRSG considered and adopted the agenda (ECE/TRANS/WP.29/GRSG/2023/1) proposed for the 125th session, the running order (GRSG-125-06) and the annotations (GRSG-125-19). Annex I of this report lists the informal documents that were distributed during the session. Annex VI of this report lists the GRSG informal working groups (IWG).

III. Amendments to Regulations on Buses and Coaches (agenda item 2)

UN Regulation No. 107 (M₂ and M₃ vehicles)

Documentation: Informal documents: GRSG-115-04, GRSG-125-10, GRSG-125-18, GRSG-125-29, GRSG-125-31 and GRSG-125-32

3. The expert from Germany, on behalf of the Chair of the IWG on Safer Transport of Children in Buses and Coaches (IWG-STCBC), introduced a presentation (GRSG-125-18) on the work progress of the IWG. He confirmed that the Working Party on Passive Safety (GRSP) would consider at its May 2023 session a proposal of new UN Regulation prepared by IWG-STCBC on existing systems used in passenger cars. He added that in the first phase of this UN Regulation, IWG favoured built-in Child Restraint Systems (CRS) and Enhanced CRS that were type approved according to UN Regulation No. 129 (ECRS). In the meantime, he confirmed that the second phase of the UN Regulation would entail CRS in combination with two-points safety belts. He added that two issues for GRSG should be considered by experts when adapting UN Regulation No. 107: a) bus seats equipped with built-in CRS to be approved according to the new UN Regulation and b) emergency windows adapted to children as bus users. He, therefore, stated that proposals were expected at future GRSG sessions on the above-mentioned issues, and he sought guidance from GRSG. The expert from Spain suggested that in the future buses would be designed to transport children and that the current mandate of the IWG is to adapt the current fleet of buses. The expert from the United Kingdom suggested that practicability of access of an emergency exit should be considered and in case of removable CRS, this should be dealt by the bus operator. GRSG noted that the mandate of IWG-STCBC would expire in March 2024. Therefore, it was recommended that IWG should start to revise the terms of reference (ToR) of the group to start Phase 2 of the IWG without discontinuation of its work. The expert from Germany stated that a ToR would probably be proposed for the GRSP May 2023 session for adoption, and would be sent to the GRSG October 2023 session for further adoption GRSG last. Finally, GRSG endorsed this approach.

4. The Chair of GRSG reiterated his invitation to experts to report on the current activities related to the specifications of autonomous shuttles in an aim to review the applicability of existing requirements. The expert from the Netherlands suggested that in view of the on-going work of the Task Force on Automated Vehicles Regulatory Screening (TF AVRS) new categories of vehicles including autonomous shuttle could be considered by the TF. The GRSG Chair recommended that discussion on this issue be resumed under agenda item 14 (see paragraph 41).

5. The expert from Norway recalled to GRSG that informal document (GRSG-115-04), that had been presented at the October 2018 session of GRSG showed the issue of the lack of front protection for drivers and tourist guides in the event of a frontal collision. He reiterated his concerns by introducing GRSG-125-10. He showed statistical evidence that a considerable number of accidents involved buses wherein the drivers had been seriously injured or killed in head-on collisions in Norway. He announced that a national standard would enter into force in his country to deal this issue. The expert from Finland shared the concerns of the expert from Norway and suggested that the following UN Regulations could be addressed: Nos. 66 (Strength of superstructure), 93 (Underrun protections) and 29 (Cabs of commercial vehicles), in cooperation with GRSP. The expert from Germany recalled to GRSG the proposal of a new UN Regulation (based on UN Regulation No. 29) tabled by his delegation in 2007 (ECE/TRANS/WP.29/GRSG/2007/33). He reminded GRSG that the proposal had not been supported by most experts because it was considered of little impact in improving road safety at that time. The expert from the Netherlands expressed sympathy to this initiative. However, he stated that more statistical evidence should be provided and that such a topic should be dealt with in GRSP. The expert from United Kingdom shared a report completed in 2010, based on statistical data from his country for the years 2006–2008 on the safety priorities of commercial vehicle (GRSG-125-32). He also shared a study for an Enhanced Vehicle Safety (ESV) conference (GRSG-125-31) that provides further indicators for discussion on this subject. The expert from Norway added that this proposal would be addressed at GRSP at its May 2023 session. GRSG welcome the initiative of the expert from Norway and agreed to resume discussion on this subject at its October 2023 session, based on the follow-up of its experts and those of GRSP.

6. The expert from Spain introduced GRSG-125-29 on the accessibility issues of disabled people using public buses. The expert from the United Kingdom welcomed the presentation on a survey carried out in his country. He added that further information would be provided from public consultation. GRSG noted that the upcoming ESV conference in Yokohama, Japan would host a panel discussion on the protection and accessibility of disabled people in vehicle transportation. GRSG suggested to the experts from Japan and the United States of America that they provide feedback on the above-mentioned conference at the October 2023 session. At the same time, GRSG recommended its experts to share experiences of the national level on this subject and liaise with the expert from Spain.

IV. Amendments to Safety Glazing Regulations (agenda item 3)

A. UN Global Technical Regulation No. 6 (Safety glazing)

7. GRSG noted that proposals had not been submitted for consideration.

B. UN Regulation No. 43 (Safety glazing)

Documentation: ECE/TRANS/WP.29/GRSG/2023/7
Informal documents: GRSG-125-09 and GRSG-125-13

8. GRSG noted a proposal from the expert of the Republic of Korea (ECE/TRANS/WP.29/GRSG/2023/7 and amendment GRSG-125-09) which aligns UN Regulation No. 43 to Amendment 3 of UN GTR No. 6 (ECE/TRANS/180/Add.6/Amend.3), and aims to exempt, in Zone I, a possible opaque obscuration in the test area on the windscreen. The expert from China introduced GRSG-125-13 correcting the above-mentioned proposal. GRSG adopted ECE/TRANS/WP.29/GRSG/2023/7, as amended by

annex II to the report. The secretariat was requested to submit the proposal as draft Supplement 11 to 01 series of amendments to UN Regulation No. 43, for consideration and vote at the June 2023 sessions of WP.29 and AC.1.

V. Awareness of the Proximity of Vulnerable Road Users (agenda item 4)

Documentation: Informal documents: GRSG-125-21 and GRSG-125-22

9. The expert from the European Commission (EC), on behalf of the IWG on Awareness of Vulnerable Road Users Proximity in low-speed manoeuvres (VRU-Proxi), informed GRSG on the work progress (GRSG-125-22). He added that the group would continue working on a proposal of amendments to UN Regulations Nos. 158 and [167] for further consideration at the October 2023 session of GRSG. Thus, he proposed a revision of the ToR of the group (GRSG-125-21). Finally, GRSG adopted the revised ToR as reproduced in annex III to the report.

A. UN Regulation No. 46 (Devices for indirect vision)

Documentation: ECE/TRANS/WP.29/GRSG/2023/9
ECE/TRANS/WP.29/GRSG/2023/16
Informal documents: GRSG-125-03-Rev.1, GRSG-125-24 and GRSG-125-30

10. The expert from OICA introduced ECE/TRANS/WP.29/GRSG/2023/9 which aims to introduce provisions adapted to centre-steered vehicles of categories M₂, M₃, N₂ and N₃. The expert from Germany raised a study reservation on the proposal and requested full feedback for the October 2023 session of GRSG. He suggested in the meantime to establish a TF to provide a thorough proposal of amendments to the UN Regulation at the next session of GRSG. The experts from France and the Netherlands supported the suggestion from the expert of Germany expressing the need of a thorough study of the magnification factors. Moreover, the expert from OICA introduced ECE/TRANS/WP.29/GRSG/2023/16 and amendment GRSG-125-03-Rev.1, on the provisions for exterior rear-view mirrors fixed to the protective housing. At the same time the expert from the Republic Korea introduced GRSG-125-24 that shows two different interpretations of the diameter of the sphere used for the impact test rig in UN Regulation No. 46, and compares it to similar headforms used in other UN Regulations and in UN GTR No. 9. The expert from Canada confirmed that in his national standard, the outer diameter was 165 mm. Finally, GRSG endorsed the establishment of a TF led by the expert from Germany with the expert from OICA for secretary tasks, and agreed on ECE/TRANS/WP.29/GRSG/2023/9, ECE/TRANS/WP.29/GRSG/2023/16, GRSG-125-03-Rev.1 and GRSG-125-24 as a basis for its work.

11. Finally, the expert from OICA introduced GRSG-125-30, to clarify the provisions of the UN Regulation to allow foldable wings for camera monitoring systems (CMS). The experts from United Kingdom suggested that the proposal should clarify the deployment time of the CMS. GRSG agreed to resume discussion at its October 2023 session on a revised proposal submitted by the expert from OICA. GRSG also noted that if a new replacement proposal was not received by the secretariat, GRSG-125-30 should be confirmed for submission as an official document before the deadline.

B. UN Regulation No. 158 (Reversing motion)

Documentation: Informal document: GRSG-125-20

12. The expert from EC on behalf of IWG VRU-Proxi, announced a new proposal replacing GRSG-125-20 for the October 2023 session of GRSG. It was also noted that if the replacement proposal was not received by the secretariat, GRSG-125-20 should be confirmed for submission as an official document before the deadline.

C. UN Regulation No. 159 (Moving Off Information System)

13. GRSG noted that proposals had not been submitted for consideration.

D. UN Regulation No. [166] (Vulnerable Road Users in Front and Side Close Proximity)

14. GRSG noted that proposals had not been submitted for consideration under this agenda item.

E. UN Regulation No. [167] (Vulnerable Road Users Direct Vision)

Documentation: ECE/TRANS/WP.29/GRSG/2023/10

15. The expert from EC on behalf of IWG VRU-Proxi, withdrew ECE/TRANS/WP.29/GRSG/2023/10 and announced a new proposal for the October 2023 session of GRSG.

VI. UN Regulation No. 66 (Strength of superstructure (buses)) (agenda item 5)

Documentation: ECE/TRANS/WP.29/GRSG/2023/2

16. GRSG noted ECE/TRANS/WP.29/GRSG/2023/2, tabled by the expert from the Russian Federation. The expert from Japan did not support the proposal because of lack of consistency with the principle of mutual recognition of type approvals of the 1958 Agreement. For similar reasons, the proposal also did not receive the support of the experts from France, Germany, Italy, Japan, Republic of Korea, United Kingdom and EC. Finally, GRSG did not support the proposal. On suggestion of the GRSG Chair, it was agreed to resume consideration on a possible new proposal tabled by the expert from the Russian Federation and to remove this item from the agenda of the October 2023 session of GRSG.

VII. Amendments to Regulations on Gas-Fuelled Vehicles (agenda item 6)**A. UN Regulation No. 67 (Liquefied Petroleum Gas vehicles)**

17. GRSG noted that proposals had not been submitted for consideration under this agenda item.

B. UN Regulation No. 110 (Compressed Natural Gas and Liquefied Natural Gas vehicles)

Documentation: Informal document: GRSG-124-32

18. GRSG resumed consideration on GRSG-124-32, tabled by European Natural Gas Vehicle Association to accept the type approvals according to the preceding series when not affected by the provisions of the new series of amendments. GRSG reconfirmed its endorsement of the proposal without any change (see ECE/TRANS/WP.29/GRSG/103, paragraph 21). The secretariat was requested to submit GRSG-124-32 (as reproduced in annex II of ECE/TRANS/WP.29/GRSG/103) as draft Supplement 4 to the 04 series of amendments to UN Regulation No. 110, for consideration and vote at the June 2023 sessions of WP.29 and AC.1.

VIII. Amendments to Regulations on Devices against Unauthorized Use, Immobilizers and Vehicle Alarm systems (agenda item 7)

A. UN Regulation No. 116 (Anti-theft and alarm systems)

19. GRSG noted that proposals had not been submitted for consideration.

B. UN Regulation No. 161 (Devices against Unauthorized Use)

Documentation: ECE/TRANS/WP.29/GRSG/2023/3

20. The expert from OICA introduced ECE/TRANS/WP.29/GRSG/2023/3 to align the reference to UN Regulation No. 10 (Electromagnetic compatibility). GRSG adopted the proposal not amended and requested the secretariat to submit ECE/TRANS/WP.29/GRSG/2023/3 as Supplement 4 to the original version of the UN Regulation No. 161, for consideration and vote at the November 2023 sessions of WP.29 and AC.1.

C. UN Regulation No. 162 (Immobilizers)

Documentation: ECE/TRANS/WP.29/GRSG/2023/4
Informal document: GRSG-125-12

21. As per agenda item 7(b), the expert from OICA introduced ECE/TRANS/WP.29/GRSG/2023/4 to align the reference to UN Regulation No. 10. Moreover, the expert from France introduced GRSG-125-12, to introduce an editorial correction to the UN Regulation. GRSG agreed to adopt both proposal as a full package. The secretariat was requested to submit ECE/TRANS/WP.29/2023/4, as amended below, as Supplement 5 to the original version of the UN Regulation No. 162, for consideration and vote at the November 2023 sessions of WP.29 and AC.1:

Annex 2a, amend to read:

" ... of a type of **vehicle with regard to its immobilizer** pursuant to UN Regulation No. 162 ..."

Annex 2b, amend to read:

"... of a type of **component or separate technical unit as an immobilizer** pursuant to UN Regulation No. 162 ..."

C. UN Regulation No. 163 (Vehicle Alarm systems)

22. GRSG noted that proposals had not been submitted for consideration under this agenda item.

IX. UN Regulation No. 122 (Heating systems) (agenda item 8)

Documentation: ECE/TRANS/WP.29/GRSG/2023/8
Informal documents: GRSG-125-15, GRSG-125-16, GRSG-125-17 and GRSG-125-33-Rev.4

23. The expert from the Republic of Korea presented ECE/TRANS/WP.29/GRSG/2023/8 and amendment GRSG-125-15 in a live presentation at Palais des Nations on examples of "radiation warmers" to allow their use on Electric Vehicles (EV) among others. He also introduced two presentations (GRSG-125-16 and GRSG-125-17) to inform GRSG about a technical seminar held on 8 March 2023, in Frankfurt, Germany on the medical investigation of radiant warmers. He added that the technology of radiation warmers was expected to increase the energy efficiency of EV and to prevent the sharp reduction of the All Electric

Range (AER). The expert from OICA introduced GRSG-125-33-Rev.4, aimed at resolving harmonization issues introduced by GRSG-125-15. He also explained that industry needed flexibility and no design restrictions, since objective pass/fail criteria did not exist for such technology. The expert from France suggested that the temperature threshold for rear passengers should be reviewed and modified in a second step. The expert from Germany echoed the suggestion of the expert from France and envisaged a new series of amendments for a second step.

24. Finally, GRSG adopted ECE/TRANS/WP.29/GRSG/2023/8 as amended by annex IV to this report. The secretariat was requested to submit the proposal as Supplement 7 to the original version to the UN Regulation No. 122 to the November 2023 sessions of WP.29 and AC.1. Moreover, GRSG agreed to resume discussion on the need for a second step on this subject at its October 2023 session.

X. UN Regulation No. 125 (Forward field of vision of drivers) (agenda item 9)

Documentation: Informal documents: GRSG-125-27-Rev.1 and GRSG-125-28

25. The expert from the Netherlands on behalf of IWG on Field of Vision Assistant (FVA) of Drivers, introduced the IWG status report (GRSG-125-27-Rev.1) and requested an extension of the IWG mandate. He also introduced a draft new UN Regulation on FVA (GRSG-125-28) for all vehicle categories in the frame of the process of splitting UN Regulation No. 125 into two separate UN Regulations. He also explained that the new UN Regulation would aim to limit distraction of the driver. The experts from Finland, France, Germany and Sweden endorsed the cautious approach on "non-driving related information".

26. GRSG recommended that the opinion of experts and relevant inputs concerning GRSG-125-28 be submitted to the next IWG meetings planned for 25 April and 6 June 2023 (the June meeting is to be held in person). Finally, GRSG agreed on an extension of the IWG mandate until April 2024, pending endorsement of WP.29 at its June 2023 session.

XI. Event Data Recorder (agenda item 10)

A. Guidance on Event Data Recorder Performance Elements Appropriate for Adoption in the 1958 and 1998 Agreement Resolutions or Regulations

Documentation: ECE/TRANS/WP.29/GRSG/2021/32
ECE/TRANS/WP.29/GRSG/2023/12
ECE/TRANS/WP.29/GRSG/2023/14
Informal documents: GRSG-122-35, GRSG-125-08, GRSG-125-14 and GRSG-125-25

27. The expert from the Netherlands on behalf of the IWG on Event Data Recorder (EDR) / Data Storage system for Automated Driving Vehicles (DSSAD) introduced the status report (GRSG-125-25) of the group. He informed GRSG that the IWG had completed the light duty vehicle EDR performance elements appropriate for adoption in the 1958 and 1998 Agreement Resolutions or UN Regulations, completed UN Regulation No. 160 accordingly and DSSAD requirements within UN Regulation No. 157 (Automated Lane Keeping System). He also announced ECE/TRANS/WP.29/GRSG/2023/11, ECE/TRANS/WP.29/GRSG/2023/12 and ECE/TRANS/WP.29/GRSG/2023/15 on the acceleration data accuracy verification procedures. Moreover, he explained that the IWG had developed proposals on EDR for Heavy Duty Vehicles (HDV), as a: (a) new UN Regulation (ECE/TRANS/WP.29/GRSG/2023/13 amended by GRSG-125-07) and (b) a guidance document on EDR for HDV appropriate for adoption in 1958 and 1998 Agreement Resolutions or Regulations (ECE/TRANS/WP.29/GRSG/2023/14 amended by GRSG-125-08). He explained that the proposals were based on an existing Society of Automotive Engineers standard, data, analyses, research and contains unique triggering of acceleration, safety-systems and last stop.

28. Finally, GRSG agreed to combine ECE/TRANS/WP.29/GRSG/2023/12, as amended below, and ECE/TRANS/WP.29/GRSG/2021/32 as amended by GRSG-122-35 and submit them as proposal for amending the Guidance on EDR Performance Elements to the November 2023 session of WP.29 for information only. Moreover, it was agreed to send ECE/TRANS/WP.29/GRSG/2023/14 and GRSG-125-08 to the IWG for reconsideration.

Annex 1, Table 1, amend to read:

"...						
Longitudinal acceleration (post-crash)	If Recorded	0–250 ms or 0 500 to End of Event Time plus 30 ms, whichever is shorter.	-50 to +50g	+/- 10% ¹⁰	1 g	Planar
..."						

Footnote 11, the reference to paragraph 6.1.5., correct as 4.1.5.

29. Finally, GRSG considered a presentation (GRSG-125-14) from the expert of China that provides information on the introduction of the EDR technology into the legislation of his country. The GRSG Chair suggested that GRSG-125-14 could be considered in the future work of the IWG. The expert from EC underlined that the document would be useful for the step 2 of EDR development but not for the current one since discussion was too much advanced. The expert from the United States of America remarked that EDR shall remain focused on crash related events and not as a data logger for non-crash elements/events.

B. UN Regulation No. 160 (Event Data Recorder)

Documentation: ECE/TRANS/WP.29/GRSG/2023/11
ECE/TRANS/WP.29/GRSG/2023/15
Informal documents: GRSG-125-01-Rev.1, GRSG-125-02-Rev.2 and GRSG-125-04-Rev.1

30. The expert from Netherlands on behalf of IWG on EDR/DSSAD introduced two proposals for supplements to the UN Regulation (see paragraph 27 above): ECE/TRANS/WP.29/GRSG/2023/11 as amended by GRSG-125-01-Rev.1 and ECE/TRANS/WP.29/GRSG/2023/15 as amended by GRSG-125-04-Rev.1, both from the expert from OICA. The expert from OICA also introduced a proposal of 02 series of amendments (GRSG-125-02-Rev.2) to the UN Regulation. GRSG adopted all the proposals and requested the secretariat to submit: (a) ECE/TRANS/WP.29/GRSG/2023/11 amended by annex V, as a proposal of Supplement 2 to the original version to the UN Regulation, (b) ECE/TRANS/WP.29/GRSG/2023/15 as amended by annex V, as proposal of Supplement 2 to the 01 series of amendments to the UN Regulation No. 160 and (c) GRSG-125-02-Rev.2, as reproduced in annex V, as a proposal of 02 series of amendments to UN Regulation No. 160 to the November 2023 sessions of WP.29 and AC.1.

C. New UN Regulation on Event Data Recorder for Heavy Duty Vehicles

Documentation: ECE/TRANS/WP.29/GRSG/2023/13
Informal documents: GRSG-125-07, GRSG-125-26 and GRSG-125-36-Rev.1

31. The expert from the Netherlands on behalf of the IWG on EDR/DSSAD introduced ECE/TRANS/WP.29/GRSG/2023/13, amended by GRSG-125-07, as a proposal for new UN Regulation on EDR for HDV.

32. The expert from Germany introduced GRSG-125-26 and shared views based upon data from the Federal Statistical Office of his country which showed that a significant proportion of accidents involving HDVs and VRUs occurred in the speed range below 50 km/h. Therefore, he suggested that improvements in road safety could be achieved if road

accidents involving VRUs were better understood. He underlined that suitable triggers had been developed in the IWG (e.g. "last-stop triggers"), but were not accepted by all contracting parties. He stated that data from EDR-HDV would form the basis for future traffic safety research, especially for the protection of VRUs. He therefor supported the draft proposal of a new UN Regulation on EDR including the "last-stop-trigger" provision. The expert from EC supported the adoption of ECE/TRANS/WP.29/GRSG/2023/13, as amended by GRSG-125-07 including the above-mentioned provision as suggested by the expert from Germany.

33. The expert from the United States of America stated that her country had been an active member of IWG EDR at the technical level. She added that the group had been working hard to produce these documents (ECE/TRANS/WP.29/GRSG/2023/13 and GRSG-125-07) under demanding timelines. She added that despite these efforts, and as indicated by the large amount of text between brackets in the EDR-HDV documents, much more work is required at the technical level. Moreover, she stated that the United States of America did not support the incomplete proposal (in the framework of the 1958 Agreement) moving forward until the IWG finished its work. She also said that her delegation does not consider these documents technically ready for review by GRSG. She underlined that there would be also many technical concerns and issues to discuss when IWG considered the common technical requirements document. Finally, she stated that her country is not a signatory to the 1958 Agreement, but due to the global nature of the automotive industry, her delegation knows that UN Regulations would still impact vehicle safety in 1998 Agreement countries, and she respectfully requested that GRSG sends these documents back to the IWG on EDR/DSSAD for more technical review.

34. The expert from OICA stated that the proposal contained open questions on data elements. He stressed the need of the automotive industry to have a clear vision for the future, and he stated that his organization was not in the position to support the proposal. The experts from Canada and the Netherlands recommended that IWG finalize the work on the remaining issues. The expert from EC expressed the need to adopt the new UN Regulation at the November 2023 session of WP.29 to trigger the same mandatory provisions under the General Safety Regulation of the European Union. He reminded GRSG that this need had been taken into consideration by WP.29, and that GRSG was invited by the World Forum to maintain a high pace on this issue (see ECE/TRANS/WP.29/1168, paragraph 39). The experts from China and Japan supported the position of the expert from EC. The Chair of GRSG suggested adopting ECE/TRANS/WP.29/GRSG/2023/13, amended by GRSG-125-07 to make progress. At the same time, he recommended that IWG provide an informal or an official document for the deadline of submission of GRSG official documents (18 July 2023), to enable discussion at the October 2023 session of GRSG. The expert from OICA introduced a road map (GRSG-125-36-Rev.1) on the way forward to guide IWG towards finalization of the proposal.

35. Finally, GRSG agreed on the way forward proposed by the Chair and by the expert from OICA, though GRSG-125-36-Rev.1 was not considered binding. Therefore, GRSG adopted the proposal and requested the secretariat to submit ECE/TRANS/WP.29/GRSG/2023/13, as amended by GRSG-125-07, as proposal of new UN Regulation concerning the Approval of Event Data Recorders for Heavy-Duty Vehicles to the November 2023 sessions of WP.29 and AC.1. However, it was expected to resume discussion on this proposal based on revised documents submitted by IWG at the October 2023 session of GRSG.

XII. UN Regulation No. 0 (International Whole Vehicle Type Approval) (agenda item 11)

Documentation: Informal documents: WP.29-188-20, GRSG-124-21 and GRSG-125-35

36. GRSG recalled that its experts were invited to provide further comments and indications on which UN Regulations would not be affected by Unique Identifier (UI). GRSG also noted that it was expected to complete the tentative list provided in GRSG-124-21 distributed at its October 2022 session (ECE/TRANS/WP.29/GRSG/103, paragraph 31).

37. The expert from the Netherlands, secretary of IWG DETA, clarified that the unique

identifier is a number generated by the DETA database, and allocated to a type approval when uploaded to the database. He added that the UI number may also be used by the manufacturer as product marking, and that the traditional E marking may be replaced by this UI mark. However, he clarified that some UN Regulations required additional marking information. He added that when traditional marking was replaced by UI marking, this additional marking would be potentially removed. However, he noted that this information could be needed for surveillance or periodical technical inspections (PTI) purposes. Accordingly, WP.29 agreed to request its subsidiary bodies to screen all UN Regulations to find if the E marking could be replaced by the UI marking. If any UN Regulation allows replacement, he informed GRSG that WP.29 had proposed a template (WP.29-188-20) to indicate which additional marking information shall remain on the product. He also underlined that UI marking was primarily of benefit for automotive component industry (large markings on small components) while for contracting parties no benefit was provided.

38. The expert from CITA introduced GRSG-125-35 (based on WP.29-188-20) listing all UN Regulations under the purview of GRSG providing information that his organization deems relevant. The expert from OICA argued that the document diverted from the general use of UI as agreed by WP.29: (a) UI shall be applied by default, only exceptions may prohibit it, (b) from UI, PTI can retrieve all the necessary information and (c) some markings were too large on safety glazing thereby compromising light transmittance requirements. The expert from CITA mentioned that E marking provided instant information while UI was time consuming and added extra costs to PTI. He argued that glazing is large enough to host E markings and should be checked frequently because of frequent replacement. Therefore, even in this case he saw the UI solution as time and resource consuming. The expert from the Netherlands suggested that concerned parties had learned much about the use of UI since its establishment by way of the Revision 3 of the 1958 Agreement. Moreover, he suggested that the complexity introduced by UI led to rethinking its use. The expert from the United Kingdom suggested that GRSG-125-35 was a useful document. However, he insisted that this screening needed a coordinated and consistent position and use throughout all the subsidiary bodies of WP.29. The expert from Germany expressed sympathy for GRSG-125-35, however he requested a time reservation. The Chair of GRSG stated that he would inform WP.29 that GRSG-125-35 represented the opinion of the expert from CITA and that GRSG retains a further revision of GRSG-125-35. GRSG agreed with the suggestion of its Chair, to resume discussion at its October 2023 session and to keep GRSG-125-35 as an informal document.

XIII. Consolidated Resolution on the Construction of Vehicles (agenda item 12)

Documentation: ECE/TRANS/WP.29/GRSG/2023/5

39. GRSG agreed to defer discussion on ECE/TRANS/WP.29/GRSG/2023/5, tabled by the expert from the International Association of the Body and Trailer Building Industry (CLCCR) to its October 2023 session.

XIV. Special Resolution No. 1 concerning the common definitions of vehicle categories, masses and dimensions (agenda item 13)

Documentation: ECE/TRANS/WP.29/GRSG/2022/18

40. GRSG agreed to defer discussion on the amendment to S.R.1 based on a revised proposal superseding ECE/TRANS/WP.29/GRSG/2022/18. In the meantime, it was agreed that the revised proposal would need to be sponsored by a contracting party to the 1998 Agreement.

XV. Exchange of Views on Vehicle Automation (agenda item 14)

Documentation: Informal document: GRSG-125-34-Rev.1

41. The expert from the Netherlands, on behalf of TF-AVRS introduced the status report (GRSG-125-34-Rev.1). He stated that screening had been finalized and that the next step of GRSG should reword, for instance references to "driver", "steering wheel", etc.. He added that some functions, e.g. tell-tales, and some situations like the transport of children on buses without a driver would need discussion in WP.29. The expert from the United Kingdom suggested that GRSG should recognize which AV solutions were appropriate according to vehicle use and reflect this in technical requirements, e.g. transport of children and disabled people). The expert from OICA suggested that vehicle use was in the remit of the Global Forum for Road Traffic Safety (WP.1). He added that a document on establishing new category of vehicles concerning AV was not yet mature. The Chair of GRSG suggested that the next step to establish new category of vehicles should include autonomous shuttles. The secretary of the Working Group on Automated/Autonomous and Connected Vehicles (GRVA) announced that GRVA was ready to cooperate with GRSG on new categories of vehicles. The expert from IMMA stated that two-wheelers (L category) should be excluded from the exercise of vehicle re-classification since these vehicles would never be AV. Moreover, he also recommended to isolate quadricycles (L₆ and L₇ categories) from this exercise until further information was provided.

42. GRSG considered the work of TF-AVRS to be final, and agreed that the coordinated conclusions of TF-AVRS in each Working Party be provided to the June 2023 session of WP.29.

XVI. Other Business (agenda item 15)

A. Exchange of Views on the Future Work of the Working Party on General Safety Provisions

43. GRSG agreed to defer discussion on this agenda item at the October 2023 session of GRSG.

B. Periodical Technical Inspections

Documentation: ECE/TRANS/WP.29/GRSG2023/6

44. GRSG noted ECE/TRANS/WP.29/GRSG/2023/6, submitted by the expert from the Russian Federation on behalf of the IWG on Periodical Technical Inspections (PTI) to introduce periodical technical inspections of Accident Emergency Call Systems (AECS), intended to be fitted to vehicles of categories M₁ and N₁ under UN Regulation No. 144. The proposal received the comments and amendments as reproduced below:

Annex, amend to read:

"Annex

...

			Mi	Ma	D
			D	D	D
1. Fitment and configuration	Visual inspection	(a) System or any component missing		X	
2. Condition	Visual inspection	(b) System or components damaged		X	

Mi	Ma	D
D	D	D

(c) AECS malfunction indicator light indicates any kind of failure of the system X

~~(d) Audio components not connected~~ X

~~(e) System indicates failure via the electronic vehicle interface~~ X

~~(f) Audio components not connected"~~ X

45. GRSG agreed that the IWG on PTI should study ECE/TRANS/WP.29/GRSG2023/6 as amended above and to resume discussion based on the IWG feedback at the October 2023 session of GRSG.

C. Highlights of the November 2022 and March 2023 sessions of World Forum for Harmonization of Vehicle Regulations

Documentation: Informal document: GRSG-125-11

46. The Secretary reported on the highlights (GRSG-125-11) of the 188th (ECE/TRANS/WP.29/1168) and of the 189th (ECE/TRANS/WP.29/1171) sessions of the World Forum for Harmonization of Vehicle Regulations.

D. Three-dimensional H point machine

47. The expert from the Netherlands informed GRSG that a TF (with the participation of experts of GRSP) was established and convened three times. He highlighted that the problem of tolerances on the dimensions on the different machines used was relevant. He added that as a first step, TF intended to amend the Consolidated Resolution on the Construction of Vehicles (R.E.3). GRSG agreed to resume discussion at its October 2023 session in coordination with GRSP.

E. Any other business

Documentation: Informal document GRSG-125-23

48. The expert from Japan introduced GRSG-125-23, to collect information at the national level on the use of windscreen with coloured tint. He expressed the concern that the use of this type of windscreen entails safety issues. The expert from Germany remarked that national law in his country forbids this type of windscreen. The experts from Canada and Spain confirmed the same restrictions in their countries with exceptions if justified at the medical level in Spain. GRSG agreed to resume discussion on this subject at its October 2023 session if needed.

F. UN Regulation No. 39 (Speedometer and Odometer)

Documentation: Informal document: GRSG-125-05

49. The expert from the Netherlands introduced GRSG-125-05 on odometer in vehicles. He underlined that the odometer readings were relevant for many applications, such as roadworthiness, environmental performances of the vehicles and current and future domestic applications. Therefore, he proposed establishing a TF to discuss potential measures for accuracy and anti-tampering of odometer/mileage values. He also clarified that this work would entail only M₁ and N₁ vehicle categories. The expert from IMMA requested the

exemption of the L category of vehicle from this work for the time being. GRSG agreed to establish a TF on this subject, and requested the expert from the Netherlands to draft ToR for the proposed TF and the secretariat to provide a webpage. At the same time, it was agreed to resume discussion on this subject at the October 2023 session of GRSG.

G. Provisional Agenda for the Next Session

Documentation: Informal document: GRSG-125-37

50. GRSG noted that its 126th session was scheduled to be held in Geneva from 10 October (9.30 a.m. CET) to 13 October (12.30 p.m.) 2023. GRSG noted that the deadline for the submission of official documents to the secretariat is 18 July 2023, twelve weeks prior to the session. GRSG is expected to follow a proposal (GRSG-125-37) of the provisional agenda as reproduced below:

1. Adoption of the Agenda.
2. Amendments to Regulations on Buses and Coaches:
UN Regulation No. 107 (M₂ and M₃ vehicles).
3. Amendments to Safety Glazing Regulations:
 - (a) UN Global Technical Regulation No. 6 (Safety glazing);
 - (b) UN Regulation No. 43 (Safety glazing).
4. Awareness of the Proximity of Vulnerable Road Users:
 - (a) UN Regulation No. 46 (Devices for indirect vision);
 - (b) UN Regulation No. 158 (Reversing motion);
 - (c) UN Regulation No. 159 (Moving Off Information System);
 - (d) UN Regulation No. [166] (Vulnerable Road Users in Front and Side Close Proximity);
 - (e) UN Regulation No. [167] (Vulnerable Road Users Direct Vision).
5. UN Regulation No. 39 (Speedometer and Odometer)
6. Amendments to Regulations on Gas-Fuelled Vehicles:
 - (a) UN Regulation No. 67 (Liquefied Petroleum Gas vehicles);
 - (b) UN Regulation No. 110 (Compressed Natural Gas and Liquefied Natural Gas vehicles).
7. UN Regulation No. 122 (Heating systems).
8. UN Regulation No. 125 (Forward field of vision of drivers).
9. Event Data Recorder:
 - (a) Guidance on Event Data Recorder Performance Elements Appropriate for Adoption in the 1958 and 1998 Agreement Resolutions or Regulations;
 - (b) UN Regulation No. 160 (Event Data Recorder);
 - (c) New UN Regulation on Event Data Recorder for Heavy Duty Vehicles.
10. UN Regulation No. 0 (International Whole Vehicle Type Approval).
11. Consolidated Resolution on the Construction of Vehicles.
12. Special Resolution No. 1 concerning the Common Definitions of Vehicle Categories, Masses and Dimensions.
13. Exchange of Views on Vehicle Automation.
14. Election of officers
15. Other Business:
 - (a) Exchange of Views on the Future Work of the Working Party on General Safety Provisions;
 - (b) Periodical Technical Inspections;

- (c) Highlights of the June 2023 session of the World Forum for Harmonization of Vehicle Regulations;
- (d) Three-dimensional H point machine;
- (e) Any Other Business.

Annex I

[English only]

List of Informal Documents Considered During the Session

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>	<i>Agenda Item</i>
1/Rev.1	(OICA) Proposal for amendments to document ECE/TRANS/WP.29/GRSG/2023/11 (Supplement 2 to the Original Version of UN Regulation No. 160 (Event Data Recorder))	(d)	10(b)
2/Rev.2	(OICA) Proposal for a new 02 Series of Amendments to UN Regulation No. 160 (Event Data Recorder)	(d)	10(b)
3/Rev.1	(OICA) Proposal supplementing document ECE/TRANS/WP.29/GRSG/2023/16 for Supplement 1 to the 05 Series of Amendments to UN Regulation No. 46 (Devices for indirect vision)	(c)	4(a)
4/Rev.1	(OICA) Proposal for amendments to document ECE/TRANS/WP.29/GRSG/2023/15 (Supplement 2 to the 01 Series of UN Regulation No. 160 (Event Data Recorder))	(d)	10(b)
5	(The Netherlands) Proposal for the introduction of uniform provisions on accuracy and anti-tampering for mileage and odometers in UN Regulation No. 39 (Speedometer and Odometer)	(a)	15(f)
6	(GRSG Chair) Running order of the 125th session of GRSG	(a)	1
7	(EDR/DSSAD) EDR/DSSAD IWG Revisions to ECE/TRANS/WP.29/GRSG/2023/13	(d)	10(c)
8	(EDR/DSSAD) EDR/DSSAD IWG Revisions to ECE/TRANS/WP.29/GRSG/2023/14	(a)	10(a)
9	(Rep. of Korea) Proposal for Supplement 11 to the 01 Series of Amendments to UN Regulation No. 43 (Safety glazing)	(d)	3(b)
10	(Norway) Collision protection of the front section on buses	(a)	2
11	(Secretariat) Highlights of WP.29 November 2022 and March 2023 sessions	(a)	15(c)
12	(France) Proposal for amendments to the Original Version of UN Regulation No. 162 (Immobilizers)	(d)	7(c)
13	(China) Proposal for amendments to document ECE/TRANS/WP.29/GRSG/2023/07 (Supplement 11 to the 01 Series of Amendments to UN Regulation No. 43 (Safety glazing))	(d)	3(b)
14	(China) The introduction of the EDR technology and regulation	(a)	10(a)
15	(Republic of Korea) Proposal for amendments to document ECE/TRANS/WP.29/GRSG/2023/8 -Supplement 7 to the Original Version of UN Regulation No. 122 (Heating systems)	(a)	8
16	(Republic of Korea) The summary report of the Technical Seminar for the Radiant Warmer	(a)	8
17	(Republic of Korea) Investigation of a burn threshold to prevent skin burn from the hot textile surface of radiant warmers	(a)	8
18	(Spain) Status Report of the Informal Working Group on Safer Transport of Children in Buses and Coaches (IWG-STCBC)	(a)	8

<i>No.</i>	<i>(Author) Title</i>	<i>Follow-up</i>	<i>Agenda Item</i>
19	(Secretariat) Annotated provisional agenda of 105th session of GRSG	(a)	1
20	(IWG VRU-Proxi) Proposal for amendments to UN Regulation No. 158 (Reversing motion)	(e)	4(b)
21	(IWG VRU-Proxi) Proposal for revised Terms of Reference and Rules of Procedure of the GRSG informal working group on awareness of Vulnerable Road Users proximity in low speed manoeuvres (VRU-Proxi)	(d)	4
22	(IWG VRU-Proxi) Status Report IWG VRU-Proxi	(a)	4
23	(Japan) Windscreen Tint	(a)	15(e)
24	(Republic of Korea) UN Regulation No. 46 impact test rig	(a)	4(a)
25	(EDR/DSSAD IWG) IWG on EDR/DSSAD Status Report	(a)	10(a)
26	(Germany) German Statement to Guidance on Heavy Duty Vehicles Event Data Recorder Performance Elements Appropriate for Adoption in 1958 and 1998 Agreements Resolutions or Regulations and to the Proposal for a New UN Regulation Concerning the Approval of Event Data Recorders for Heavy-Duty Vehicles	(a)	10(a) & 10(c)
27/Rev.1	(IWG on FVA) Status report	(a)	9
28	(IWG-FVA) - Draft Proposal for a new UN Regulation on uniform technical provisions concerning approval of a vehicle with regard to its Field of Vision Assistant	(e)	9
29	(Spain) Accessibility UN Regulation 107	(a)	2
30	(OICA) Proposal for Supplement 1 to the 05 Series of Amendments to UN Regulation No. 46 (Devices for indirect vision)	(e)	4(a)
31	(United Kingdom) Passenger, goods and agricultural vehicle safety - effectiveness of existing measures and ranking of future priorities in the United Kingdom	(a)	2
32	(United Kingdom) Commercial vehicle safety priorities - ranking of future priorities in the United Kingdom	(a)	2
33/Rev.4	(OICA) Proposal for amendments to documents ECE/TRANS/WP.29/GRSG/2023/8 and GRSG-125-15 - Supplement 7 to the Original Version of UN Regulation No. 122 (Heating systems)	(d)	8
34/Rev.1	(The Netherlands) TF-AVRS Status Update	(a)	14
35	(CITA) 1958 Agreement - Unique Identifier Proposed actions for the IWG on DETA, Working Parties and WP.29	(a)	11
36/Rev.1	(OICA-CLEPA) IWG HD-EDR Timeline	(c)	10(c)
37	(Secretariat) Provisional agenda for the 126th session of GRSG	(a)	15(g)

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 an informal document.
- (d) Adopted/Endorsed to be submitted to WP.29.
- (e) Continue consideration on the basis of a revised document

Annex II

Draft Amendments to UN Regulation No. 43 (Safety glazing)

Amendments adopted to ECE/TRANS/WP.29/GRSG/2023/7 (see paragraph 8 of this report)

...

Paragraph 9.1.2.2., amend to read:

"9.1.2.2. For the windscreens ...

For the windscreens ... defined in Annex 21, Paragraph 2.3..."

Paragraph 9.3.1.1.1., the references of Figures 22(a), 22(b) **and 25**, renumber as Figures 24(a), 24(b) **and 27**

Paragraph 9.3.1.1.3., the references of Figures 22(a) **and 22(b)** and Figures 22(a) to 24, renumber as Figures 24(a) **and 24(b)** and as **Figures 24(a)** to 26.

...

Paragraph 10.4.2., the references of Figures 26, 27, 29 **and 30**, renumber as **Figures 28, 29, 31 and 32**

...

Paragraph 10.4.5., Figures 27 to 30, renumber as Figures 29 to **32**

Paragraph 10.5.1., the references of Figure 31 **and Figure 31**, renumber as **Figure 33**

...

Paragraph 13.2., the reference of Figure 35 **and Figures 34 and 35**, renumber as **Figure 37 and as Figures 36 and 37**

Annex III

Revised Terms of Reference and Rules of Procedure of the Informal Working Group on Awareness of Vulnerable Road Users Proximity in Low Speed Manoeuvres (VRU-Proxi)

Adopted text based on GRSG-125-21 (see paragraph 9. of this report)

A. Terms of Reference

1. The informal working group (IWG) shall develop a draft regulatory proposal that will enhance the driver's ability to detect vulnerable road users (VRU). It shall consider:

- (a) the approval of vehicles with regard to the direct Field of Vision (FOV) of the vehicle driver;
- (b) the approval of systems for the detection of VRU and their installation on the vehicles;
- (c) the approval of devices for indirect vision, and their installation on the vehicles.

It shall not cover intervening systems such as those intervening on the braking system or the steering system.

The IWG work shall primarily focus on low speed manoeuvres in any direction based on accident data.

2. When developing the regulatory proposal, IWG should take into account existing technology, data and research. Furthermore, it should consider pre-existing standards as well as national and international legislations covering the same scope.

3. The group shall focus on vehicles of categories M and N. IWG shall consider the relevance of addressing the vehicles of category O.

4. The target completion dates for the IWG work shall be:

- (a) Forward motion:
 - (i) Vehicle turning:
 - a. Completion of the proposal by Germany on new provisions for Blind Spot Information Systems (BSIS): 115th session of GRSG (October 2018); Status: completed in UN Regulation No. 151;
 - b. Possible completion of alternative testing procedure, depending on the evaluation of the feasibility of the alternative testing procedure, to be decided by the IWG: 123rd session of GRSG (April 2022).
 - (ii) Vehicle driving straight or taking off from standstill (M₂, M₃, N₂, N₃): 118th session of GRSG (April 2020), e.g. CMS or detection system; Status: completed in UN Regulation No. 159;
 - (iii) Vehicle taking off from standstill (M₁, N₁): Completion of the proposal by Japan on new provisions for awareness of VRU: 123rd session of GRSG (April 2022).
- (b) Reversing motion (e.g. Camera Monitoring Systems (CMS) or detection system): 118th session of GRSG (April 2020); Status: completed in UN Regulation No. 158;
- (c) Direct vision:
 - (i) Phase 1: Base regulation 123rd session of GRSG (April 2022);

- (ii) Phase 2: Amendments
 - a. Amending the alternative testing method for innovative vehicle designs (e.g. aerodynamic narrow A-pillar designs) by replacing paragraph 5.3. (**October 2023** or earlier if possible);
 - b. For vehicles with competing objectives (e.g. improved direct vision versus high capacity transport, high efficiency, new powertrain technology, impact on freight industry) with direct vision challenges an alternative approach could be considered. It shall be limited to Level 3 for N₃ category of vehicles and shall be based on quantified data. (October 2023 or earlier if possible).
 - (d) General issues (e.g. component approvals) in points (a), (b) and (c) until the 128th session of GRSG (October 2024).
5. IWG is expected to propose to GRSG, a draft regulatory proposal on driver's visibility and system detection of VRU. The adoption process remains under the responsibility of GRSG, WP.29 and AC.1 in line with the administrative procedures as defined in the 1958 Agreement.
6. IWG is expected to take into account the work performed by other Working Parties subsidiary to WP.29.

B. Rules of Procedure

1. IWG is a subsidiary body of GRSG and is open to all contracting parties to the Agreements administered by WP.29, vehicle manufacturers and their suppliers, Technical Services and the participants of all Working Parties (GRs) subsidiary to WP.29.
2. Additional experts may attend on a case-by-case basis, invited by consensual decision of IWG. These experts shall not be part of the decision process.
3. A Chair and a Secretary will manage the IWG.
 - (a) The **position of the Chair** shall be under the responsibility of European Commission;
 - (b) The secretariat shall be under the responsibility of OICA.
4. The working language of the IWG will be English.
5. All documents and/or proposals shall be submitted to the Secretary of the group in a suitable electronic format in advance of the meeting. The group may refuse to discuss and endorse any item or proposal which has not been circulated 10 working days prior to that meeting.
6. An agenda and related documents will be made available on the website by the Secretary, in advance of all scheduled meetings.
7. Decisions will be reached by consensus. When consensus cannot be reached, the Chair of the group shall present the different points of view to GRSG. The Chair may seek guidance from GRSG, as appropriate.
8. The IWG progress will be routinely reported to GRSG – wherever possible as an informal document and presented by the Chair, the Secretary or their representative(s).
9. All working documents should be distributed in digital format. Meeting documents should be made available to the Secretary for publication on the website of WP.29.

Annex IV

Draft Amendments to UN Regulation No. 122 (Heating systems)

Amendments adopted to ECE/TRANS/WP.29/GRSG/2023/8 (see paragraph 24 of this report)

New paragraph 2.10., shall be deleted

Paragraph 6.1.1., amend to read:

"6.1.1. "Heating system" means any type of device which is designed to increase the temperature of the interior of a vehicle, including any load area **and/or the perceived temperature of occupants.**"

Paragraph 6.1.5., amend to read:

"6.1.5. "Electric heater" means a device using electric energy from an on-board or external source to increase the temperature of the interior of the vehicle **and/or the perceived temperature of occupants.** Electrical devices which are installed in addition to the main heating system and whose main function is not to heat the interior of the vehicle are not considered as electric heaters according to this Regulation. For example, electric devices installed in components for the sole purpose of heating that **component are** not considered as electric heaters according to this Regulation."

Amendment to paragraph 6.2., the specification: General, shall be deleted

Annex 1, Part 2, Appendix 1, Section II, amend to read:

"...

10. The vehicle is approved according to the requirements of Annex 9 (ADR): Yes/No 2/.

11. The surface temperature exceeds the limit values mentioned in paragraphs 2.1. to 2.3. of Annex 5: Yes/No"

Annex 5, paragraph 2, amend to read:

"2. Surface Temperature

The surface temperature of any part of the heating system likely to come into contact with any occupant of the vehicle during normal road use shall be measured with a contact thermometer. No such part or parts shall exceed temperature limits defined in paragraphs below unless the manufacturer can demonstrate during the type approval process that their safety concept covers for higher temperatures without increasing the risk for occupants to get burns compared to the risk caused by the temperatures below. Any such demonstration and documentation shall be appended to the test report. The possibility to exceed these temperatures, does not apply to vehicles of categories M₂ and M₃ other than for the driver and for passengers seated in the row adjacent to the driver

2.1. The surface temperature of any part of the heating system likely to come into contact with the driver of the vehicle during normal road use is limited to 70°C for uncoated metal or 80°C for others materials.

2.2. In the case of vehicles of categories M₁ and N, any part of the system likely to come into contact with seated passengers during normal road use of the vehicle, with the exception of the outlet grille, is limited to 110 °C.

- 2.3. In the case of vehicles of categories M₂ and M₃, any part of the system likely to come into contact with passengers during normal road use of the vehicle is limited to 70 °C for uncoated metal or 80 °C for other materials."**

Annex V

Draft Amendments to UN Regulation No. 160 (Event Data Recorder (EDR))

Amendments adopted to ECE/TRANS/WP.29/GRSG/2023/11 and to ECE/TRANS/WP.29/GRSG/2023/15 (see paragraph 30 of this report)

New paragraph 6, shall be deleted

...

Annex 4, Table 1, amend to read:

"...

Longitudinal acceleration (post-crash)	If Recorded	0–250 ms or 0 500 to End of Event Time plus 30 ms, whichever is shorter.	-50 to +50g	+/- 10% ¹⁰	1 g	Planar
--	-------------	--	-------------	-----------------------	-----	--------

..."

¹⁰ +/- 10 per cent of the full range of the accelerometer used in the Electronic Control Unit (ECU) containing the EDR function.

..."

Adopted text based on GRSG-125-02-Rev.2 (see paragraph 30 of this report)

Insert new paragraph 6., to read:

"6. Verification Procedures

- 6.1. The accuracy of the measurement of longitudinal and lateral acceleration data element shall be verified using a component test fixture that subjects the EDR/airbag control module acceleration sensors to a sinusoidal acceleration motion in accordance with the following:

$$a(t) = -40 * \sin\left(\frac{\pi t}{20}\right) \pm 2g$$

- 6.1.1. The component test fixture shall be equipped with an acceleration sensor with a minimum range of +/- 500g and associated data acquisition system with a sampling frequency of 10kHz that is oriented to sense acceleration in the direction of the test fixture's motion.
- 6.1.2. The air bag electronic control unit/EDR and applicable peripheral sensors, if needed to generate the air bag deployment signal, shall be mounted on the component test fixture as oriented in the vehicle. If the above does not generate a deployment signal, the manufacturer shall recommend the most appropriate way to generate the deployment signal.
- 6.1.3. The air bag deployment signal shall be recorded along with the component test fixture's acceleration.

6.1.4. Following the activation of the component test fixture, the acceleration traces recorded by the component test fixture shall be passed through a 150 Hz two pole Butterworth filter. The equation for the 150 Hz Butterworth filter is shown below:

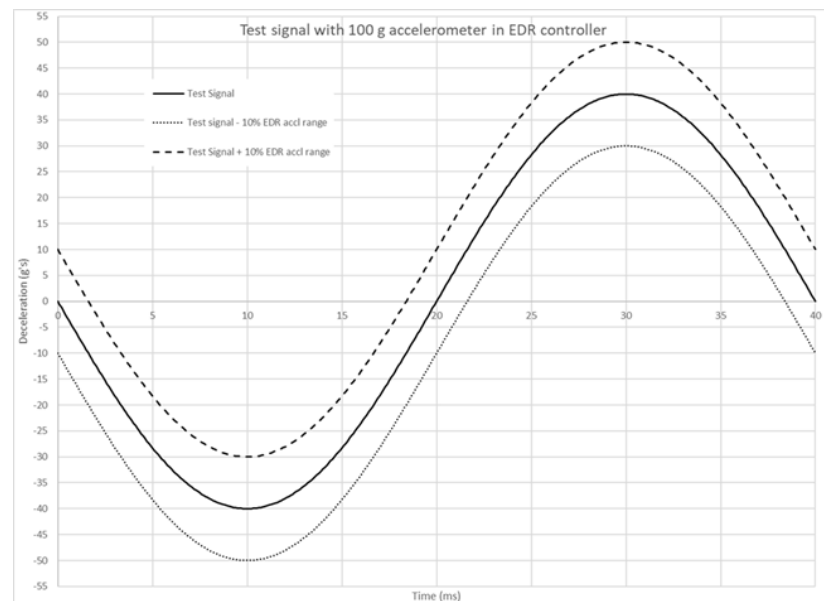
$$\begin{aligned}
 a_{ref_150Hzfilt}(n) = & 0.00208057 * a_{ref_raw}(n) \\
 & +0.00416113 * a_{ref_raw}(n-1) \\
 & +0.00208057 * a_{ref_raw}(n-2) \\
 & +1.86689228 * a_{ref_150Hzfilt}(n-1) \\
 & -0.87521455 * a_{ref_150Hzfilt}(n-2)
 \end{aligned}$$

The filtered component test fixture acceleration traces shall be compared to the acceleration traces recorded in the EDR unit by aligning the traces using the air bag deployment signal time.

6.1.5. The EDR recorded acceleration trace shall be fully contained in a corridor that is +/- 10 per cent of the full-scale range of the accelerometer used by the controller containing the EDR applied to the component test fixture's filtered acceleration trace. The comparison of acceleration sensor traces shall only be made on the axis the component test was conducted.

For example, if the accelerometer in the controller containing the EDR function has a +/- 100 g range, then +/- 10 g would be applied to the component test fixture's filtered acceleration trace. The EDR recorded acceleration trace shall be fully contained within that corridor (see the figure).

Corridor +/- 10 Per Cent of the Full-Scale Range of the Accelerometer



6.1.6. The EDR acceleration trace in paragraph 6.1.5. can be time shifted up to +/- 2ms based on the inverse of the 500 Hz sample rate to further align the data. The minimum step of the time shift may be the inverse of the sample rate of the EDR.

6.1.7. The acceleration data elements satisfy the tolerance condition if the EDR recorded acceleration trace is fully contained within the corridor established in paragraph 6.1.5., with or without following the above time shift in paragraph 6.1.6.

6.1.8. If the recommended waveform cannot realize algorithm wakeup due to the reason of manufacturer's algorithm strategy, the manufacture may select a waveform, or amplify the suggested waveform. The waveform used for the EDR acceleration data accuracy shall be provided for review, if it is different than the waveform defined in the verification process."

Paragraphs 6. to 11.4., renumber as paragraphs 7. to 12.4

Paragraph 11.5.(former), renumber as paragraph 12.5., and amend to read:

"12.5. Notwithstanding paragraph **12.4.**, Contracting..."

Insert paragraphs 12.6. to 12.10., to read:

- 12.6. As from the official date of entry into force of the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 02 series of amendments.**
- 12.7. As from 1 September 2024, Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the 01 series of amendments to this Regulation, first issued after 1 September 2024.**
- 12.8. Until 1 September 2026, Contracting Parties applying this Regulation shall accept type approvals to the 01 series of amendments to this Regulation, first issued before 1 September 2024.**
- 12.9. As from 1 September 2026, Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the 01 series of amendments to this Regulation.**
- 12.10. Notwithstanding paragraph 12.9., Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the 01 series of amendments of this Regulation, for vehicles which are not affected by the changes introduced by the 02 Series of amendments."**

Paragraph 11.6. (former), renumber as paragraph 12.11.

Annex 4, Table 1, footnote 10, amend to read:

- ¹⁰ +/- 10 per cent of the full range of the accelerometer used in the Electronic Control Unit (ECU) containing the EDR function **as specified in paragraph 6.1.5."**

Annex VI

[English only]

GRSG Informal Working Groups

<i>Informal working group</i>		<i>Secretary</i>
Awareness of Vulnerable Road Users Proximity (VRU-Proxi)	Mr. L. Rozanski (EC) (Chair) email: lukasz.rozanski@ec.europa.eu	Mr. Johan Broeders (OICA) Tel: +31 40 214 5033 email: johan.broeders@daftrucks.com
Field of Vision Assistants (IWG-FVA)	Mr. H. Lammers Tel: +31 79 345 8132 email: hammers@rdw.nl	
