

**Draft report of the 21st Session of the
GRSG Informal Working Group on
awareness of Vulnerable Road Users proximity
in low speed manoeuvres (VRU-Proxi)**

Dates: 24th, 25th and 26th of November 2021
Venue: Webex meeting
Chairs: Mr. Peter Broertjes (European Commission)
Mr. Yasuhiro Matsui (Japan)
Secretary: Mr. Johan Broeders (OICA)

1. Welcome

The Chairs welcomed the members of the group and indicated that important steps are now being made to finalize the new draft regulations concerning forward and lateral detection for M1/N1 and direct vision for heavy vehicles. The Chairs mentioned that due to the end year holidays the target for finalizing the documents for the next GRSG was 17 December 2021 (with the formal deadline of 3 January 2022 for the 123rd GRSG planned on 28 March to 1 April 2022). Furthermore, it was explained that adoption of the direct vision regulation in GRSG April 2022 is highly recommended from an EU perspective with respect to the GSR deadline for this regulation to be adopted by 7 January 2023. A postponement of the GRSG adoption will trigger the adoption procedure for an EU regulation instead of UN regulation.

2. Adoption of the agenda

Document: VRU-Proxi-21-01 (Chair)

The agenda was adopted by the group.

3. Adoption of the report of the 20th VRU-Proxi session (online meeting)

Document: VRU-Proxi-20-16 (Chair)

There were no comments to the report of the 20th VRU-Proxi, the report was adopted.

4. Reversing Motion

Document: VRU-Proxi-21-05 (OICA)
VRU-Proxi-21-06 (OICA)
VRU-Proxi-21-10 (Japan)

J presented proposed amendments to Regulation No. 158 Reversing Motion:

- For detection systems: wording “audible” to be replaced by “acoustic” (harmonization with other regulations);
- For RCVS: visibility of 0.15 m x 0.15 m area of top instead of full top of first row of poles;

- Other minor changes.

The IWG agreed with the proposed changes and submitting this to GRSG.

OICA presented the proposal to allow temporary obstruction (e.g. by the steering wheel) of the rear view. The Chairs stated that this could be considered as acceptable but CPs had diverging views on this:

- UK: obscuration of the monitor by the steering wheel shall not be allowed as all required info is not visible. R46 also not allows an obstruction of the view.
- D: better to not permit obstruction.
- NL: shall be re-considered, follow D, no issue for tell-tales but evidence needed that it is not a safety issue
- FR: will discuss first internally
- J: no position yet, needs more discussion internally
- S: concerned about the possible risks

The Chair proposed to submit the proposal to GRSG with “permanent” in between square brackets for a discussion in GRSG. J will include this in the document for GRSG.

UK stated that rear view cameras for trailers shall be considered again as it is not regulated. The Chair responded that this item could be included in the Terms of Reference of this IWG.

5. Forward motion regulation

5.1. Vehicle turning (Blind Spot Information System Regulation No. 151)

Document: VRU-Proxi-21-02 (CLEPA)

CLEPA presented a proposal for amending the BSIS regulation regarding de-activation and re-activation of the system, a restriction in the Time-to-Collision (TTC) and pre-test conditioning for initialization of the sensor system. The Chair proposed some small re-wording. The IWG agreed to submit this proposal to the next GRSG.

The drafting text for the proposed alternative testing method for BSIS from D was also considered for submitting to GRSG but not discussed in detail. It was agreed that the proposals from CLEPA and the alternative testing method will be enclosed in one Working Document as a proposed supplement for Regulation No. 151 for the next GRSG.

5.2. Forward motion: Vehicle taking off from standstill (M1/N1)

Documents: VRU-Proxi-21-03 (OICA)
VRU-Proxi-21-04 (OICA)
VRU-Proxi-21-07 (Japan)
VRU-Proxi-21-08 (Japan)
VRU-Proxi-21-09 (Japan)

J provided the final proposed draft regulation for vehicle taking off from standstill (forward and lateral detection) for the categories of vehicles M1/N1.

CLEPA and OICA exchanged comments bi-laterally with J prior to the meeting. The following comments were discussed in the meeting

- In paragraph 15.1 & 16.1 it is stated that the system shall be default off, why not mandatory on? J: Mandatory default on may give too much information and possible overload for the driver. The IWG agreed to remove the “default off” requirement in paragraph 16.1 and to leave only the activation / de-activation possibility for the driver. Paragraph 15.1 has also to be changed in line with this intention.
- In paragraph 1.1.2 the wording “if fitted” must be removed as this is not possible in a UN Regulation.
- Paragraph 1.1.4 to be added: “It does not apply to systems primarily meant to aid parking maneuvers of the vehicle”.
- It was asked if CPs have intentions to implement this regulation:
 - J not decided yet officially, but this new UN regulation would be an improvement compared to the existing regulation in Japan which only covers the passenger side with mirrors and camera systems.
 - FR, D, NL, UK, EC have no plans to implement this regulation. EC may reconsider upon the evaluation of the revised GSR measures for which an effectiveness study is due by 7 July 2027
- The need for amending R46 according VRU-Proxi-21-07 was discussed. The European Commission will have an internal discussion whether an amendment would be required and will inform J about the outcome. Note by the Co-Chairs: *it was agreed to submit a revised proposal to revise R46 to make sure the draft new regulation can coexists without overlap.*

6. Direct Vision regulation

Documents: VRU-Proxi-21-11 (OICA)
VRU-Proxi-21-12 (Taskforce DV)
VRU-Proxi-21-13 (LDS)
VRU-Proxi-21-14 (LDS)

The Chairs of the Taskforce Direct Vision gave an update of the status of the discussions in the Taskforce:

- Draft regulation (VRU-Proxi-21-12) almost in final status for submitting to GRSG, still some final checks are needed.
- Test procedure for M2/N2 is almost finalized and ready for implementation in the draft regulation document. OICA presented the latest status in VRU-Proxi-21-11.
- The correlation of the physical test to the virtual test for N3 was still subject of discussion. LDS investigated the correlation improvements by applying more slices through the assessment volume as presented in VRU-Proxi-21-14. With the use of 8 slices it would provide the best correlation. The duration of the physical test was questioned, LDS indicated that it would take about 3h per slice so 24h for 8 slices which could be quicker when people are getting more experienced with the method.
- Regarding the technology neutrality the funding for calculating 3 options has been approved by the Road Safety Trust charity organization. LDS explained that it is not feasible to incorporate technology neutrality in the base regulation for GRSG April 2022. More explanation was also given in VRU-Proxi-21-13.

The Chair expressed that it is of utmost importance with respect to GSR deadlines to have the base direct vision regulation adopted in GRSG April 2022. The technology neutrality should

be laid down in the ToR as a separate working group deliverable aiming for finalization by GRSG April 2023 or earlier, if possible. The proposed changes to the ToR are described in section 8 of this report. To cover existing low entry cab vehicles with a less conventional design it was proposed to add paragraph 5.3 to the base regulation. This paragraph would allow, for a limited period of time, an alternative testing method for the front visible volume that the manufacturer can apply to demonstrate sufficient visibility to the front of the vehicle. This paragraph is supposed to be removed or replaced by means of a future amendment.

7. Next meeting

22nd meeting: 17-18 March 2022, web meeting or hybrid meeting [location TBD].

8. Any Other Item

The IWG group discussed the proposed changes to the Terms of Reference. The changes below were considered and agreed to propose to GRSG for approval. There was some debate concerning the target dates for 4 (c) Phase 2. Industry proposed earlier introduction dates but the EC explained that this could jeopardize the adoption in April 2022 as GRSG experts may suggest to postpone the adoption of the base regulation until the proposals for Phase 2 are available. It was agreed to keep the dates as final dates with an earlier adoption as optional.

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

- (a) Forward motion:
 - Vehicle turning:
 - o 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.**
 - o **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);**
 - 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.**
 - **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:
 - **Phase 1: Base regulation: [~~122nd~~] [123rd] session of GRSG (~~October 2021~~) (April 2022).**
 - **Phase 2: Amendments**
 - o **Adding alternative testing method for innovative vehicle designs (e.g. aerodynamic narrow A-pillar designs): [125th] session of GRSG (April 2023 or earlier if possible)**
 - o **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: [126th] session of GRSG (October 2023 or earlier if possible)**
- (d) General issues (e.g. component approvals) regarding point (a), (b) and (c) until the [126th] session of GRSG (October 2023).