

Special Interest Group on UN-R 157

- Date and time: Thursday, 18 & 19 March 2021, 12.00-14.30 (CET/ Geneva time)
- Attendance: Leadership (EC, UK, DE), Group attendees (~66)

Summary:

- Provisional agenda and notes of 2nd meeting approved by the group without changes.

- Consideration of amendments clarifying current UN-R157:
 - a. Priority vehicles & other road users

Introduction to document UNR157-03-07 (slides 1-4) by OICA/CLEPA; group discussion on definition in para. 5.1.2. and reconsidering of proposals in UNR157-02-03 (slide 2): JP and EC in favor of alternative 2 (first option), supported by SE and DE; FR not in position to share position.

Group resumed discussion on second meeting day, considering the proposals prepared in the meantime with refined wording by UK (UNR157-03-11) and OICA/CLEPA (UNR157-03-12). UK suggests in their proposal e.g. to replace the word “detectable collision” by “significant” in para. 5.1.1.. Industry supportive of this suggestion and furthermore suggests in their proposal to amend the definition for unplanned event (para. 2.5.). Due to lack of time no final conclusion was taken during the meeting day. **Group members asked to consider and continue work on the basis of UNR157-03-12; aim is to wrap up in next meeting (April 2021).**
 - b. OICA noted that they have not had time to prepare a revision of their proposal GRVA/2021/2 after GRVA session in February. **Group agrees to keep on the agenda and revisit in next meeting.**

- Review scope extension for heavy duty vehicles:

Presentation given by OICA (UNR157-03-09) providing additional information to the Q&A-document shared in previous meeting (UNR157-02-09). Main aspects addressed in presentation with initial discussion during the meeting:

 - Minimum following distance: industry understanding that the minimum following distance by the system shall always be greater than the calculated values in the

table (never less). DE question why industry proposes to change values for heavy duty vehicles; unanswered, to be picked up in next meeting. JRC does not see need for table in general as this distance will in any case depend on the traffic situation and traffic rules and proposed instead a general requirement on safety distance keeping; JP in favor of table. General discussion about table and defined values for minimum following distance resumed under agenda item on speed increase extension.

- Trailer length: explanation by industry that amendments of the current requirements in UN-R 157 due to the length of the trailer are not necessary because a rough assumption of trailer length by the truck, associated with a conservative strategy is sufficient to implement a safe strategy in line with para. 5.2.1 and 5.2.2. Intervention by SE and UK that whole vehicle weight might influence vehicle dynamics; UK questions how trailer affects M1-vehicle performance.
- DSSAD – retrievability of data: new proposal by industry (red bold text) to amend para. 8.4.3. (replacing proposal GRVA-09-19). No immediate reactions from the group.

DE presents additional questions and comments to industry's Q&A-document in particular for the maximum deceleration value, TTC lane intrusion and different dynamic behavior in (UNR157-03-05). JP raises their feedback to the minimum following distance, forward detection range and TTC lane intrusion as summarized in UNR157-03-08.

Group members asked to consider documents by OICA, JP and DE until next meeting; further input welcome. OICA presentation will be kept as reference document (OICA does not intend to update Q&A document). **For next meeting update of list of open issues will be prepared jointly by OICA and leadership;** OICA/CLEPA intend to prepare revision of regulatory text on the basis of their proposal (GRVA/2021/03) and the exchange taken place so far.

- Speed increase and lane change:

Initial introduction of list of open issues by leadership (UNR157-03-03) and first feedback provided by JP advancing leadership's proposal (UNR157-03-08). JP's document used as basis for discussion in the meeting (going line by line). UK suggests

adding DSSAD as open issue. JRC proposes to include on-road testing. JP highlights wrong way drivers should be included in “additional traffic scenarios”.

- Minimum headway/safety distance: DE explains reasoning for extending the table in para 5.2.3.3. (GRVA/2020/32); OICA support. JP also in favor to keep table, but is in internal discussions regarding values; generally see table to guarantee safety and is unambiguous. JRC considers this table not necessary as this distance will in any case vary according to the traffic situation and national traffic rules and could even create problems for traffic flow (UNR157-03-10). SE positive with this table (SE no explicit values); propose to keep for a while since the system is new. UK concerned about JRC traffic flow observation and prefers to keep 2s-rule (“according to the book”, UK has similar national guidance rule).
- Forward detection range: DE explanation in para. 7.1.1. (GRVA/2020/32); 0,5 s system delay and 5 m/s² deceleration on wet roads for the calculation of the detection range for speeds > 60 km/h (based on German study). JP still needs time to check values. SE prefers extension of value in table based on 3.7 m/s² (as explained in UNR157-03-04); supported by JP. OICA supportive of DE approach in principle and also the proposed value of 5 m/s² (even on wet roads this can be achieved by modern vehicles; road surfaces provide this).
- No negative effective of the safety distance on traffic flow: short introduction of the topic by JRC and proposal for a text on string stability using presentation. OICA asks how minimum time gap relates to string stability.
- Line between requirements and traffic rules: JP highlighted the possible cases where following traffic laws could cause danger and the regulation should address those cases (e.g. priority of safety over traffic rules).
- Cut-in scenarios: DE confirms no amendment proposed in GRVA/2020/32 compared to current ALKS Regulation; JRC proposed for the ALKS extension to merge the 2 different models currently used in the ALKS Regulation for collision avoidance; JP strongly suggested that any amendment to Appendix 3 should be discussed with IWG FRAV and VMAD. OICA questions why these significant changes are necessary at all.
- Pedestrian crossing scenario: DE explains intention as proposed in GRVA/2020/32 is to keep requirements as agreed for current ALKS Regulation, meaning collision

avoidance with crossing pedestrians up to 60 km/h. OICA supports; JP requests collision avoidance with crossing pedestrians up to 130 km/h, because ADS should be as safe as human driver. UK wants to give it more thought what can be a realistic speed value up to which the system can avoid the collision.

No final conclusions were drawn yet for the above summarized open items. Due to time constraint (end of meeting) discussions will be resumed in next meeting as well as continued with the open issue regarding evasive maneuver.

- AOB:
 - a. Presentation by FR (UNR157-02-04) on vehicle configuration's evolution and ADS safety along lifetime. Feedback by OICA/CLEPA (UNR157-03-07, slides 5-9). Short initial discussion during meeting due to time constraints; discussion may be resumed in next meeting, e.g. also coming back to presentation by industry.
 - b. Next meeting dates in June and July 2021 agreed and confirmed by group members.

Action points for next meeting:

- Everyone requested to provide any further input on collision detection and emergency/enforcement authorities (on the basis of UNR157-03-12) in order to wrap-up necessary amendments for dedicated paragraphs in next meeting
- Preparation list of open issues update for heavy duty vehicles – OICA & leadership
- Everyone requested to provide any further input on speed increase & lane change in advance of the next meeting (using UNR157-03-08 as the basis)
- Preparation list of open issues update for speed increase & lane change – leadership

Next meetings:

- 15-16th April 2021 (12.00 -14.30 CET)
- 10-11th May 2021 (12.00 -14.30 CET)
- 10-11th June 2021 (12.00 -14.30 CET)
- 08-09th July 2021 (12.00 -14.30 CET)