

**Notes of the first web-meeting (17 October 2019)**

1. short intro by co-chairs (brief status review, future schedule and purpose of the skype meeting, etc.)

- Co-chair (J) explained that in the last session the IWG only covered 2.3 & 2.4 so before the next session shall plan to cover the other part of the document to prepare for the #24 IWG.

2. discussion on the draft document (first session will focus on para 2.5. (Dynamic Driving Task))

Co-chair/members agreed to discuss based on the D prepared proposal.

[Para by Para explanation & discussion]

**2.5.2:**

- D explained that it shall be ok to remove the square brackets because it is a general statement and valuable to keep. It was also confirmed that the Lane keeping (not lane change assistance) is the focus of the requirement.
- **Conclusion: agreed as proposed**

**2.5.3:**

- D explained 2.5.3 is more of a general statement and do not harm to keep.
- OICA commented 2.5.3.1 & 2.5.3.2 only focuses on the longitudinal hence no need to delete 'longitudinal' but there were opinions that 'curve' may affect lateral, and in the end agreed that there is no harm to keep it general.
- OICA questioned how to interpolate under 10 km/h if there is no value, but it was confirmed that there is no concern since it is specified that below 2 m/s will be 2 m.
- OICA asked about the justification of 'minimum time gap in second', and it was confirmed that the values come from the Korean proposal submitted for the #22 session.
- **Conclusion: See 2.5.5**

**2.5.4:**

- There was a comment that the detection target should not be limited to 'stationary vehicle', so also include 'obstacles'. OICA raised concern on the vagueness (too wide) of the word 'obstacle'. However, it was also confirmed that 2.5.4 mentions 'blocking the lane' so should not cause any confusion (e.g. if it is obstacle such as 'paper packaging' it will not cause stopping the vehicle).
- **Conclusion: Add 'obstacle'; if any party has objection/concern on adding 'obstacle,' the party to prepare alternative proposal**

**2.5.5:**

- D explained that the reaction to cut in vehicle should be control by the normal collision avoidance manoeuvre (under normal system continuity), not EM.
- Several discussions on what should be considered under 2.5.5 ((severe) cut in lead to EM? keep 'e.g.' and cover 'falling object from the truck'? etc.)
- Co-chair pointed out that the original intention of 2.5.5 was to address EM situations and normal condition is covered under 2.5.3 so should be included there if necessary.
- **Conclusion: Co-chair(J) volunteered to prepare revised text for 2.5.3 & 2.5.5 for the next session.**

## 2.5.6:

### 2.5.6.1:

- D explained the main change points of 2.5.6.1 (46m square brackets removed, and add pedestrian target). There was a discussion on if the 'target used' should be moved to the test requirement section.
- **Conclusion: Move the target requirement to the test section and discuss later when discussing the test requirement. Change the wording 'most forward' to 'forward most point'.**

### 2.5.6.2 & 2.5.6.3:

- Co-chair mentioned the alternative could be to cover this under 2.4.3 (activation condition), but D explained that 2.5.6.3 is for ensuring that the TA would know that the manufacturer confirms how the wear/aging affect the system.
- OICA suggested to come back with the proposal for minimum technical data/strategy to prove the appropriateness, but UK and several others commented on the difficulty of making consistent assessment of the 'strategy' (e.g. how to assess the accuracy of degradation self-check).
- OICA commented '46m' detection range itself is not much and aging could be handled by regular cycle check.
- Co-chair mentioned the required detection range of 46m and the requirement that activation is not possible when that 46m detection is not achieved after ignition on address the issue well.
- **Conclusion: the required detection range (46m) and that when the required detection range is not achieved the system shall not be activated are the basic requirements; how to check the conformity to those requirements will be further discussed in the test section.**

## 2.5.7:

- D explained that the proposal was prepared together with the definition; 'specified maximum speed', 'maximum operation speed', 'present speed' defined separately.
- Several commented that for the current system aiming 60km/h the definitions seem too overload but under some situations (higher speed system) those different definitions may be useful.
- Several comments on the 'set speed' (should not contradict the traffic law or current environmental condition, what the relation should be with the 'maximum speed', etc.) but no clear understanding/conclusion reached.
- The chair suggested to limit the consideration to focus on low speed application, and criteria for high speed application should be resolved later.
- **Conclusion: Focus on those essential to low speed application.**

#### 2.5.8:

- D explained that the last clause was introduced from the one already included in the AEBS requirement, referring to the cases other than those tested.
- Co-chair (J) pointed out the possibility of need to consult with the VMAD group.
- **Conclusion: To be checked with the task of the VMAD group.**

### 3. wrap up and way forward for next session

**Co-chair will prepare revised texts for 2.5 for the #24 IWG.**

**Next WEB Meeting: #2: Oct 23 10:00 CEST -**

**To cover 2.6 (Driver Availability) and 2.7 (Transition Demand)**

#3 (Nov 5): 2.8 (Information to the driver), 2.9 (Minimum Risk Manoeuvre) and 2.10 (Emergency Manoeuvre).

## Notes of the #2 web-meeting (23 October 2019)

### 1. short intro by co-chair

- The chair (J) informed that the meeting will use ACSF-2302r4/r3 as a base document and will also review the proposal received from Germany, Netherland and OICA.

### 2. discussion on the draft document (2.6 (Driver Availability) and 2.7 (Transition Demand))

#### 2.6:

- **Conclusion: Agreed as the current text**

#### 2.6.1:

- Co-chair (J) pointed out that the first part and second part seem to be redundant, and suggested to delete the first part, and keep the latter part ('A transition demand shall be initiated...'). D recalled that first part refers to pre-warning, added as a manufacturer option, but in the end agreed to delete the first part since there was no apparent need to keep it.
- D proposed to delete 'while the vehicle is not at standstill'; UK and others showed their support
- **Conclusion: Delete the first part and [while the vehicle is not at standstill]**

#### 2.6.2:

- OICA explained their proposal on 'driver availability criteria,' still giving the rolling interval of 60 sec, require at least two available criteria.
- SW pointed out the need for defining 'continuously' (e.g.1 Hz?). Several parties commented on their viewpoint. (Co-chair: the term 'continuously' is used often in regulatory context so no need to be concerned / NL: agree with SW; the system time to time make assessment, yet need to know the frequency / OICA: list of criteria is clear, system is all the time looking for the confirmation, and within 60 seconds if not received provide warning and if frequency is too low, it goes to TD, so it will not affect the safety, it can depend on the technical solution). Co-chair suggested that SW and other interested parties continue the discussion with the industry since the Group has to focus on and to finalise the core technical requirements for ALKS as the first priority.
- J explained that concerning '180 sec' condition, Japan's study (used as a basis) may have been misunderstood. The study shows that the drowsy (slightly sleeping) driver can push button so it is not effective method, and some driver mis-operated the control when TD was initiated (instead of holding steering control, they push button). Japan therefore suggested deleting the 'dedicated confirmation by the driver every 180.' OICA/NL commented that there is no risk to leave the criteria.

- Several questions were raised if 'dedicated confirmation' is considered as one of the 'two criteria' or it can be 'dedicated confirmation' only. D confirmed the understanding was that 'dedicated confirmation' is one of the 'two criteria', and it does NOT mean 'dedicated button.' It was also identified that 'dedicated button' can be covered by 'input to driver exclusive vehicle control'.
- Canada suggested that specifically listing what can be used as criteria so the technical service can refer to would be beneficial. UK, NL supported the suggestion, and NL referred to their proposal adding the sitting position as the criteria. SW pointed out the need for defining 'Input'.
- **Conclusion:**
  - **Generally agreed that 'dedicated confirmation' can be one of the 'two criteria'**
  - **Continue discussion using the OICA proposal as a basis, considering 'dedicated confirmation by the driver' can be one of the 'two criteria'.**
  - **Industry to review the proposals in discussions with the interested Contraction Parties before the next meeting**

#### **2.6.3(New D/OICA proposal):**

- **Conclusion: Since this para (driver attentiveness) relates to system deactivation, to be discussed under the 'deactivation' section (2.4).**

#### **2.6.4 (new OICA proposal):**

- **Continue discussion together with 2.4.2.**

#### **2.7:**

- **Conclusion: Agreed as D proposal**

#### **2.7.1:**

- **Conclusion: Agreed as D proposal**

#### **2.7.2:**

- D proposed to delete 'planned' and 'unplanned' (together with the definition) as it is not necessary to differentiate the two (it should be 'sufficient time', 2.7.4.1 specifies MRM starts after 10 s so the timing is covered there), and there is a concern that the driver can get used to the timing so better to keep the same time (always minimum 10 sec). Japan however pointed out the need to specify the initiation timing of TD (2.7.2.1 is the margin, but if necessary 10 sec can be considered).
- **Conclusion: agreed to keep 2.7.2.1. & 2.7.2.2. Time in 2.7.2.1 and 2.7.4.1 could be in line.**

#### **2.7.3:**

- **Conclusion: Agreed as D proposal, but change 'latest 5s after the start of the transition demand' to 'within 5s'**

#### **2.7.3.2. (newly added by D)**

- **Conclusion: May be revisited if necessary after discussing 2.8 due to the duplication.**

#### **2.7.4:**

- D proposed to add the term 'phase' and 'sever failure minimum risk manoeuvre' (with new definition)
- **Conclusion: May be revisited if necessary after discussing MRM section (2.9).**

#### **2.7.5**

- **Conclusion: Agreed as D proposal to delete this para (as it is duplicate)**

### **3. AOB**

Co-chair to prepare revised document based on the outcome of the discussion for the next IWG

### **4. wrap up and way forward for next session**

Next WEB Meeting: #3 (Nov 5): 2.8 (Information to the driver), 2.9 (Minimum Risk Manoeuvre) and 2.10 (Emergency Manoeuvre).

## **Notes of the #3 web-meeting (5 November 2019)**

### 1. short intro by co-chairs

- The co-chair (J) reviewed the current status again, emphasizing the time pressure (the IWG will only have 2 more sessions) and stressing the need for preparing the revised draft to finalize core technical requirements in the next session.

### 2. discussion on the draft document (2.8 (Information to the driver), 2.9 (Minimum Risk Manoeuvre) and 2.10 (Emergency Manoeuvre))

The documents submitted by Germany and Industry were reviewed.

Note: Section numbers below are mainly based on the DE proposal document.

#### **2.8 (demonstration of 2.8. performance under Annex X):**

- **Conclusion: to be addressed with other paragraphs horizontally**

#### **2.8.1 (information to be provided to the driver):**

- System failure: confirmed that it was already agreed. **Industry's proposal to remove 'manually' was agreed.**
- TD: DE proposed removing the warning escalation requirement because of the duplication (with German proposal of 2.7). Industry suggested to keep as is and discuss later. Concerning haptic warning, UK/NL commented that haptic warning shall be required, while DE preferred to keep it flexible and accept either acoustic or haptic. Co-chair(J) pointed out the need of justification for requiring haptic warning. As for 'faster than 20 km/h' condition, Industry Insisted on the need for considering it with the above issue, because haptic warning by brake jerk under less than 20km/h condition might stop the vehicle.
- EM: DE proposed to remove 'and either an acoustic or a haptic signal,' explaining that during EM it is sufficient to inform the driver by an optical signal. JPN supported the DE proposal because any interventions by the driver are not expected during EM.
- **Conclusion: UK/NL to prepare justifications for requiring haptic warning during TD.**

#### **2.8.2 (System Status):**

##### **2.8.2.1 (System unavailability indication):**

- DE explained the proposal to add 'optically,' as when the system is not available and when the driver pushed the button the unavailability should be indicated clearly. Industry explained their proposal was coming from the same purpose, just using a different wording 'visually.'
- **Conclusion: Keep the element of the proposals and adjust the wording later.**

### **2.8.2.2(system status display when activated):**

- DE introduced the 'dedicated colour display' requirement. Co-chair(J) expressed his concern on the restriction this specific requirement could bring and asked if any research data were available. Industry commented that some aspects are already covered by ECE 121 and reference ISO but agreed that requiring general telltale is not enough and there shall be clearly perceptible indication in the driver's field of view. However, Industry continued that (while steering illumination is already available for some Level 2 systems) requiring 'illuminated steering control' is design restrictive and other method (e.g. instrumental cluster) can be equally visible and acceptable. JPN commented that 'dedicated colour displayed on the steering control covering at least 40% of the outer rim' should be an example and the main requirement should be 'Adequate and equally safe...' stated in the last of this section. Industry agreed with the JPN comment, and added that the intention of the specific criteria e.g. 40% must be clearly stated.

**Conclusion: Co-chair(J) will prepare a revised text for the next session. DE to provide study result/justification for the specific criteria.**

### **2.8.2.3 (system status display when deactivated):**

- DE explained the proposal, that the driver needs to know when he/she needs to take over the task and start driving again. Industry introduced the similar proposal but explained the difference as that acoustic signal is required but two exemptions (manual deactivation and deactivation following the TD) provided. **The group had no objection to the Industry proposal and agreed to introduce these exemptions into the base text.**
- **Conclusion: Co-chair (J) to merge the proposals and prepare a revised text for the next IWG.**

### **2.8.3 (Transition Phase and Minimum Risk Manoeuvre):**

- DE explained the proposal, stating that the optical indication should change in TD phase. Industry reiterated that 'illuminated steering' is design restrictive. Industry also commented that MRM (vehicle slowing down) will be recognized by the driver so overloading the driver with flashing etc. should not be necessary. Co-chair (J) pointed out that moving hands, etc. is provided as examples in 2.8.3.2, but 2.8.3.1 still seem restrictive and need to be re-discussed together with 2.8.2.2.
- **Conclusion: Continue discussion in the next IWG**

### **2.8.4 (Prioritization of ALKS warnings):**

- **Conclusion: Agreed to add title as DE proposal**

## **2.9 (Minimum Risk Manoeuvre (as risk mitigation strategy):**

### **2.9.1:**

- DE introduced the proposal to activate hazard warning at the start of the MRM (deleting 'no later than 4 seconds'), explaining that MRM is very rare (severe driver health issue, etc.) and critical so there should be no delay. Industry pointed out that the DE explanation may contradict with 2.9.3 and it should not be confused with the EM that require severe braking. UK supported stating that this should not prevent lane change under 2.9.3. Industry also pointed out that the EM indication is for the road users outside the concerned vehicle as well, so slight braking with direct hazard warning can cause confusion. Co-chair (J) asked CPs to show their positions in the next IWG.

- **Conclusion: Continue discussion in the next IWG**

#### **2.9.2:**

- **No additional comment/proposal**

#### **2.9.3:**

- Co-chair(J) explained that based on the guidance from GRVA we need to include the requirement concerning lane change function during MRM.
- DE explained the proposal to add 'if capable,' to require following traffic law and declaring system safety strategy.
- JPN pointed out the concern of applying the same requirement for ACSF category C, explaining that in case of ACSF category C lane change the ego vehicle is not decelerating (constant speed or accelerating) while in case of MRM ego vehicle is decelerating while approaching vehicle is going faster, so we should consider the total deceleration for both ego vehicle and approaching vehicle. JPN continued that ACSF category C has no requirement for frontal vehicle in the target lane, but for MRM it is necessary to consider the forward vehicle in the target lane as well. Industry pointed out that the system needs to be able to identify the criticality, and the current text covers this aspect ('a risk of a collision with another vehicle in the target lane').
- **Conclusion: Keep the DE proposal, and as necessary revise the 'system safety strategy' section with better wording.**

#### **2.9.6:**

- DE explained the proposal, reiterating that MRM is rare/unusual situation so it should not be required to reactivate the system during the same engine cycle. Industry suggested deleting this section altogether because it will be confusing to the driver and provide no safety benefit. NL/UK supported the DE proposal. Co-chair(J) explained that the intention of the deleted part was to make sure that start/stop system operation is not considered as new engine cycle (making reactivation more difficult) but may need better wording for accurate understanding.

- **Conclusion: Keep the paragraph. Co-chair(J) to consider better wording for the next session.**

#### 2.10.3.

- DE and Industry introduced their different proposals; DE proposal requires EM to initiate TD so that the driver be aware of the status, while Industry proposal requires that the system continue to operate (no TD) since in some EM cases it may cause the driver confusion (e.g. EM caused by drift to the right, and when the collision risk disappears the driver will not understand why there is TD)
- **Conclusion: Continue discussion in the next IWG**

#### 3. AOB

**Co-chair to prepare a revised (and consolidated) draft text for the next IWG.**

#### 4. wrap up and way forward for next session

**Next schedule: #24 ACSF IWG (Nov 18 - 20, Barcelona)**