

## **REPORT**

### **9<sup>th</sup> meeting of GRRF Informal Working Group on Automatically Commanded Steering Function**

Venue: TKP Garden City Higashi-Umeda  
2-11-16, Sonezaki, Kitaku, Osaka-city, Osaka, Japan  
Chairman: Mr. Christian Theis (D) and Mr. Hidenobu Kubota (J)  
Secretariat: Mr. Jochen Schaefer (CLEPA)  
Dates: 22. – 24. November 2016  
Website: <https://www2.unece.org/wiki/display/trans/ACSF+9th+session>

1. **Participants:**  
see special attachment
  
2. **Welcome and Introduction**  
The chairmen welcomed the delegates to the 9<sup>th</sup> session of the IWG ACSF
  
3. **Approval of the report of the 8<sup>th</sup> Session**  
The report of the 8<sup>th</sup> Session was approved by the delegates  
[ACSF-08-14-Rev1 - \(Secretary\) Report of 8th session](#)
  
4. **Approval of the agenda**  
The agenda was adopted and confirmed by the delegates without amendments.  
[ACSF-09-02-Rev1 \(Secretary\) Agenda 9th session](#)

**5. List of Documents:**

ACSF-09-01 - Info on the 9th meeting in Osaka	Doku
ACSF-09-02 - Provisional Agenda 9th session	Doku
ACSF-09-03 - (France) Questions and Amendments on GRRF 82_12 Rev 3	Doku
ACSF-09-04 -(Germany + Japan) Proposal for category C	Doku
ACSF-09-05 - (OICA-CLEPA) Industry proposal - ESF	Doku
ACSF-09-06 - (OICA-CLEPA) Industry proposal - Automatic stop	Doku
ACSF-09-07 - (OICA-CLEPA) Industry proposal - CSF-ACSF A B1	Doku
ACSF-09-08 - (OICA-CLEPA) Industry proposal - ACSF C	Doku
ACSF-09-09 - (NL and SE) Concerns from the experts from Netherlands and Sweden	Doku
ACSF-09-10 - (ROK) Proposal for amendments to GRRF-82-12-Rev 3	Doku
ACSF-09-11 - (OICA) Industry proposal - amendments to R13H, R13, R140	Doku
ACSF-09-12 - (Japan) (ITS_AD-10-11-Rev1) Revised draft of guideline on cybersecurity and data protection	Doku
ACSF-09-13 - (Japan) (ITS_AD-10-07) The Definitions of Automated Driving under WP.29 and the General Principles for developing a UN Regulation-Rev3	Doku
ACSF-09-14 - (OICA-CLEPA) Industry comment to document ACSF-09-04 from D and J - CAT C	Doku
ACSF-09-15 - (OICA-CLEPA) HMI proposal to be included in GRRF-82-12r3e	Doku
ACSF-09-16 - (Secretary) - Consolidated document with amendments to GRRF-82-12r3e agreed in ACSF 9th session	Doku
ACSF-09-17 - Reserved - Place holder for Draft Report !!	
ACSF-09-18 - (OICA) Definition of aymax	Doku

## 6. General

Main task of the meeting was to review the document [GRRF-82-12-Rev3](#) which was adopted in GRRF82. Proposed amendments, which are more than editable should be presented in GRRF83. Within the meeting, the question came up, whether the document mentioned above is really ready for WP.29 in March 2017, or whether the document, with major amendments now proposed for approval in GRRF83 would be the correct and first document for consideration at WP.29. No decision was taken on this issue.

The delegates are invited to have a view on the “consolidated” document: [ACSF-09-16 - \(Secretary\) - Consolidated document with amendments to GRRF-82-12r3e agreed in ACSF 9th session](#)

### 6.1. Report of the Chairman of the GRRF: GRRF meets ITS/AD

B. Frost, Chairman of the GRRF gave an information to the meeting of GRRF with ITS/AD.

Expressions DIL (Driver in the loop) and DOL (Driver out of the loop) should not be used anymore. Instead there should be a focus on the facts, where the driver is responsible and where the system is.

GRRF got from WP.29 the task, to have a look on document ITS/AD-10-07. WP.29 has also recognized, that more time for the ITS/AD meetings is necessary. WP.29 hat established a new Informal Working Group chaired by UK with the tasks:

- Cyber security
- over the air update

First meeting of this group is scheduled for 21. December 2016 in London.

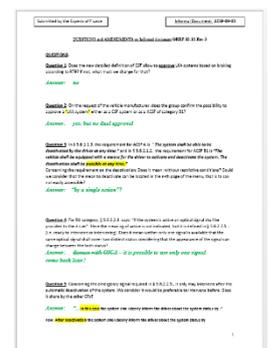
### 6.2. Review on Document [GRRF82-12-Rev 3](#)

#### 6.2.1. Porposal [ACSF-09-03-WD \(F\)](#)

(Chair-D; in the following C-D): The documents was discussed and commented in the CP-meeting the day before. The document is in [Annex 2](#).

Question 1:  
Answer is „no“

Question 2:



Answer is yes, but no dual approval

Question 3:

Proposal is, that the deactivation shall be possible “by a single action”

(OICA): The wording in 3. “by a single action” should be discussed in detail.

This item was not finally concluded.

Question 4: (whether to have the same signal)

(OICA): yes, it could be the same signal for intervening or ready to intervene, because in both cases the system is active.

(UK): we are making statements about symbols, but we not specified the icons.

(OICA) proposed to include definitions of the system status. (is now 2.4.8.19 to

5.6.2.2.2. ~~When the system is temporarily not available, for example due to inclement weather conditions, the system shall clearly inform the driver about the system status by an optical signal, except if the system is in the OFF mode, e.g. switched off.~~

**When the system is in standby mode, an optical signal, different from the one specified in 5.6.2.2.1 (e.g. different tell-tale or colour, blinking), shall be provided to the driver.**

2.4.8.21 in the consolidated document [ACSF-09-16](#))

(EC): but the symbol should be consistant

(UK): we have to consider a “normal” driver. He should not be confused.

(All): Discussion about active/activated end with a new wording for 5.6.2

Question 5:

Amendment of wording was discussed and is agreed by the delegates

5.6.2.2.5:

**Old:** “...*In this case* the system shall clearly inform the driver about...”

**New:** “...*After deactivation* the system shall clearly inform the driver about...”

Question 6:

**General remark to**

- visual or optical,
- audible or acoustic or acoustical,
- haptic or haptical...

It should be clarified by GRRF Secretary that the wording used in the regulations, here especially the Regulation 79, is the same.

*HOMEWORK: UN GRRF Secretary to check the wording in Regulation 79 and to propose a common wording*

Question 7:

Answer: at the moment no approval for trailers can be granted, because of missing

requirements for these kind of vehicles

Question 8:

Answer: no transitional provisions for new types, Extensions of current approval should not be affected.

(Remark Secretary: within the meeting, this Item was discussed several times. The chairman (D) confirmed, that the amendments in Regulation 79 shall only affect new vehicle types!)

Proposal for Amendments in the document of (F):

Paragraphs 3.2.1.1. and 3.2.2.1.

(Chair-J, in the following C-J): need more discussion.

We should keep them in mind for further amendments – step 2.

Paragraph 3.2.4.1

France proposal is, that the max. test speed shall not exceed 130 km/h.

(UK): This is a safety issue. So we can bring this the WP.29.

The question remains, if we cannot test it, should we allow this at all?

(J): Supports the (F) proposal to limit the test speed.

**The test shall be repeated with a vehicle test speed between  $V_{smax} - 20$  km/h and  $V_{smax} - 10$  km/h or 130 km/h whatever is lower.  
Where  $V_{smax}$  is higher than 140km/h, the manufacturer shall demonstrate to the satisfaction of the Technical Service through appropriate documentation that the requirements defined in § 3.2.4.2. are fulfilled up to  $V_{smax}$ .**

(ROK): supports the proposal of (F).

After a discussion, the group agreed to the following wording:

### 6.2.2. Porposal ACSF-09-10-WD (ROK)

The tactile warning in paragraph 5.6.1.1.5 makes only sense, if the driver has the hands on the steering wheel.

This might not be the case at parking operations, where the driver is allowed to remove the hands from the steering wheel.

The delegates have agreed to the following wording:

**Whenever the system becomes operational, this shall be indicated to the driver. Any termination of control shall produce a short but distinctive driver warning by an optical signal and either an acoustic signal or by imposing a haptic signal (except for the signal on the steering control in parking maneuvering).**

### 6.2.3. Porposal ACSF-09-07-WD (OICA/CLEPA)

Some editorial proposals are now be included in the consolidated document ACSF-09-16

## 6.3. New proposals for ACSF Category C

### 6.3.1. Porposal ACSF-09-04 (D+J)

(D): Explained the document.

General remark: This document is only dedicated to a system, which uses sensors for the rear monitoring.

(C-D): Does it make sense to define a CAT C system with the sensor requirements of a CAT E system?

Does the CAT C system shall be able to override the driver?

He sees only the following “solutions”:

- Define a HMI (**H**uman-**M**aschine-**I**nterface), which assures that the driver has the situation under control
- Have a CAT C system with the sensor requirements of a CAT E system
- Delete CAT C

(OICA): Is interested in a CAT C system. It was defined, that using a CAT C system the driver always is fully responsible.. (OICA) is surprised, that (D+J) are requesting sensors for a CAT C system, which are identical to a CAT E system. The main interest of OICA is to define HMI requirements, that sensors are not necessary - this was the main intention for CAT C from the beginning.

(C-D): If we find a solution with HMI, are then sensors also allowed (in addition)?

(EC): We would combine a CAT C system with a CAT B1 system, which is a clear hands-on system. What is the purpose to have a CAT C system at all?

(OICA): The purpose of the CAT C system is to improve the safety at a lane change, as well as ti have a step-by-step approach towards automatic driving systems.

(C-D): What is the safety benefit of such a system?

(C-D): Could it be, that a driver is monitoring the lane change motr precise, if he is performing the lane change manually? Could it be, that we loose safety?

(UK): We have two responsibilities:

1. To support industry to bring the development forward
2. To bring safety forward.

Does not want to have a disclaimer, when switching on the system, because then we think, the driver will not use the system in responsibility – or do we want to blame the driver in case of an accident?

Are we risking to create more confusion for the drivers?

Do we really need this category C?

(OICA): When using a Cat B1 system, CAT C can support the driver also in the

lane change manoeuvre. CAT C systems could be seen as a “natural” extension of a CAT B1 system. Stepwise introduction of system for automated driving and driver assistance additional to a CAT B1 system. There is a special interest for trucks.

(SE): We have this systems on the market, and so we have to regulate this.

Position of the Contracting Parties (CPs):

(D): Sensors or clear HMI

(J): HMI is a solution, but for this more discussions are necessary

(ROK): The necessity of sensor is agreed, but the lower spec. sensor than sensor of Cat. E, like BSD sensor, is possible. Instead, strong requirement in detail with regard to the warning and the completion or abort of lane change is necessary to be defined.

(NL): no strong position. Overreliance may be a problem. If we have a sensor performance of CAT E, why the CAT C?

(SE): Opinion is in line with (NL)

(EC): Do we have in CAT C an automatic system, or is it only an assistance system for the driver?

(UK): Has no clear position. What does the industry expect from regulation? We should not make failures again, which we have made in the past.

(C-J): can OICA please prepare concepts to show the benefits of the system

*HOMEWORK: OICA to prepare the benefits of a CAT C system*

### 6.3.2. Porposal ACSF-09-15 (OICA)

5.6.2.2.2. When the system is in standby mode, an optical signal, different from the one specified in 5.6.2.2.1 (e.g. different tell-tale or colour, blinking), shall be provided to the driver.

(UK): thwe coulour of the optical warning signal should be considered. Should we use the ISO2575 Standard with regard to the colours, perhaps by a reference in a footnote?

(C-D): we should not use ISO Standards, as they are not free available.

(NL): supports (C-D)

(OICA): We should consider, that the displays will not been only telltales in the future.

(C-D): understands, that there may be a wish of CPs to have a unique sign in every vehicle.

(SE) He cannot agree to refer to a Standard, which he do not know.

(EC): Do we need the footnote at all?

(OICA): We have to be careful with standardized disolays, as there are already systems on the market.

(C-D): The requirements, which we are discussion now are only relevant for new vehicle types. Extensions on current approvals shall not be affected.

(UK): The target is to have a standardized signal.

(Sec.): Showed a example of an optical warning (Ford), which is hard to be standardized. Also a text message would be an optical signal. We have to



consider, that in the future more of this “active displays” will be in the vehicles.

*HOMEWORK: Secretary to create a consolidated document at the end of the meeting with all agreed amendments*

**Consolidated Document is: ([ACSF-09-16](#))**

### **6.3.3. OICA presented a document why industry is interested in CAT C**

**Interest for ACSF category C**

**Safety related items / Features**

- Ensures activation of flashing indicator in case of a lane change
- Smoother - standardized LC
  - Better traffic flow
  - Prevents aggressive driving / educates drivers, encouraging good driving behaviour
- Reduce driver workload, e.g. on CVs (more time for monitoring / checking critical situations)
- A natural supplement to B1 / increases usage rate of the assistance system
- Drivers are expecting continuous assistance even when changing the lane
- Comfort for driver

**Strategy**

- Step wise introduction of automation, e.g. for CVs (likely not to start with cat D or E, until the trailer is involved)
- Get social acceptance / Create some trust in the systems
- Affordable entry systems for automation
- Makes B1 more attractive, leading to higher market penetration rate

**Misc.**

- Make technology visible
- Commercial interest (UNECE)

### **Comments from CPs:**

(D): this gives us no further information

(UK): What exactly will a CAT C car do? This document does not answer this question. If the “distance” to CAT E is very small (use of sensors) do we need then CAT C? Not that we recognize, when defining CAT E, that we have made a mistake.

(OICA): proposes to have a look on document ACSF-09-14

(EC): We should start with document ACSF-09-14, but, if we have no monitoring of the environment, how can we realize a safe lane change manoeuvre?

A discussion came up to change the row in defining the categories. Stop here and go on with CAT D?

(SE): we should continue with CAT C as we have already systems in production and on the market

(C-D): If we end up with sensors for CAT C, we can cancel this category. A solution is only a CAT C system without sensors – only with HMI

(EC): supports (SE)

(UK): Expected to get more information on CAT C which was not given (see table above)

(UK) - view on situation for lane change:

<b>today (without system)</b>	<b>with CAT C</b>
Driver to check the “rear”	same
driver to use the turn indicator	same
driver to change the lane manually	lane change is performed by the system

This is the simple step of automation.

(C-D): is OICA interested in a CAT C system with sensors?

(OICA): At least for these manufacturer, which have systems on the market, but the main interest is on systems, which are based on HMI-only.

(J): Between CAT C and CAT E is a big difference. (see ACSF-07-11)

(D): If we move the requirements for lane keeping from CAT E to CAT B2, then CAT C and CAT E are not so far from each other.

(C-D): For CAT C the original idea was, that the driver is monitoring the environment “alone”. The proposal from (D+J) includes the monitoring of the environment by the system.

(NL): If the system is monitoring the environment, it should perform it completely.

(D): We had a lot of discussions in (D). We see the danger of the overreliance of the driver to the system. Sees two solutions:

1. Complete sensing to the rear
2. To have an excellent HMI, without or with reduced rear monitoring by the system

#### **6.3.4. OICA presented [ACSF-09-14](#) (Comments of Industry to document [ACSF-09-04](#))**

(EC): Is there a longitudinal control included in the system? Will the vehicle accelerate while the overtaking manoeuvre?

(D): Is it OICA opinion, that CAT C shall permitted on all roads? (no “geo-fencing”)

(OICA): The driver is responsible...

(D): This is a “no-go” for (D)

(C-D): What is the HMI for starting the lane change manoeuvre?

(OICA): HMI is not defined in detail – could be vehicle specific, but the industry proposal ([ACSF-09-14](#)) therefore describes two subsequent deliberate actions by the driver.

(C-D): How does the system ensure, that the driver has monitored the environment?

(OICA): There is nothing able to ensure, that the driver has looked in the mirror(s).

(EC): How does the system know, whether to turn to the left or to the right?

(OICA): This is depending on the HMI, which have to be clear on whether a left or right lane change is expected by the driver.

(SE): Has at the momernt no position. A CAT C1 (only HMI) and a CAT C2 (with

rear monitoring) will be most probably no solution.

(UK): ist still confused. As he mentioned at the beginning... What have we learned from the past? Maybe it are the sensors, which could cause a problem by creating an overreliance to the driver.

(D): we have currently vehicles on the road, which name an assistance system as “autopilot”

(C-D): The system requires the driver to monitor the environment... But here we have a vehicle regulation.

(OICA): We could include a requirement, that the system shall indicate to the driver that he has to look in the mirrors.

(EC): We should now start with a CAT C system which has no sensors.

(D+NL+UK) support this approach.

(UK): A CAT C with sensors is a CAT D.

(J): In the OICA proposal some paragraphs have been deleted. (J) has at the moment no clear view.

*HOMEWORK: OICA to create a document for CAT C (only with HMI) for the 10<sup>th</sup> session. Comments of the delegates are welcome until the 5<sup>th</sup> December 2016.*

#### **6.4. Review of the (preliminary) consolidated document for CSF and B1**

(UK): With regard to the amount of amendments the question is, whether it would be better to move the complete document for WP.29 to the June session. So the delegates in GRRF83 would be able to agree to the whole document.

(C-J): no position

(EC): We should have a clear version to get an approval by WP.29

(SE): Supports the move to the June session

##### **6.4.1. Letter of (F) received while the meeting (see [Annex 1](#))**

- “...the deactivation shall be possible at any time...”

**Result of the meeting:** See consolidated document [ACSF-09-16](#)

- *Parking manoeuvre: Does it include both the phase to enter the vehicle in the parking place and the phase to leave it?*

**Result of the meeting:** **Homework** (F) make a proposal for January

- *For CSF system, the vehicle test(s) specified in Annex 8 does (do) not include the verification of the maximum steering control effort as defined in § 5.1.6.2.3 and requested in § 5.1.6.2.3.*

**Result of the meeting:** **Homework** (F) make a proposal for January

#### **6.4.2. Comments of (ROK) - ACSF-09-10**

Annex 8 – 3.1.1.1 - Testing of CSF:

General question:

is it necessary to test all the possible CSF variants (a), (b) and (c)?

(ROK): yes, this is necessary when doing self certification

(EC): No, this is covered by Annex 6

(D): We need only tests for CSF, when it is different to CAT B1.

(CLEPA): Is it really the target of this group, to define requirements for self certification? This regulation and test requirements are dedicated to type approval.

Other items, brought up in the document ACSF-09-10, which have not been covered in the consolidated document, will be discussed after the next GRRF.

#### **6.5. ACSF-09-09 by (NL and (SE)**

The proposal is dedicated to the assessment of system safety and software... e.g. according ISO26262.

(SE): Maybe CPs can check about this, whether it is necessary or not, and come back to this item the next meeting. Is this group the right place to discuss this?

(D): who can explain the content of the ISO26262?

(OICA): proposes to talk about the more important issues.

(EC): supports (OICA) and would like to bring more focus on Annex 6. He will bring a document to GRRF83.

(UK): This is important, but currently out of the ToR (Termes of Reference) Cyber security, over the air update and data protection will be covered by a new Informal Working Group (IWG)

(SE): this IWG is more for connected vehicles. The issue of safety is more urgent.

(EC): it is important for both groups

(D): ISO is not the task of this group

(EC): Cannot imagine to finalize the work on CAT B2 and CAT E without solving this issue with Annex 6.

#### **6.6. ACSF-09-05 - Emergency Steering Function**

Time was too short to discuss this issue in detail. Every CP should bring in their opinions with regards to this until the next meeting.

*HOMEWORK: OICA to prepare a document on ESF and how to test the ESF system*

## 6.7. Transitional provisions

The Secretary recalled, what was mentioned the first day of the meeting. (see [6.3.2](#))  
There was no objection to this by the delegates especially by the CPs, that this will work.

### Transitional provisions:

- No trans. provisions for new vehicle types
- Current approvals and extensions are not affected

How do we assure that this will work?

## 7. General discussion on the work of the next meeting

Main tasks for the next meeting are:

- finalizing the Consolidated Document ACSF-09-16
- CAT C systems
- ESF

No decision with regard to the question from [\(UK\)](#) (see [6.4.](#)), whether it would make sense to delay the paper to WP.29 to the June session 2017.

The OICA slide was discussed, but no conclusion.

Roadmap of ACSF informal group

	GRRF	WP29
Step 1: CSF + ACSF A / B1	Jan 2017	March 2017
Step 2: ESF + ACSF C	Jan 2017	June 2017
Step 3: ACSF B2 / D / E	Sept 2017	March 2018

## 8. Next meetings

### IWG ACSF10:

Date: 11-13. January 2017

Venue: Paris (F)

Further information to the next meeting: [ACSF-10-01 - Info on the 10th meeting](#)

### GRRF83:

Date: 23.-27. January 2017

Venue: Geneva (CH)

### IWG ACSF 11:

Date: 28-30. March 2017

Venue: Berlin (D)

### IWG ACSF 12:

Date: May 2017

Venue: Seoul (ROK)

***Please provide the documents for the next meeting at least one  
week prior to the meeting start***

**Annex 1** - Letter from (F) while the meeting:

Dear Jochen;

Although we suppose that the discussions on the proposal GRRF 82-12 Rev.3 are finished, we have some comments in addition to those presented in our paper ACSF 09-03. We hope you will be able to submit them to the participants before the end of the meeting, so please, find them hereafter:

- The part “**within the boundary conditions**” in the sentence of § 5.6.2. applies to the other subparagraphs 5.6.2.X.X, for instance 5.6.2.1.2. in which it is required: **the deactivation shall be possible at any time**. **This last requirement is independent of the boundary conditions**, so in order to avoid confusion, we suggest to withdraw this part from the sentence of § 5.6.2. and **to move it where that is necessary**.

**Result of the meeting:** See consolidated document ACSF-09-16

- **Parking manoeuvre:** Does it include both the phase to enter the vehicle in the parking place and the phase to leave it? If yes, it could be useful to indicate it somewhere.  
Furthermore, before starting the phase to enter the vehicle in the parking place with the RCP, that is to say **when the driver is outside of the vehicle, which are the status of the ignition and the parking brake?** Same question when the vehicle has just left the parking place and the driver goes in his vehicle.

**Result of the meeting:** **Homework** (F) make a proposal for January

- **For CSF system, the vehicle test(s) specified in Annex 8 does (do) not include the verification of the maximum steering control effort as defined in § 5.1.6.2.3 and requested in § 5.1.6.2.3.** (the above requirements shall be tested.....)

**Result of the meeting:** **Homework** (F) make a proposal for January

Thank you in advance for your cooperation and have a good continuation of the meeting.

Best regards.

Dominique LESCAIL  
Expert  
Réglementation

**Annex 2** – Document of (F) prepared in the CP-Meeting prior to the 9<sup>th</sup> sessionQUESTIONS and AMENDMENTS on Informal document GRRF-82-12-Rev 3**QUESTIONS:**

**Question 1:** Does the new detailed definition of CSF allow to **approve** LKA systems based on braking according to R79? If not, what must we change for that?

**Answer:** *no*

**Question 2:** On the request of the vehicle manufacturer, does the group confirm the possibility to approve a “LKA system” either as a CSF system or as a ACSF of category B1?

**Answer:** *yes, but no dual approval*

**Question 3:** In § 5.6.1.1.3. the requirement for ACSF A is “ *The system shall be able to be deactivated by the driver at any time.*” and in § 5.6.2.1.2. the requirement for ACSF B1 is “*The vehicle shall be equipped with a means for the driver to activate and deactivate the system. The deactivation shall be possible at any time.*”

Concerning the requirement on the deactivation: Does it mean: without restrictive conditions? Could we consider that the mean to deactivate can be located in the n-th page of the menu, that is to say not easily accessible?

**Answer:** *“by a single action”?*

**Question 4:** For B1 category, § 5.6.2.2.1. says: “If the system is active an optical signal shall be provided to the driver”. Here the meaning of active is not indicated, but it is defined in § 5.6.2.2.5. : (i.e. ready to intervene or intervening). Does it mean whether only one signal is available that the same optical signal shall cover two distinct status considering that the appearance of the signal can change between the both status?

**Answer:** *discuss with OICA – it is possible to use only one signal come back later!*

**Question 5:** Concerning the emergency signal required in § 5.6.2.2.5., it only may intervene after the automatic deactivation of the system. We consider it would be preferable to intervene before. Does it share by the other CPs?

**Answer:** *“... In this case the system shall clearly inform the driver about the system status by..”*

**new:** **After deactivation** the system shall clearly inform the driver about the system status by

**Question 6:** In the text we use sometimes “acoustic signal/acoustic warning” and sometimes “acoustical signal/acoustical warning”. Between acoustic and acoustical, which one is more correct? Furthermore, we have in § 5.4.1.3. requirements for “audible warning signal” but we never use audible in other place in the text!

We have too “optical signal” and sometimes “visual signal”. Same concern exists about “tactile signal” and “haptic signal”.

**Answer:** *follow, what is in R79 (to be done by F. Guichard when preparing WD for GRRF)*

**Question 7:** Do we exclude the trailers from this amendment of this regulation?

**Answer:** *at the moment no approval for trailers can be granted, because of missing requirements for these kind of vehicles*

**Question 8:** The current amendment being a new supplement to Regulation UNECE 79, do we need to include some specific or transitional provisions in order to avoid applying new requirements of supplement 6 to the existing systems of vehicles already type-approved according to supplement 5, especially when they are brought to be modified (extension of approval of UNECE 79)?

**Answer:** *no transitional provisions for new types*

### **AMENDMENTS:**

§ 3.2.1., amend to read:

3.2.1. Lane keeping functional test

3.2.1.1. The vehicle speed shall remain in the range from  $V_{smin}$  up to  $V_{smax}$ .

The test shall be carried out for each speed range specified in paragraph 5.6.2.1.3. of this Regulation separately **or within a larger speed range covering contiguous speed ranges where the  $a_{y_{smax}}$  is identical.**

The vehicle shall be driven.....

*Justification: Each couple of lateral acceleration and speed values needs a radius of the curvature. In order to avoid multiplying the number of test configurations we propose the possibility to gather some of them.*

§ 3.2.2., amend to read:

3.2.2. Maximum lateral acceleration test

3.2.2.1. The vehicle speed shall remain in the range from  $V_{smin}$  up to  $V_{smax}$ .

The test shall be carried out for each speed range specified in paragraph 5.6.2.1.3. of this Regulation separately **or within a larger speed range covering contiguous speed ranges where the  $a_{y_{smax}}$  is identical.**

The vehicle shall be driven.....

*Justification: Same than above.*

§ 3.2.4., amend to read:

3.2.4. Transition test; hands-on test

3.2.4.1. The vehicle shall be driven with activated ACSF with a vehicle test speed between  $V_{smin} + 10$  km/h and  $V_{smin} + 20$  km/h on a track with lane markings at each side of the lane.

The driver shall release the steering.....

**The test shall be repeated with a vehicle test speed between  $V_{smax} - 20$  km/h and  $V_{smax} - 10$  km/h or 130 km/h whatever is lower.**

**Whether Where  $V_{smax}$  is higher than 140km/h, the manufacturer shall demonstrate to the satisfaction of the Technical Service through appropriate documentation that the requirements defined in § 3.2.4.2. are fulfilled up to  $V_{smax}$ . with a vehicle test speed between  $V_{smax} - 20$  km/h and  $V_{smax} - 10$  km/h.**

*Justification: The maximum speed  $V_{smax}$  of existing systems can reach 210 km/h, so for performing the test a distance between 3 and 4 km is needed, and then only few Technical Services will be able to check this performance.*