

## **DRAFT REPORT**

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

Venue: Jasic Office Tokyo, Japan.  
Chairman: Mr. Christian Theis (D) and Mr. Hidenobu Kubota (J)  
Secretariat: Mr. Jochen Schaefer (CLEPA)  
Dates: 16.-17. June 2015  
Website: <https://www2.unece.org/wiki/display/trans/ACSF+1st+session>

**1. Participants:**

see special attachment

**2. Welcome and Introduction**

**3. Roll call of delegates**

**4. Approval of the report of the 1<sup>st</sup> Session**

The report of the 1<sup>st</sup> Session was approved by the delegates

[ACSF-01-14 - Report 1st session](#)

**5. Approval of the agenda**

The agenda was adopted and confirmed by the delegates without amendments.

[ACSF-02-02 - Provisional Agenda for the 2nd meeting](#)

**6. List of Documents:**

<b>ACSF-02-03</b> - (D) Proposal for amendments to Regulation No. 79 to include ACSF > 10 km/h
<b>ACSF-02-04</b> - (D) HMI concept of ACSF - background knowledge from research
<b>ACSF-02-05</b> - (J) Research on HMI Homework item 1 (ACSF-01-13)
<b>ACSF-02-06</b> - (OICA/CLEPA) Homework Part I: HMI, Driver in/out of the Loop
<b>ACSF-02-07</b> - (OICA/CLEPA) ACSF Test Procedure Draft proposal – For discussion
<b>ACSF-02-08</b> - (OICA/CLEPA) ACSF - Traffic Jam Assist on all roads
<b>ACSF-02-09</b> - (OICA) Evaluation of ACSF during periodic technical inspection
<b>ACSF-02-10</b> - (D) Identification of regulatory needs for ACSF

ACSF-02-11 - (D) Basic sketch of dependencies to identify regulatory needs
ACSF-02-12 – (J) EDR and OBD.docx
ACSF-02-13 - (B) Comments to Document ACSF-02-03

## 7. Identification of regulatory needs for ACSF

[ACSF-02-10 - \(D\) Identification of regulatory needs for ACSF](#)

D presented their view on the necessary amendments within the UN R79 to support ACSF above 10 km/h. This document reflects the following items:

- Basics of ACSF
- HMI (Human Machine Interface) (references see ACSF-02-04)
- General Requirements
  - Normal driving with activated ACSF
  - Transition from ACSF to manual steering
  - Drivers attentiveness
  - Unexpected critical events
- Possible Tests
  - Test of functionality
  - Test of transition request
  - Emergency Tests

Comments:

OICA: Welcomes the presentation, despite a lot of questions are still open.  
Deceleration requirements should not be part of the regulation

D: Confirmed a question from CLEPA, that Vmax should not be higher than 130 km/h.

S: Good proposal. Mentioned that in Sweden the transition back to the driver is seen as an important issue. The main question is: “How can it be realized?”

OICA: Is the timing to have a draft version of the amended Regulation 79 realistic to finish until GRRF81? D: This is still the target.

J: The document is a good basis for the start of the discussion. Also items like longitudinal control has to be considered.

Discussion result: It is not complete clear, how all the features of autom. Driving - like “ACC-function, when approaching a preceding vehicle - can be mapped in the current regulations. A new regulation, maybe the best solution, would take too much time to realize. Nevertheless the quality should be more important than speed (NL)

## 8. Proposal for amendments to Regulation No. 79 to include ACSF > 10 km/h

[ACSF-02-03 - \(D\) Proposal for amendments to Regulation No. 79 to include ACSF > 10 km/h](#)

D presented their document ACSF-02-03 which includes the amendments to UN R79 proposed by Germany.

Comments/amendments to this document, which have been discussed/defined, but not necessarily already confirmed, are amended (red)/highlighted in the document ACSF-02-03 – Rev1

## Discussions:

## 1. Categories (2.3.4.1ff):

D explained the different categories proposed in this document:

- CAT1: Parking operations <10 km/h
- CAT2: Lane change commanded by the driver, surround monitoring unique by the driver
- CAT3: Lane change confirmed by the driver, surround monitoring by the system
- CAT4: Continuous lane change in case the system was activated by the driver

CAT2...CAT4 are only permitted under "Highway Conditions"

Result of the discussion was, that a new category CAT2 (ACSF - lane keeping only) should be inserted. Consequence: CAT2 => CAT3; CAT3 => CAT4; CAT4 => CAT5

*Homework:*

*OICA to define CAT2 - CAT5*

*OICA to make a proposal for new naming „LKAS with ACSF“*

## 2. "Motorway" (2.4.8.1):

Discussion about the right naming of these kind of road and the criteria (number of lanes, speed, separation...)

UK: How will the vehicle identify the road? Wish that the system is able to detect highways.

*Homework: OICA to rework „Motorway“ definition (WP.1)*

## 3. Transition...

2.4.8.8 and 2.4.8.9 amended. See [ACSF-02-03-REV1](#)

## 4. System boundaries (2.4.8.11)

*Homework: OICA to rework*

## 5. Attention recognition (2.4.8.13)

OICA: Attention of the driver cannot be detected.

Only "secondary criteria" e.g. closed eyes, looking to the side, can be detected

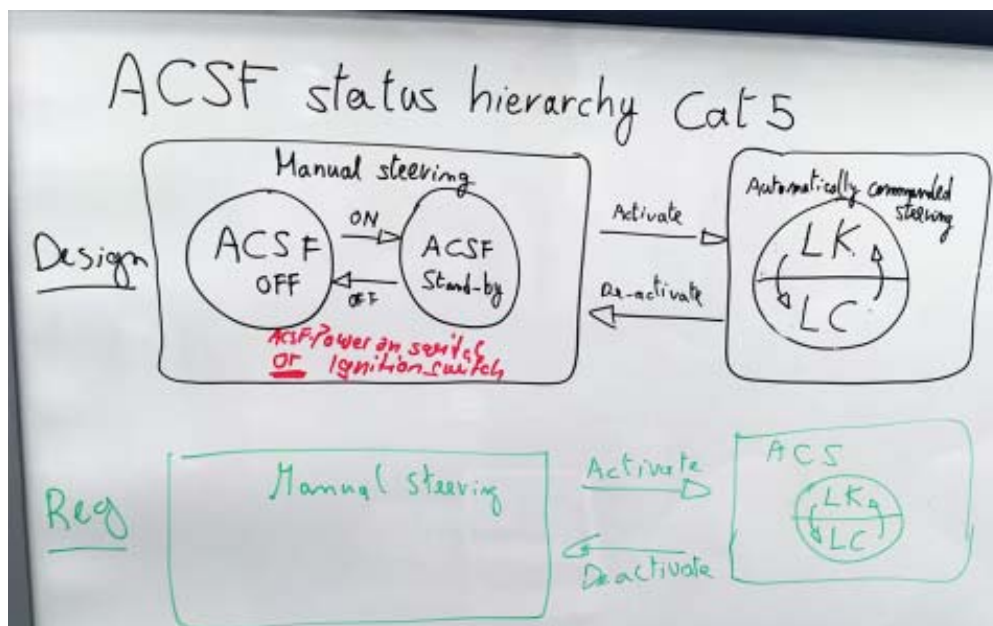
## 6. Minimum risk manoeuvre (2.4.8.14)

Heart attack should not be considered, this is not dedicated to automatic driving

## 7. Warning Provisions (5.4.3)

*Homework: D to rework*

8. Activation/Deactivation (5.6.1.1.1, 5.6.1.1.2) (5.6.1.4)  
OICA: Attempt to explain a possible scenario:



*Homework: ACSF-Status Hierarchy (Whiteboard) – OICA to rework*

9. Termination of a lane change manoeuvre (5.6.1.2.3)  
Discussion, what should happen if a termination is required/necessary while execution this manoeuvre.

*Homework: D to rework and considering the B comments*

10. Transition to manual steering (5.6.1.2.6)  
It seems, that the position of the paragraph should be modified

*Homework: D to look for correct position of this §*

11. Emergency manoeuvre (5.6.1.2.7)  
Is it necessary to specify emergency manoeuvres in this regulation?

*Homework: D to rework*

12. Attention recognition (5.6.1.2.8)  
How long should the warning remain, if there is no driver reaction?

*Homework: OICA to rework, including the B comments*

13. System boundaries – technical documentation (5.6.1.3)  
UK: This is an information package only. Confidential information should remain at the OEM

Which documents are necessary?  
 How should be the “handling” (confidentiality)?  
 What is covered by ANNEX CEL?

*Homework: D to check with J+NL+OICA documentation*

14. Transition request (5.6.1.5ff)

*Homework: D to check with CLEPA the § incl. B comments*

## 9. **Human Machine Interface (HMI)**

### 9.1. **HMI concept of ACSF - background knowledge from research**

[ACSF-02-04 - \(D\) HMI concept of ACSF - background knowledge from research](#)

Document is only for for further information and was not discussed

### 9.2. **Research on HMI Homework item 1 (ACSF-01-13)**

[ACSF-02-05 - \(J\) Research on HMI Homework item 1 \(ACSF-01-13\)](#)

Result: Drowsy drivers are ~50% slower than normal drivers.  
 Further test will be performed by J until E2015

### 9.3. **Driver Reaction Time**

[AEBS-LDWS-07-05 - \(CLEPA\) Driver reaction time](#)

CLEPA recalled the discussion on Driver Reaction Time in the Informal Working Group on AEBS/LDWS and presented the document of the 7th session.  
 This shows the manifold factors of influence on driver reaction time

### 9.4. **HMI, Driver in/out of the Loop**

[ACSF-02-06 - \(OICA/CLEPA\) Homework Part I: HMI, Driver in/out of the Loop](#)

D : System activity and information should be clearly displayed to the driver

On board infotainment systems may be used for this.

OICA: The turn indicator telltale can be used for this.

Driver should be informed before the action is taken.

UK: We should have something in the regulation and should not leave it alone to the manufacturer.

Interface to ITS/AD should be considered, but we should try to fulfil our task alone.

IG should focus on functions.

CLEPA: Items should be covered by this group.

**10. ACSF Test Procedure Draft proposal**

[ACSV-02-07 - ACSF Test Procedure Draft proposal – For discussion](#)  
[ACSF-02-10 - \(D\) Identification of regulatory needs for ACSF](#)

D : Lateral acceleration should be limited

UK : Tests may be missing, e.g. what does the vehicle see if a vehicle driving behind is obscuring a vehicle in the other lane?

D : Good starting point, values in the proposal are appreciated

UK : Must low- $\mu$  be considered, especially in a curve test?

OICA : Simulation could help, because not all test scenarios can be covered by a driving test.

J : Tests should be simplified. OEM should provide a documentation

S : If simulation is used, these tools must be validated.

Parameters have to be reviewed, not to jeopardize high performing systems

UK : Min. risk manoeuvre only if really necessary

OICA : we cannot define min. risk manoeuvre for each scenario. ANNEX CEL could here be helpful

D : Should the test be defined category specific?

UK : Could it be helpful, that the technical Service may select e.g. 5 tests out of a list of 20 ?

*Homework: D to review Testscenarios with NL, UK, EC, J, OICA, CLEPA  
incl. Performance requirements for each CAT*

**11. Next meetings:**

3rd session IWG ACSF: (location tbd.)	2.-3. September 2015 1. September 2015 Drive event (contracting parties only)
80th session of GRRF :	15.-18. September 2015 in Geneva (CH) Secretary to present the report of the IWG ACSF
4th session IWG ACSF:	Mid/End of November 2015 in Japan