

REPORT OF THE INFORMAL GROUP ON CAMERA MONITOR SYSTEMS MEETINGS

(Held in Zoetermeer, 24 and 25 February 2009 and
Cologne 20 and 21 June 2009)

1. The informal group on Camera Monitor Systems (IGCMS) held its first meeting on the afternoon of 24 February and the morning of 25 February 2009 on the invitation of RDW at the premises of TNO in Soesterberg (the Netherlands). The second meeting was held from 11:00 hours on 20 April to 17:00 hours on 21 April 2009 on the invitation of Mr. Gerlach of TÜV Rheinland in Cologne. The combined list of participants is given in Annex 1.
2. During the first meeting the justification by GRSG for an informal group was explained, mainly based on documents ECE/TRANS/WP.29/GRSG/2008/3 and ECE/TRANS/WP.29/GRSG/2008/25. This is reflected in the draft Terms of Reference (ToR) in which two tasks can be distinguished. The primary task concerns the testing method for the camera monitor systems (CMS) that are now permitted according Regulation 46, dealing with the artefacts of such systems, and the determination of the detection distance. The secondary task relates to the possible replacement of mirrors of class I to IV by CMS, which will require:
 - the differentiation of CMS to different classes,
 - amendments to Regulation 46 and
 - standardisation on international level (ISO).The planning is to finalize the work in the informal group at the end of 2009 and to report to GRSG in April 2010. The draft ToR will be sent to the 96th session of GRSG for approval.

Both formal GRSG-documents above have been introduced by their authors and were followed by a first discussion.

With regard to ECE/TRANS/WP.29/GRSG/2008/3, it was explained that the proposed test method for the detection of the critical object is based on the smallest discernable detail on the monitor by using Landolt-C or TOD procedures. The benefits are that the test is objective and predicts the performance for different situations without repeating tests with real critical objects in the required field of vision for every position of the system on a vehicle.

With regard to ECE/TRANS/WP.29/GRSG/2008/25 it was explained that the intention was to make it possible for industry to replace in future mirrors by CMS and that appropriate requirements are needed. A first reading of that document resulted in discussions on the definitions used in Regulation 46 (so it shall be clear which provisions are intended for mirrors, CMS or for both) and on the possibility to use split screen for displaying more classes of field of vision.

It was agreed that the requirements for testing of CMS should not be more stringent than for mirrors.

As a more general point it was noted that due to the limited available space on the components of a CMS a solution has to be found for the E-marking, while also the separate approval of the components of a CMS would be worth for being discussed.

3. During the second meeting the IGCMS approved its draft ToR, focussed mainly on replacement of mirrors by CMS and made an inventory of topics which have to be studied and who should develop the appropriate requirements, IGCMS or ISO. For certain topic it was decided that a smaller group of experts within IGCMS will tackle the topics related to metrology.

ISO might be asked to extend ISO 15008 on monitors to cameras as well and to include topics like:

- failure of the system,
- wireless technology,
- detection of motion in real time
- coatings against rain, mud, snow, dirt and
- sensitivity for rain.

ISO and the special metrology group shall consider the following point:

- night sight
- colour monitors
- adaptation of light intensity during the night
- different critical objects for different classes of CMS
- necessity of blooming requirements for all classes
- freeze risk and
- image interpretation

In addition, the metrology group will also deal with:

- same performance provisions for CMS as for mirrors
- field of vision and detection distance for other CMS than those of class V and VI.

IGCMS, in general, will study other relevant topic like the necessity to amend other Regulations

During the second meeting IGCMS started also a discussion on the type approval marking, the comparison of a laboratory test with a test with a real critical object, the possibility to include provisions for the retrofit of mirrors by CMS and the CoP in case of approvals of parts belonging to different manufacturers. Further discussions are needed.

The metrology group had its first discussions on the configuration for the blooming test, especially on the dimensions of the light source, the relation of the light source and the blooming area, the description of the light source, the prescription of the test pattern, the definition of contrast, a limitation of the saturated area where the contrast is below a certain value, illumination of the monitor, etc. These discussions will be continued in the next meeting.

4. The metrology group will meet again on 10 June 2009, while the plenary meeting of IGCMS will have its next meeting on 10 September 2009, both in Cologne.

LIST OF PARTICIPANTS

Name	Institution, company, organization	Present on	
		24 and 25 February 2009	20 and 21 April 2009
Rudolf Gerlach,	TüV Rheinland Kraftfahrt GmbH	X	X
Stephan Scheuer,	TRPS	Only 24	X
H.-J. Herrmann	TRPS		X
Richard Damm	Bmvbs Germany		Only 20
Josef Krotil,	Opel GmbH	X	X
Markus Meyer	MEKRA Lang GmbH & Co. KG	X	
Jochen Bauer	MEKRA Lang GmbH & Co. KG		X
Peter Geißendörfer	MEKRA Lang GmbH & Co. KG		X
Stuart Matthews	Brigade Electronics	X	X
Dilip Kerai	Brigade Electronics	X	
Philip Hanson-Abbott	Brigade Electronics	X	X
Krzysztof Olejnik	Motor Transport Institute POLAND	X	X
Maarten Hogervorst	TNO The Netherlands	X	X
Harry Jongenelen	RDW The Netherlands	X	X
Takehisa Yamakawa	Japan Automobile Manufacturers		X
Hidenobu Kubota	JASIC Geneva Office	X	X
Takakazu Fukuoka	Toyota		X
Andrea Upmann	Ford		X
Michael Klein	Motec	X	X
Peter Flanker	Denso		X