

Report from IGCMS-II to GRSG.

1. Since the 106 session of GRSG the IGCMS met on the 5<sup>th</sup> and 6<sup>th</sup> of June 2014 and on the 29<sup>th</sup> and 30<sup>th</sup> of September. An intermediate meeting in July has to be cancelled due to practical reasons.
2. On the meeting in June the group noted the extended mandate from GRSG such that it will expire at the end of 2015. During that meeting the group continued the discussions on many technical items like:
  - near/far focus of the human eye,
  - the monitor arrangement when installed in a vehicle,
  - combined (central) display of several classes
  - overlays and obstructions,
  - point light sources,
  - reflection on the windscreen,
  - luminance of the image and
  - functional safety.For most of these items further investigations and discussions are needed. For some topics it was concluded that no specific provisions are needed or that a simple point of attention in the user's manual would be sufficient.
3. With regard the reference to ISO16505 the IG decided to divide the provisions into those for component approval and those for installation approvals. It was also decided that the applicable provisions will be incorporated directly in the relevant paragraphs of Regulation 46 that containing the technical requirements. Draft ISO16505 was used as guidance for the formulation of the provisions.
4. During the fourth meeting on the 29<sup>th</sup> and 30<sup>th</sup> of September the IG was informed about the progress on the development of an ISO-standard 16505 of which the publication is now expected for January or February 2015.
5. The group has got the opportunity to have a test drive in vehicles from VW, Continental and BMW that were equipped with CMS.
6. The informal group continued its discussions on the basis of a proposal for revision 6 of Regulation 46, incorporation the decisions taken before.

An agreement could be reached on topics like:

  - the definition on smear and the provision on smear,
  - flicker,
  - additional information to be provided by the component manufacturer for his application for type approval,
  - radius of curvature of the parts of a CMS,
  - depth of field,
  - geometric distortion,
  - luminance adjustments, color rendering, monitor isotropy, directional uniformity, lateral uniformity, luminance and contrast rendering.
7. The informal group also discussed topics like:
  - the magnification factors,
  - blooming and lens flare,
  - point light sources,
  - color noise,
  - grey scale rendering ,
  - sharpness,
  - overlays,
  - operating readiness,but further discussion in future meetings is needed.
8. The informal group touched some topics on which no conclusion could be made. For these topics the relevant text will be put between square brackets and to be decided on by GRSG. It concerns:
  - approval markings,
  - glare by the monitor housing,
  - pixel faults,

9. The informal group decided to stick to the Terms of References which require that the proposal from the IG should make it possible to replace mirrors by a CMS. Further improvement of the provisions, like on merging the field of vision of several classes, can be realized by separate amendments in a second step.
10. Due to a lack of time the IG could not discuss editorial proposals for amending UNECE Regulations 21 (interior fittings), 26 (external projections) and 125 (forward field of vision of the motor vehicle driver) for permitting the same exemptions for CMS as given to mirrors.
11. As many topics require further discussions the group could not produce an informal document for the 107<sup>th</sup> session of GRSG without to many open points. However, the latest version of the working document, IGCMS-II-04-02-Rev.1 can be found on the website of the informal group.
12. The next meeting is schedules for the 3<sup>rd</sup> and 4<sup>th</sup> of November in Paris and the 6<sup>th</sup> meeting will be held in the Netherlands on 17 to 19 December 2014.
13. The informal group will present an formal document for the 108<sup>th</sup> session of GRSG..