

Report on the activities of the GRRF informal group on
Advanced Emergency Braking Systems (AEBS) and
Lane Departure Warning Systems (LDWS)
Period from 15/09/2009 till 1 February 2010

Scope of the report:

1. Since the first reporting to GRRF-66 on 15 September 2009 (see informal document N° GRRF-66-07), four more meetings of the AEBS/LDWS informal group and its dedicated task force have taken place (5 + 6 November 2009 in London, 3 + 4 December 2009 in Paris, 28 + 29 January 2010 in Paris and 1 February 2010 in Geneva), with participation from Germany, Japan, the Republic of Korea, the Netherlands, Poland, Spain, the United-Kingdom, CLEPA and OICA. , The meetings were chaired by the European Commission with secretarial support provided by OICA. This written report covers the outcome of the two meetings held in 2009 and will be complemented by an oral report at the 67th session of GRRF on the outcome of the two latter meetings to be held just prior to GRRF-67.

Response to guidance received from GRRF 66:

2. In accordance with the guidance received from GRRF 66, the informal group updated its Terms of Reference (AEBS/LDWS-01-07-Rev.2) to clarify that it has to develop draft regulatory text proposals on AEBS and LDWS to take the form of new stand-alone UNECE Regulations under the 1958 Agreement, and to advance the target date for delivery of a draft regulatory proposal on LDWS from February 2011 to September 2010 (68th session of GRRF).
3. With regard to the scope of vehicles to be covered by the draft regulatory proposals, the informal group amended its terms of reference and continued its work in accordance with the guidance received from GRRF66 to focus on vehicles of category M₂, M₃, N₂ and N₃ without derogation and taking note of the GRRF-66 guidance that vehicles of categories M₁ and N₁ should be considered at a later stage.
4. The informal group took note of the agreement within GRRF that due to time constraints the draft regulatory text on AEBS should only cover forward collisions and amended its draft definition of AEBS accordingly.

Further guidance requested from GRRF 67:

5. As already reported to GRRF in September 2009 (GRRF-66-07, §.6), the informal group is proposing a regulatory approach, both for the draft Regulations on AEBS and on LDWS, which would enable Contracting Parties to declare at the time of adopting the Regulations for which categories and classes of vehicles they would mandate the installation of the advanced vehicle safety systems covered by these Regulations.
6. In the discussions on this regulatory approach, representatives from industry questioned how such a provision could practically work in the frame of the 1958 Agreement. They expressed their concern about possible delays and lack of clarity in the communication between Contracting Parties and the UN bodies involved, while the industry needs to have correct information well in time to adapt their production accordingly. The informal group agreed to seek further guidance from GRRF on this issue.
7. A similar concern has been raised with regard to the delay between the entry into force of the regulations and the date of their application by the Contracting Parties, hence the suitability of specifying any introductory provisions in the draft Regulations on AEBS and LDWS. Some parties considered that WP.29 may not accept such provisions. The informal group agreed to raise this concern at GRRF with a view to obtain guidance from the competent UNECE body.
8. The terms of reference (AEBS/LDWS-01-07-Rev.2, §.6) specify that the target dates for delivering the draft regulatory text proposals and for completing the work will be reviewed in February 2010. At its 66th session GRRF requested the informal group to consider whether the regulatory choice (for new stand-alone Regulations on AEBS and LDWS) would still be compatible with the time constraints of the EC. In response to this request the informal group has assessed the state of progress and the amount of work still to be carried out and has agreed to increase the frequency and length of its meetings in 2010 to meet the delivery target dates specified in the Terms of Reference (AEBS/LDWS-03-02-Rev.1). It is anticipated that work on LDWS is sufficiently advanced to meet the September 2010 target for delivering a formal proposal for draft Regulation on LDWS (See also point 12 below). Discussions on AEBS are expected to require more time and additional efforts, and the informal group has therefore agreed to hold - in addition to its already scheduled meeting in June 2010 - another two dedicated three-days task force meetings in April and September 2010 to meet the February 2011 target. In this context, the informal group requests the agreement of GRRF to hold, on the Monday of the 68th session of GRRF, another meeting of the informal group, and to re-assess at this session also the state of progress.

LDWS:

9. All questions of principle have been satisfactorily addressed, save for the regulatory approach and the introductory provisions, for which guidance from GRRF is sought (see points 6 and 7 above).
10. Agreement on HMI issues is still pending subject to further assessment of the guidelines on high-priority warnings developed by the ITS informal group of WP.29.
11. The informal group agreed for technical and legal reasons to limit testing provisions to straight road conditions only, yet to specify in the performance requirements that the systems should also operate on curved roads. A limited number of details remains to be sorted out on the following performance requirements: electromagnetic compatibility, failure detection provisions and departure warning suppression criteria. With regard to the test procedures the provisions relating to the visible lane markings, the accuracy of measurements, and failure detection test remain to be finalized.
12. In view of this progress the informal group expects – after its task force meeting in Paris on 28 & 29 January 2010 and its meeting in Geneva on 1st of February 2010 - to be in a position to present to GRRF 67 an informal paper reflecting the state of play of the preliminary draft proposal.

AEBS:

13. Discussions on AEBS have so far been focusing on the understanding of the basic principles and philosophies upon which existing systems are based. Performance of existing technologies range from collision mitigation (with maximum deceleration in the automatic emergency braking phase) to collision avoidance (limited deceleration) and the detection capabilities vary from moving and stopping vehicles only, to also including stationary vehicles. In view of this wide difference in approach, the informal group agreed to follow a 3-step methodology to address all the important issues. As existing technologies have been developed so far for M₃ and N₃ vehicles only, the first and second step would focus on these categories of vehicles, addressing respectively a scenario for detecting and reacting to moving and stopping vehicles in the first step and including stationary vehicles in the second step. In the third step the exercise of the two first steps would then be repeated for M₂ and N₂ vehicles.
14. Currently, the group's discussions are at the stage of addressing the basic questions and principles for step one, in particular with regard to a minimum warning time before automatic braking and the speed reduction to be specified, both for a brief braking used as a haptic warning in the warning phase and for the emergency braking phase. The discussions to date have enabled parties to assess and understand not only differences but

also similarities of the existing systems, and to conclude that some room exists for bringing closer the diverging positions about the principal performance requirements. Once consensus has been reached on these basic principles, the ground is prepared for developing performance requirements and testing procedures on AEBS according to the 3-step approach described above.

15. With the increased frequency and length of its meetings in 2010 the informal group is expected to be in a position to make sufficient progress on AEBS with a view to meet the target delivery date in February 2011. The state of play will have to be re-assessed at the 68th session of GRRF in September 2010.

Next steps:

16. See the schedule of meetings for 2010 and 2011 below.

Meetings to go	Meeting	In the margin of	Dates	Place	Host	Comment
9	TF-03	-	28-29 Jan 10	Paris	OICA	Starting on 13:30 on 28th
8	IG-04	GRRF-67	1 Feb 10	Geneva	UNECE	Starting at 10:30 Target for submission of informal draft on LDWS to GRRF
7	TF-04	-	13-15 April 10	Berlin	VDA	Work on LDWS feedback from GRRF / continue work on AEBS draft
6	IG-05	GERF-69	17-18 June 10	Paris	OICA	Idem
5	TF-05	-	15-17 Sept 10	London	UK DfT	Prepare formal draft on LDWS (and informal draft on AEBS) for IG-06
4	IG-06	GRRF-68	20 Sept 10	Geneva	UNECE	Target for delivery of formal text on LDWS (and informal AEBS draft) to GRRF
(?)	TF-06 (?)	-	Nov 10 (?)	(?)	(?)	Work on GRRF feedback on LDWS and AEBS (?)
3	IG-07	GERF-70	Dec 10	Paris		Prepare draft final on AEBS (and corrections on LDWS)
2	IG-08	GRRF-69	Feb 11	Geneva	UNECE	IG to deliver final text on AEBS / (GRRF to adopt final corrections on LDWS)
1	TF-07 (?)	GERF-71	June 11	Paris		Work on GRRF feedback for AEBS
0		GRRF-70	Sept 11	Geneva		GRRF to adopt final corrections on AEBS
